4. Technical Approach

Guided by the six tenets of AQuESST, the NWEA solution draws upon the seventeen years of positive partnering with Nebraska educators to bring a truly balanced system for the Summative, Interim, and Alternate Assessment purposes, with a strong professional development program around assessment literacy.

The NWEA solution for Nebraska holds four key components:

1. An adaptive Nebraska Statewide Assessment in English language arts and mathematics, 3 – 8, and science 5 and 8 that will include multiple item types and provide total scores comparable across grades, subscores, growth across administrations, and achievement level performance.

2. The Dynamic Learning Maps™ (DLM®) Alternate Assessment System as the Nebraska Alternate Assessment in English language arts, mathematics, and science for grades 3 – high school.

3. An Interim System that is our adaptive Measures of Academic Progress (MAP), and the ability for Nebraska educators to also purchase Certica's TestWiz™ and the Navigate Item Bank™ to support the delivery of formative assessments in the classroom.

4. An Assessment Literacy Professional Development program that provides teachers and administrators with a solid and balanced understanding of assessment information from formative, interim, and summative purposes connected to tangible applications in instruction.

Our interim solution and details of the Assessment Literacy Professional Development program are provided in our responses to Section J. Interim Assessment System and Section K. Additional Components to Build Strength of Communication and Effectiveness of Assessment System, respectively. We provide a technical summary of our solution to the Nebraska Statewide Assessments for general and alternate assessments below.

Our approach to the development and delivery of the Nebraska Statewide Assessment is reflective of the *Standards for Educational and Psychological Measurement* and provides the evidence required of USDE Peer Review of state summative assessments. Starting with the Nebraska Standards, through tight item development and review processes, psychometric analyses, scoring, and reporting, our solution attends to the steps and documentation necessary for an assessment system that is defensible, rigorous, reliable, and valid.

The Nebraska Statewide Assessments will be developed to leverage the input of Nebraska educators and provide continuity in the state by leveraging your summative item bank and working directly with Nebraska teachers in item writing and reviews. We will integrate your items into our item management system and conduct a review of the item bank. The assessments must necessarily reflect the emphasis in the standards relevant to a summative assessment. We will work with the NDE to determine the blueprint of each assessment and the desired types of machine-scored items, such as technology-enhanced items that will reflect the complexity, depth, and breadth of coverage of Nebraska standards. Because the tests will be adaptive, we will conduct simulations with the Nebraska item bank to collaboratively determine the constraints that the adaptive engine will use. Then, in collaboration with the NDE, we will determine an item development plan.

NWEA proposes custom development to support embedded field testing of new items in each year of the contract that are a mixture of multiple-choice and machine-scorable technology-enhanced items for

all content areas and to enhance the health of the item bank to continue adaptive test administrations. We will also review any existing Nebraska style guides, item specifications, and test specifications. We will collaborate with NDE staff in order to update all of these materials in order to have the most accurate information as development activities begin.

A set of items will be generated to create equivalent paper and pencil forms where TEI items are not possible. For every spring a new paper and pencil test will be created and the large-print, Braille, and Spanish paper forms will be derived from that paper form.

We will engage teachers in many aspects of the development process in order to have Nebraska educators' input in the custom item development. For English language arts, educators will review and approve all passages that are written or searched from the public domain. We plan for educators to meet and write multiple choice items in all content areas. In our experience it is most effective to use independent contractors to generate the TEIs. Once all of the items are developed and refined internally at NWEA, Nebraska educators will be selected to review the items for content or bias/sensitivity as appropriate. After items are field tested, educators will participate in a review of items and their data prior to use to generate a student's score.

We will conduct item level analyses and data reviews, and conduct calibrations of items across grades. In year one, all assessments will necessarily be post equated. We propose adapting the test above and below adjacent grades to build the vertical articulations necessary to provide scale scores that are comparable across grades. Given new guidance and flexibility in ESSA, we will work with the NDE to determine whether adaptivity across adjacent grades is desired beyond year one.

We will conduct rigorous analyses to validate the resulting scales across grades within content area for English language arts and mathematics, and by grade for science, and document all item development, analyses, and reliability and validity evidence in an annual technical report.

In Year One, we will conduct a review of the current cut scores in English language arts, and a standard setting in mathematics and science. NWEA will support the review and development of achievement level descriptors to ensure they are informative and articulated across grades.

Scores and score reports will be provided following the approval of cut scores in the summer of 2018. Thereafter, because the tests are adaptive and pre-equated, students will receive their results immediately, and we will provide individual score reports and aggregated scores through ESC's Matrix shortly following the completion of the test window.

Approach to Alternate Assessments

The Center for Educational Testing and Evaluation (CETE) at the University of Kansas (KU) is pleased to partner with NWEA to provide the Dynamic Learning Maps (DLM) Alternate Assessment System as the Nebraska Alternate Assessment in English language arts, mathematics, and science for grades 3 – high school. The Dynamic Learning Maps Alternate Assessment Program provides a comprehensive alternate assessment system that meets state accountability testing needs but also supports tightly connected assessment and instruction throughout the year, with progress reports to guide teachers when planning instruction.

The assessment system provides access to challenging grade-level content and is designed to validly measure what students with significant cognitive disabilities know and can do. DLM is an adaptive,

computer-based assessment that is aligned to grade level content standards, but at a reduced depth, breadth and complexity to be appropriate for students with the most significant cognitive disabilities. The learning maps on which DLM assessments are based consist of highly connected representations of how academic skills are acquired, as reflected in research literature. Nodes in the maps represent discrete knowledge, skills and understandings in academic subjects, as well as foundational skills that support student preparedness for instruction in academic skills. The maps go beyond traditional learning progressions to include multiple and alternate pathways by which students may develop content knowledge. The adaptive nature of the DLM assessment takes into consideration student performance on previously administered testlets. Assessments were designed using principles of Universal Design for Learning, and are delivered through a user interface designed especially for the population. Students have access to an array of accessibility supports and options for flexibility during test administration to remove potential barriers to their demonstration of knowledge, skills, and understandings.

The University of Kansas Center for Research (KUCR), through CETE, is pleased to propose a semi-customized solution that uses the existing DLM assessment system as an off-the-shelf assessment, supplemented with customized professional services to meet NDE's unique requirements. The **standard assessment system** is comprised of the full scope of work for any state in the DLM consortium, including assessment training and support, assessment preparation and administration, the KITE system, which includes a management application (Educator Portal) and a testing platform (KITE client); psychometric services, scoring and reporting; professional development; maintenance of learning maps and content standards; test development; and consortium governance. **Customized supports for NDE** include program management, psychometric support via participation in Nebraska TAC and state advisory meetings, district staff and test administration trainings, upload of student data, design and delivery of a customized score report, and a standards validation process. CETE will coordinate closely with NWEA on overlapping activities.

Project Description and Scope of Work

The following table includes requirements from the Technical Approach section on pages 34-43 of the RFP. We have included information on the primary section and page number where we address these requirements within our response.

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Project Overview

Requirement	Proposal Response
1. Nebraska Department of Education's Office of Assessment & Accountability is seeking a Contractor to provide English language arts (ELA), mathematics, and science summative assessments for general education and alternate education students to be administered operationally beginning in spring 2018. Test designs must align with Nebraska standards, provide information in addition to an overall score (e.g., subscores) in each content area to the degree possible within the purpose of the assessment, require a reasonable amount of testing time, can be delivered successfully to all schools and districts online, are valid and reliable, and are ready for administration no later than March 2018.	Section B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 123
2. The summative assessments must be aligned with Nebraska's content standards in ELA, mathematics, and science and must meet all federal requirements for Peer Review under the Elementary and Secondary Education Act as reauthorized by the Every Student Succeeds Act (ESSA).	Section B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Pages 125 and 142
3. Grades to be assessed are: ▪ ELA and mathematics for grades 3-8 ▪ Science for grades 5 and 8	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 123
4. Alternate assessments that are aligned to the Nebraska Extended Standards to be administered to students with the most significant cognitive disabilities must also be included for: ▪ ELA and mathematics for 3-8 and 11 ▪ Science for grades 5, 8, and 11	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 131
5. Nebraska requires administration of a computer-based assessment, with allowance for paper/pencil for students with IEP or 504 plans or ELL status for the general education assessments. Alternate Assessments are currently offered paper/pencil; however, NDE is open to innovative approaches to assessing students with the most significant cognitive disabilities. The State intends to use the expertise and experience of the educators in the State to participate, to the maximum extent possible, in the maintenance and improvement of the statewide assessments.	B. 3. Paper/Pencil Assessments for General Education and Alternate Assessments, beginning on Page 160 C. 3. Paper/Pencil Tests, beginning on Page 170
Standards	

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Requirement	Proposal Response
6. Nebraska's assessments must measure the depth and breadth of Nebraska's standards, demonstrating a balance of content emphasis and cognitive complexity through all depths of knowledge levels. If an off-the-shelf test is proposed, the potential Contractor must indicate commitment to an independent alignment study to be completed by using non-Contractor consultants or a non-Contractor organization, that includes evidence of the alignment of forms of the assessment in terms of distribution of content (i.e. knowledge and cognitive process) across the full range of the State's grade-level academic content area standards. If a custom or blended assessment is proposed for development, the assessment must be aligned to Nebraska's content area standards and the Contractor will be responsible for providing an independent alignment study and review in the first year of implementation. Nebraska does not intend at this time to assess the listening and speaking standards of ELA.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 125 and 147.
Assessment Literacy	
7. NDE expects the Contractor to provide a plan for systematic and systemic professional development associated with assessment literacy that starts with the results of state testing and incorporates information and results from the interim system, but expands beyond those to include student-centered learning, strong local formative assessment practices, and support for districts in developing systematic approaches for the use of assessment to improve student learning. The professional development will support the notion of summative testing as it balances with local assessment systems to promote effective assessment habits and the knowledge that all assessments should measure learning, that different assessments have different uses, and that curriculum, instruction, and assessment are the trifold support of student learning as they all relate to assessment literacy. In responses to the Evidence-Based Analysis for the assessment tenet, an AQuESTT survey that was conducted in fall 2015, district leaders indicated a high need for support to schools/districts for systemic and systematic approaches to formative assessment and the desire for good professional development around assessment. NDE not only requires the Contractor to include an interim system in its proposal but also one that is coupled with strong professional development in order to engender assessment literacy and place the right emphasis/perspective on state summative tests.	K. 1. Professional Development/ Assessment Literacy/ Formative Assessment, beginning on Page 327
Branding of State Test	
8. NeSA was developed to represent "Nebraska State Accountability." Nebraska now has a full accountability system, Accountability for a Quality Education, Today and Tomorrow (AQuESTT). NDE requests that, in responding to this RFP, the Contractor show capacity and experience in order to develop an assessment name that aligns with the vision of Assessment within AQuESTT, available at www.aquestt.com. Coordination with the NDE Communications office is required.	K. 2. Branding of State Test, beginning on Page 341
Statewide Assessment Design	

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Project Overview

Requirement	Proposal Response
9. NDE is looking for an innovative approach to assessment as it moves forward in assessing College and Career Ready standards in English language arts, mathematics, and science. Assessments may include multiple-choice items; however, NDE seeks assessments that include rigorous new item types, which are more effective in assessing higher order thinking skills and are more engaging to students. Technology-enhanced items must contribute to a significant portion of the assessment, unless an off-the-shelf product is being proposed that does not include technology-enhanced items. NDE is interested in inclusion of adaptive testing. While open-ended items may be included, the Contractor must include analysis of student time to administer and demonstration of ability to return assessment results to students, schools, and parents on a timely schedule. Timely return of results to students and parents is critical to the success of the bidder.	Executive Summary, beginning on Page 2 B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 123
10. NDE is interested in working with a Contractor to develop options or make changes to the current statewide assessment system that will meet the desires of Nebraska stakeholders in response to options allowed under the ESSA. Assessments must meet the requirements of peer review under ESSA and include: ▪ measurement of higher order thinking skills, ▪ measurement of growth on a vertical scale, and/or ▪ adaptive items in order to measure growth in student learning more accurately.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 139
11. For ELA and mathematics, a Contractor shall respond with information on a summative assessment for operational administration in spring 2018 that is: ▪ An off-the-shelf assessment (commercially available, published, or Contractor-owned), or ▪ An assessment developed with items from other sources that is augmented or customized for Nebraska, or ▪ An assessment developed with items developed by Nebraska educators. For science, a Contractor may use Nebraska's current science items and test blueprints to provide a summative science assessment in spring 2018 and 2019. If an off-the-shelf assessment is proposed, the Contractor must include commitment to alignment to the current Nebraska State Standards for Science. In subsequent years when College and Career Ready Standards for Science are adopted, NDE expects a new assessment design that is aligned to the future Nebraska College and Career Ready Standards for Science, meets the intent of the new generation of innovative science assessments, and can contribute to a system to measure three-dimensional science learning. All aspects of the proposal are dependent upon the type of assessment being proposed: off-the-shelf, an augmented off-the-shelf, or an assessment created with items developed by Nebraska educators. For example, if an off-the-shelf assessment is being proposed, the proposal will not include delivery of reading passages to which Nebraska educators would write items for the ELA assessment.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 141
12. NDE requires delivery of alternate statewide assessments in English Language Arts and mathematics for grades 3-8 & 11 and science for grades 5, 8, & 11. The proposal for alternate assessments must include all the same sections required for the general assessment.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 147

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Requirement	Proposal Response
13. With more innovative assessment item types, NDE expects timelier reporting of test results to schools and districts to better inform student learning.	H. Reporting for All Statewide Assessments, beginning on Page 251
14. The Contractor that provides the assessments to be administered statewide in Nebraska must also include standard setting when needed, evidence of alignment to Nebraska standards, and psychometric support of the assessments.	I. Standard Setting and Alignment, beginning on Page 274 A. 2. Psychometric Support for All Assessments, beginning on Page 73
15. NDE is concerned about the accessibility of the statewide assessments to English Language Learners (ELL). To meet state and federal inclusion requirements, all assessments will be administered to students with different levels of English fluency – from students with limited fluency to those students transitioning from ELL supports to the regular classroom. The latest count of all ELL students is in grades 3-8 is 8,815 and approximately 71% of the ELL students are Spanish speaking. All current statewide general assessments are provided in Spanish, with the exception of the ELA assessment, for which only directions are translated.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 156
16. Student performance at the indicator level is reported to districts and, in aggregated format, to the public on the State of the School Report (SOSR), in past years at: https://www.education.ne.gov/documents/SOSR.html and currently on the Nebraska Education Profile at: http://nep.education.ne.gov and in NDE Assessment technical reports at: https://www.education.ne.gov/Assessment/NeSA_Technical_Reports.html	G. 1. Calibration and Scaling, beginning on Page 217
17. If items are to be developed by Nebraska educators in the Contractor's proposal, the Contractor will include maintenance of an item bank with the items developed and supplied by NDE for general and alternate assessments. The item bank is currently populated with items for English Language Arts, Mathematics, and Science.	B. 2. Item Bank For General And Alternate Assessments if Contractor is not Proposing a 100% Off-the-Shelf Product, beginning on Page 159
18. Currently, the NeSA field tests items are embedded in the operational test on an ongoing basis for both the general and alternate assessments. The proposal must include the methodology of field-testing that shows field-testing of items is accomplished with a student group representative of Nebraska students.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 157
19. An annual supply of ten (10) Reading passages per grade must be provided by the Contractor if Nebraska educators are to write items within the scope of the test design for ELA; NDE will select the passages to be used for field testing. A new Contractor must address the issue of converting current test items to their system from the current alternate and general NeSA item bank, if not proposing an off-the-shelf assessment.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 154

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Requirement	Proposal Response
20. The Contractor must provide, at the minimum, a practice test for each subject area in each tested grade for general education assessments and alternate assessments. The practice tests must be available online for general education with copies posted online for paper/pencil format. Practice tests for the alternate assessments are to be provided in the paper/pencil format and copies are posted online for districts to access. If proposing an online alternate assessment, online alternate practice tests must be provided. The proposal should provide a possible solution for practice tests for students with special needs, such as Braille and large print.	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, beginning on Page 157
21. The Contractor is responsible for conducting all analyses necessary to report student, school, district, and state results from the assessment system and to ensure that tests meet the standards of technical quality. During each year of the contract, the Contractor will conduct analyses necessary to support test development for test items developed by the NDE, test construction, scoring, and standard-setting and validation activities. In addition, the Contractor will conduct secondary analyses related to security, data interpretation, policy formation, and administrative planning.	G. Analysis for Statewide Assessments, beginning on Page 211
22. The assessment results are reported at multiple levels to the state, districts, and schools and Individual Student Reports (ISR) are provided to districts to distribute to parents/guardians.	H. Reporting for All Statewide Assessments, beginning on Page 251
23. The development of assessment systems in Nebraska has always included the participation of stakeholders and advisory groups. The Nebraska governor appoints a Technical Advisory Committee having three nationally recognized experts in assessment and measurements, one local administrator, and one teacher from Nebraska. This Technical Advisory Committee reviews the development of the state assessment system.	A. 2. Psychometric Support for All Assessments, beginning on Page 74
Assessment Delivery and Support	
24. NDE expects the majority of tests to be delivered online and that the online system will operate without stress to students and adult school personnel. The technology delivery system must allow stops in testing for students such as those with Individual Education or 504 Plans or English Learner status to participate online, to provide shorter sessions over more time while still assuring the security of the test items. In addition, NDE expects human-voice-recorded text-to-speech available for accommodated students. If open-ended items are included, the system must also provide speech-to-text so that accommodated students may participate in online open-ended items without human scribes. In addition, the online system must track students' use of tools and accommodations so research can be conducted into the effectiveness of the use of tools and accommodations provided to students.	A. 5. Technology for All Assessments, beginning on Page 88 D. Test Administration for All Statewide Assessments, beginning on Page 187

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Requirement	Proposal Response
25. Paper/pencil assessments must be available for students who have documented needs for that mode. Currently, while almost 20% of students may be eligible for paper/pencil mode of state assessment, above 90% of students at all grades have participated online in the past four years.	B. 3. Paper/Pencil Assessments for General Education and Alternate Assessments, beginning on Page 160 C. 3. Paper/Pencil Tests, beginning on Page 170
26. NDE expects an intuitive Test Management system to accompany the test delivery. It must be fast, agile, and designed for effective use by educators. The system must make it easy for educators to add students to test sessions, to indicate accommodations, and to do uploads of multiple students. NDE expects the Contractor to have sought feedback from end-users during development of the system and on an on-going basis.	A. 5. Technology for All Assessments, beginning on Page 101
Inclusiveness of Assessments	
27. The NDE is committed to the principle that the statewide assessment must be accessible to all students. Therefore, the proposal must reflect an understanding of and commitment to this principle throughout the field-testing, test form construction, administration, and reporting processes. In particular, the proposal must address the principles of Universal Design as articulated in materials developed by the National Center for Educational Outcomes at the University of Minnesota (NCEO) and available at: http://www.cehd.umn.edu/NCEO/TopicAreas/UnivDesign/UnivDesignTopic.htm	A. 6. Accessibility and Design, beginning on Page 116
Data	
28. The NDE Student ID is used to link demographic data in the Nebraska Student and Staff Record System (NSSRS) with the assessment results. NDE will provide a complete set of demographic data for each student at the point-of-time for assessments to be used for reporting and analyses. The proposal must indicate that student test information will be linked by the Contractor to students' NSSRS numbers. The NSSRS is scheduled for deprecation at the end of the 2017-18 year and will be replaced by the Ed Fi® based ADVISER data system.	A. 5. Technology for All Assessments, beginning on Page 113
29. The system must provide a web-based secure access management system for data. Data, including classroom, school, and district reports, as well as individual student results and accompanying demographics, must be made available to districts and NDE to download.	A. 5. Technology for All Assessments, beginning on Page 101
Technology	

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Requirement	Proposal Response
30. The Bidder will provide a secure online solution that is compatible with multiple operating systems to include: All information technology, including electronic information, software, systems, and equipment, developed or provided under this RFP must be accessible via Windows (PC), Apple (Mac), iPad, and Chromebook computer platforms. Bidder will provide supported OS versions and web browser versions. Supported versions cannot be eliminated between the start of the school year and the test administration window. Bidder should include a process by which districts will be informed about plans to phase in or out specific hardware, software, and/or operating system support. The process should be updated multiple times a year and districts should had significant time to adjust to any change in support. Bidders proposing information technology solution for this RFP whose products are only accessible via only one computer platform (such as, ONLY Windows (PC) or ONLY Apple (Mac)) and/or only Internet Explorer web browser may be deemed non-responsive and/or non-compliant to the terms and conditions of this RFP.	A. 5. Technology for All Assessments, beginning on Page 101
31. NDE is committed to the use of technology to facilitate the efficiency and accessibility of the assessments. Throughout its response, Bidder will provide specific examples of how technology will be applied to support the assessment system including meeting the requirements of accessibility as defined by the Americans with Disabilities Act as amended in 2008.	A. 5. Technology for All Assessments, beginning on Page 88 A. 6. Accessibility and Design, beginning on Page 116
32. All Nebraska schools are members of a statewide backbone called Network Nebraska. Bidder must provide engineering consultation with Network Nebraska network engineers to identify data bandwidth needs and security on the network in a timeframe adequate to address any need for traffic shaping for seamless testing environment.	A. 5. Technology for All Assessments, beginning on Page 88 D. 1. Online Administration, beginning on Page 188
Quality Work	
33. The quality of all work and materials produced by the Contractor is critical to the successful completion of the statewide assessments. Consequently, there is no single 'quality control' task included in the Technical Approach for this RFP. Throughout their response, the Contractor must provide evidence and descriptions of the methods and procedures they use to ensure the quality and security of their work.	A. 1. Management Team for All Assessments, beginning on Page 68
34. Additionally, technical documentation is a critical requirement to verify the quality of work and provide evidence for the validity of the assessment system. In addition to the technical reports and publications specifically described in this RFP, the Contractor is expected to provide appropriate technical documentation for tasks such as test construction, scoring, etc. on an ongoing basis.	A. 2. Psychometric Support for All Assessments, beginning on Page 76
35. If items, electronic copies, and/or hard copy materials are developed by Nebraska educators within the purview of this project, including test items not used on operational test forms, they are the sole property of the NDE and will not be copyrighted, resold, or reused by the Contractor.	Appendix A, Terms and Conditions

A. Project Management and Support

1. Management Team for All Assessments

a. Project Director – The Contractor will appoint a single project director who oversees the management of the project and serves as the primary point of contact with the NDE project director and management team. This person must be responsible for all activities required by the project and will have the authority to make decisions and commitments on behalf of the Contractor, subject to NDE approval.

Experienced project management will be crucial for the successful implementation of this complex and innovative program. Our Program Management team follows the best practices of the Project Management Institute® (PMI®) and has over 140 years of combined active experience in program management and fifty years of managing large-scale state assessment programs.

Dacia Hopfensperger will serve as the Nebraska Statewide Assessments Project Director and primary point of contact. Ms. Hopfensperger has over seventeen years of experience in the field of education, as a teacher, district level administrator, assessment consultant at the Wisconsin Department of Public Instruction, along with experience managing large-scale state assessment programs in Wisconsin and in the Smarter Balanced Assessment Consortium. Ms. Hopfensperger has planned, managed, and coordinated large-scale online state assessments; transitioned states to new systems; crafted assessment systems solutions; and trained district- and school-level assessment staff. She holds a bachelor of science in education from the University of Wisconsin – Madison and a master's in education from the University of Wisconsin – Whitewater.

NWEA understands the importance of a positive and collaborative partnership with Nebraska, Ms. Hopfensperger will work cooperatively with you to promote open lines of communication while serving as the day-to-day liaison to communicate program needs to NWEA operational departments. She will also work closely with all subcontractors to provide unified deliverables to the district. Together with Ms. Orta, the project manager, she will establish and manage the program work plan, leading the planning and scheduling of tasks necessary to successfully implement and deliver the program.

b. Project Manager(s) – The Contractor will appoint one or more project managers who will serve as the primary point of contact with NDE.

Our entire organization is committed to each of our partners, and we have teams and personnel to support all aspects of the Nebraska Statewide Assessments. Together the project director and Project Manager Melinda Orta, PMP®, will have the overall responsibility for managing the deliverables, timeline, scope, budget, and communication of contractual commitments made by and between NWEA and NDE. We will also be supporting your alternate assessment through a collaborative partnership with DLM.

Ms. Orta will serve as the Nebraska Statewide Assessments Project Manager. Ms. Orta has over fourteen years of experience in managing statewide assessment programs in Mississippi and Alabama. She has successfully managed state programs for End-of-Course (EOC) Algebra I, Biology I, English II, U.S. History, Grades 3 – 8 mathematics and language arts, fifth- and eighth-grade science, and online and paper-based testing. She is responsible for planning, managing, scheduling and executing the program to ensure quality and on time delivery. She has a bachelor's degree in business administration from the

University of the Incarnate Word and a Project Management Professional (PMP) certification by the Project Management Institute.

Ms. Hopfensperger and Ms. Orta are familiar with the Nebraska educational landscape and have experience with project management in the large-scale assessment environment that will prove valuable for NDE.

In addition to Ms. Hopfensperger and Ms. Orta, we will provide cross-functional support as part of a comprehensive system that include assessments, psychometric support, professional development, innovative technology, help desk, content development and other support and services.

To manage the Nebraska Statewide Assessments, Ms. Orta will provide a comprehensive project plan to NDE to guide the implementation of the Nebraska Statewide Assessments, including planning and general assignment of personnel. The project plan will be the baseline for project monitoring, which will be handled through weekly and annual meetings with NDE staff and key stakeholders throughout the life of the program.

The project managers will manage all necessary resources for the specific tasks of the program and communicate essential information about the assessments to NDE in a timely manner. The project manager will keep a repository of documents, meeting notes, and essential program information to provide seamless statewide assessments.

During the program, the project manager's responsibilities will include:
- Working with the designated NDE contact(s) to coordinate efforts, maintain schedules, and meet deadlines
- Establishing and implementing the project work plan, and leading the planning and scheduling of tasks with NWEA internal teams to successfully deliver the program
- Managing any necessary contract change orders and related costs
- Coordinating and/or conducting program meetings
- Identifying potential issues, obtaining input and approval from appropriate personnel, and working quickly and proactively to enact solutions

To support Ms. Hopfensperger and Ms. Orta and oversee the administrative work involved in a program of this size and complexity, we have assigned a program coordinator, Shelley Smith and a program administrator to be hired upon intent to award. Together they will focus our experienced team to accurately deliver all project requirements in a timely manner with the level of quality expected by NDE.

In addition, Mr. Rock Sharma, state technical consultant and product trainer for the Nebraska Statewide Assessments, joined NWEA as a Technical Consultant in 2013. He works with states and other large partners to provide proactive technical support services. Prior to joining NWEA, Mr. Sharma developed his technology, management, and coaching skills in diverse roles in which he managed the successful delivery of complex solution implementations and supported exceptional customer experience. Mr. Sharma holds a bachelor of science (BS) in Electrical Engineering from the University of Portland and a master of business administration (MBA) in Marketing and Finance from Portland State University. He will provide key support to Ms. Hopfensperger and Ms. Orta as well as Nebraska schools and districts in the successful delivery of this program for NDE.

Alternate Assessment Project Manager

Sheila Wells-Moreaux, Ed.D., will serve as the DLM project manager and primary point of contact to NDE staff on the state's implementation of DLM alternate assessments. Dr. Wells-Moreaux has experience as a DLM project manager for other states and previously was an alternate assessment coordinator at the state level. In her current role she works collaboratively with NDE staff and DLM staff to coordinate and deliver project deliverables from transition through contract renewal. She will work closely with NWEA project management staff as part of the project management team and will contribute to annual project plans, weekly written project status updates, and periodic calls and on-site meetings with NDE.

Quality Assurance: Processes for Project Management

Project management quality control requires the NWEA Project Management team to inspect the accomplished work to ensure its alignment with the program scope. The Project Management team has the responsibility of assessing project execution quality regularly throughout the life of the program to assess suitability, adequacy, and effectiveness. These reviews will include assessing opportunity for improvement.

Inputs to these reviews will include:
- Stakeholder feedback
- Review of project schedule for slipped, moved, or otherwise altered start and end dates
- Analysis of timeliness and quality of project management deliverables
- Analysis of Risk Inventory and Issues Log
- Review of budget versus actual costs against accomplishments
- Assessment of improvement measures taken as a result of previous reviews

Outputs from these quality reviews could include decisions and actions related to:
- Adjustments to project schedule
- Revisions to Risk Management Plan and inventory
- Resource management
- Process improvement
- Scope adjustments

In addition to ongoing reflection and discussion about program management quality, a culminating review will be part of the annual program debrief, as discussed in our response to requirement j. in this section, beginning on Page 67.

c. Management Meetings – The Contractor will support regularly scheduled weekly management meetings, video conferences, or conference calls with the NDE project management team.

NWEA will support weekly meetings with the NDE throughout our partnership.

Our project managers, Ms. Orta and Ms. Hopfensperger, will support regular weekly meetings with the NDE at a time mutually agreed upon after contract award. Ms. Orta and Ms. Hopfensperger will arrange and facilitate all weekly meetings related to the Nebraska Statewide Assessment project using a virtual online meeting application and/or toll-free conference call system. At least one day prior to the

meeting, our program managers will share a draft agenda with the NDE. Within two days of the meeting, detailed meeting minutes and action items will be provided to the NDE and other meeting attendees. To facilitate ease of document access and collaboration, all meeting materials can be shared in a secure web-based document repository.

Please see Appendix I, *Sample Meeting Agendas,* for sample agendas for all standard project meetings.

d. Management Reports – The Contractor will provide the following reports:

i. Weekly written project status reports

ii. Monthly Budget Update reports

iii. Annual project plan and timelines

iv. Minutes of all meetings and conference calls

As part of our Project Management Body of Knowledge (PMBOK®)-based program management approach, NWEA will develop a Communications Management Plan for this program. This plan sets the specific communications framework and will guide communications throughout the life of the program. It identifies and defines the roles of key program members and includes a communications matrix which maps the communication requirements of this program to the targeted audience. Several of the components of the communications matrix involve reporting and include:

- Weekly written project status reports
- Monthly Budget Update reports
- Annual project plan and timelines
- Minutes of all meetings and conference calls

Once approved by NDE, the communications matrix will be used as the guide for what information to communicate, who is to facilitate the communication, when it is to be communicated and to whom to communicate. This plan will incorporate collection and dissemination of information to and from subcontractors.

A Sample Communication Plan, including an initial communications matrix, has been included as Appendix G. A Sample Weekly Status Report and Agenda are provided in Appendix I.

e. On-Going Communication

i. Communication between the Contractor and NDE personnel is essential. Telephone calls, telephone conference calls, emails, overnight courier service, facsimile correspondence, webinars, and other communication procedures will be at the Contractor's expense. Toll-free numbers will be provided by the Contractor for telephone communication including conference calls and webinars.

ii. Contractor will make all written communication or summaries of communications with any subcontractor(s) identified in this proposal available to NDE at its request. In addition, NDE expects to be able to participate during all appropriate and applicable meetings and trainings between the Contractor and any subcontractor(s) identified in this proposal.

NWEA believes that successful partner and subcontractor relationships can only be forged as a result of transparent, frequent, and comprehensive communication. We understand the complexities of working on large programs such as the Nebraska Statewide Assessments, and we are committed to this belief in the interest of the program's success.

Our Nebraska Statewide Assessments project team, under the leadership of Ms. Orta and Ms. Hopfensperger, will work cooperatively with the NDE for the duration of the contract to:

- Promote open lines of communication while serving as the day-to-day liaison to communicate the NDE's needs to NWEA operational departments and subcontractors.

- Establish and update the project work plan and lead the planning and scheduling of tasks, as well as ensure the quality completion of key deliverables that are necessary to successfully implement and deliver the program.

- Provide, at NWEA expense, efficient and effective means to communicate with the NDE and any subcontractors including a toll-free phone number and virtual meeting service for conference calls and webinars.

- Create and distribute agendas and logistics for all meetings and trainings, including those with subcontractors.

- Conduct required and ad-hoc meetings and trainings, compile minutes/summaries and/or actions, and publish management reports in a secure, permission-based document collaboration platform.

Our project managers will be responsible for creating the means and methodology to facilitate effective and regular communication between stakeholders using an approved virtual online meeting application and/or toll-free conference call system. To mitigate the risk caused by missed communications, all vital written communication will be housed in an easy-to-access centralized document repository. This will be particularly effective due to the geographic distribution of the stakeholders.

Nebraska File-Sharing

To provide shared access to internal documents related to the program, we are pleased to propose the use of an internal third-party file-sharing site. This site would enable the NDE and NWEA to share documents and resources throughout internal review cycles and serve as a repository for meeting agendas, meeting minutes, planning documents, action item logs and other relevant program documents.

For transferring secure files, we would use a secure file transfer protocol (SFTP) site.

Communication with Subcontractors

We will carefully follow NDE's procurement laws and contract requirements to work with subcontractors and welcome NDE's participation in all discussions and meetings related to subcontractor work. We confirm that NDE will have the ability to review all contracts and agreements with our subcontractors to ensure that they uphold Nebraska data privacy and security requirements. In addition, we agree that NDE will have the right not to accept any of the subcontractors submitted in this proposal.

f. Timeliness of Communication

i. Contractor's Program Manager will return calls from NDE staff and respond to email messages within no more than 24 hours, preferably within the same day. If the Program Manager is not available to take calls and return messages, NDE will be notified in advance. In the event that the Program Manager is not available, the Contractor will notify NDE as to whom to contact in his or her absence, and will provide contact information for such individual.

We understand the need for timely responses to NDE staff calls and emails regarding the Nebraska Statewide Assessments. As the project director, Ms. Hopfensperger will be the primary point of contact for NDE staff. She will respond to phone calls and email messages within one day. Ms. Orta may be contacted in her absence.

g. Weekly Status Meetings

i. At a minimum, weekly phone calls between pertinent NDE staff and the Contractor's Program Manager and other key Contractor staff will be held between in-person project meetings to keep NDE current on project status, discuss issues as they arise, and to plan upcoming activities. NDE may determine and require more or fewer status updates over time. As the need arises, other periodic or on-going conference calls may be conducted. Contractor's Program Manager will prepare written documentation of each conference call. This is to be submitted to NDE within two business days of the conclusion of each meeting. Contractor will confirm its agreement to meet this requirement.

As discussed in our response to requirement c. in this section, beginning on Page 57, NWEA will conduct weekly status meetings with the NDE throughout the life of the program using virtual meeting tools such as toll-free conference call lines and webinar rooms. These meetings will be coordinated and facilitated by the project director and include key NWEA and subcontractor staff. At least one day prior to the meeting, Ms. Hopfensperger will share a draft agenda with meeting invitees. Within two days of the meeting, she will provide detailed meeting minutes and action items to all attendees and other key stakeholders. Topics for these status meetings could include upcoming project activities, activities/deliverables at risk, program issues, and other items requiring active discussion.

Please see Appendix I, *Sample Meeting Agendas,* for a sample agenda of a weekly status meeting.

h. Project Meetings

i. Periodic face-to-face meetings between NDE staff and representatives of the Contractor are essential. Those persons directly involved with this component of the project will be available for technical assistance and discussion at the project meetings at the expense of the Contractor for up to six (6) planning/work sessions through December 2017. These face-to-face meetings will be held in Lincoln, NE.

ii. NDE will be responsible for the costs for its staff to travel to the Contractor's location. The State will bear no cost for the time and travel of the Contractor or its personnel or subcontractors for attendance at any meeting.

iii. Planning for Project Meetings will be the responsibility of the Contractor. Contractor must work closely with NDE staff to prepare a preliminary agenda and schedule that will be sent to NDE for review and approval no less than seven days in advance of the Project Meeting.

iv. Contractor's Project Manager will prepare written documentation of each project meeting. Meeting notes/documentation will be submitted to NDE within one week of the conclusion of each meeting. Contractor will confirm its agreement to meet this requirement.

Regular face-to-face meetings – especially in the critical first year of our partnership – will be vital and necessary for a program of this scope. To support a successful implementation of this program, key team members will be available to provide in-person technical assistance and discussion at up to six project meetings to be held in Lincoln through December 2017. We have budgeted for five NWEA staff to attend these sessions and propose the following as potential work sessions (these are suggestions only and can be modified to fit NDE needs):

- Psychometric Services
- Professional Development
- Configuration (Hierarchy, Users, Students, Test Rules)
- Alternate Assessment
- Reporting

Our project managers for the Nebraska Statewide Assessment project, are highly skilled in facilitating meetings with a clear agenda to benefit our stakeholders. They will work closely with the NDE project manager to schedule, prepare, and document outcomes for all program meetings. They will send out a preliminary agenda and meeting schedule to NDE at least seven days in advance of the project meeting.

After each meeting, our Program Managers will prepare meeting notes/documentation and action items within one week after its conclusion. Meeting agendas and notes will also be stored in the central program repository where they can be easily accessed as needed.

Table 14 provides a list of all recommended meetings for this project, including the proposed number of attendees from NWEA.

Table 14: Recommended Meetings for Nebraska Statewide Assessments Program

Meeting Number	Meeting Name	Number of NWEA Staff	Number of NDE Staff	Number of Educators	Number of Days	Years	Notes and Assumptions
1	Contract Kick-Off	12	6	n/a	2	1	▪ Assume meeting will take place in Lincoln, at a hotel/facility. ▪ Breakfast and lunch provided ▪ NWEA will handle all meeting logistics
3	Work Planning Session (6 meetings)	5	4	n/a	1	1	▪ Assume this meeting will take place at NDE offices – no meeting facilities or meals have been costed. ▪ One of these meetings will be dedicated to psychometric planning.
4	Annual Debrief/Future Planning Sessions	7	6	n/a	1	1,2,3,4,5	▪ Assume meeting will take place in Lincoln, at a hotel/facility. ▪ Breakfast and lunch provided ▪ NWEA will handle all meeting logistics
5	TAC Meetings (two/year)	3	n/a	n/a	1	1,2,3,4,5	▪ Assume NDE is handling all logistics for this meeting – NWEA staff are attendees only
6	State Assessment Advisory Group (two/year)	2	n/a	n/a	1	1,2,3,4,5	▪ Assume NDE is handling all logistics for this meeting – NWEA staff are attendees only

Table 14: Recommended Meetings for Nebraska Statewide Assessments Program

Meeting Number	Meeting Name	Number of NWEA Staff	Number of NDE Staff	Number of Educators	Number of Days	Years	Notes and Assumptions
7	Fall Workshops	4	As needed	750 (75 per session)	10 half-day meetings	1,2,3,4,5	10 half-day meetings, at different locations throughout the state (locations will be agreed to during the kick-off meeting). - Light snack will be provided. - NWEA will handle all meeting logistics, materials, and facility costs. - Did not plan for substitute/stipend reimbursement, hotel or travel costs as these are district personnel attending these sessions.
8	Item Writing Workshop (two/year)	17	As needed	140	3	1,2,3,4,5	- Includes stipend/substitute reimbursement, as well as travel costs for the Nebraska attendees where needed. - NWEA will handle all meeting logistics. Will provide laptops for item authoring for 50 percent of attendees – assume the other 50 percent can provide their own. - Breakfast and lunch will be provided each day - NWEA will handle all meeting logistics.

Table 14: Recommended Meetings for Nebraska Statewide Assessments Program

Meeting Number	Meeting Name	Number of NWEA Staff	Number of NDE Staff	Number of Educators	Number of Days	Years	Notes and Assumptions
9	Passage – content/bias (ELA only, two/year)	8	As needed	60	2	1,2,3,4,5	▪ Includes stipend/substitute reimbursement, as well as travel costs for the NE attendees where needed. ▪ Breakfast and lunch will be provided each day. ▪ NWEA will handle all meeting logistics.
10	Item – content review meeting	17	As needed	140	3	1,2,3,4,5	▪ Includes stipend/substitute reimbursement, as well as travel costs for the Nebraska attendees where needed. ▪ Breakfast and lunch will be provided each day. ▪ NWEA will handle all meeting logistics.
11	Item – bias review meeting	17	As needed	140	2	1,2,3,4,5	▪ Includes stipend/substitute reimbursement, as well as travel costs for the Nebraska attendees where needed. ▪ Breakfast and lunch will be provided each day. ▪ NWEA will handle all meeting logistics.
12	Test Construction Finalization	5	As needed	n/a	2	1,2,3,4,5	▪ Breakfast and lunch will be provided each day. ▪ NWEA will handle all meeting logistics.

Table 14: Recommended Meetings for Nebraska Statewide Assessments Program

Meeting Number	Meeting Name	Number of NWEA Staff	Number of NDE Staff	Number of Educators	Number of Days	Years	Notes and Assumptions
13	Data Review	24	As needed	140	2	1,2,3,4,5	▪ Includes stipend/substitute reimbursement, as well as travel costs for the Nebraska attendees where needed. ▪ Breakfast and lunch will be provided each day. ▪ NWEA will handle all meeting logistics.
14	Standard Setting (Science only)	8	As needed	40	3	1	▪ Work is part of Year One administration, but won't take place until July – so calendar year 2 for the program. ▪ Includes stipend/substitute reimbursement, as well as travel costs for the NE attendees where needed. ▪ Breakfast and lunch will be provided each day. ▪ NWEA will handle all meeting logistics.
15	Statistical Performance Review Meeting (ELA/mathematics)	9	As needed	40	1	1	▪ Includes stipend/sub, as well as travel costs for the Nebraska attendees where needed. ▪ Breakfast and lunch will be provided each day. ▪ NWEA will handle all meeting logistics.

i. Kick-Off/Orientation Meeting

Within two weeks from execution of the Contract, the Contractor will be required to attend a 2-day kick-off/orientation meeting to discuss the content and procedures of the Contract. The meeting must be held in Lincoln, NE at a date and time mutually acceptable to the State and the Contractor but must be scheduled within two weeks of the contract start date. The State will bear no cost for the time and travel of the Contractor for attendance at the meeting. The preliminary agenda must be sent to NDE seven days prior to the meeting. At the same meeting the program kick-off will include program specifics, including deliverables, timelines, meeting and training schedules, program changes, and data and reporting processes, all subject to NDE approval.

Within two weeks of a signed contract between NWEA and the State, key program staff will travel to Lincoln, Nebraska, to participate in a two-day kick-off meeting with NDE. The planning meeting will be facilitated by Ms. Orta and Ms. Hopfensperger. They will prepare and deliver a draft kick-off agenda no later than seven days prior to the meeting. This agenda may include the following topics:

- Confirmation of program scope, requirements, and deliverables
- Timelines, including test windows
- District implementation process
- Training and professional development content and schedules
- Data and reporting
- Communications, including meetings and status reporting
- Invoicing

If desired, during this same timeframe, or at another mutually agreed-upon time, NWEA will organize and facilitate a meeting with the NDE and the previous vendor to plan the transition of the program to NWEA. Careful planning and clear communication will ensure a smooth transition and minimize risks to the schedule. This meeting will be held virtually and should include key stakeholders from each of NWEA, the outgoing vendor, and the NDE. Although we have not budgeted for this meeting to be in person, we can arrange for this should NDE prefer that format.

Topics may include:
- Transfer of secure information
- Transfer of materials
- Task ownership
- Risk to deliverables
- Transition schedule

A sample agenda for this kickoff is included in Appendix J.

j. Annual Debrief Meeting

At the conclusion of the annual assessment cycle, the Contractor will be required to attend a program debrief meeting to discuss results, reports, and data trends from the previous year's assessment cycle. The meeting must be held in Lincoln, NE at a date and time mutually acceptable to the State and the Contractor. NDE will bear no cost for the time and travel of the Contractor for attendance at the meeting.

Following each administration year, a program debrief meeting will be scheduled to review program performance during the previous year and determine what changes are to be made for the following year. This information will be captured in a lessons learned segment of the program plan and will be shared with all stakeholders and used to inform process improvement, plans, and schedules for the following year.

The annual debrief meeting will be held in Lincoln. NWEA will be responsible for time and travel incurred to participate in this meeting. We will also provide a teleconference for staff and subcontractors attending remotely. Ms. Orta and Ms. Hopfensperger will collaborate with the NDE to develop meeting agendas and materials for each planning meeting. All materials will be subject to NDE approval prior to the meeting.

k. Monthly Reports

Contractor will provide a monthly report that summarizes actions taken, issues that arose, issue resolution that occurred, outstanding issues and when they will be resolved, upcoming deadlines, work that will occur in the next month and beyond, and so forth. These reports will be sent monthly to NDE by the third business day of the following month.

As described in our response to requirement d. earlier in this section, beginning on Page 58, NWEA places emphasis on comprehensive and regular reporting as part of our communications plan. We feel strongly that candid and comprehensive documentation of program progress, risk, changes, and upcoming tasks provide stakeholder visibility into program status, drive discussion, facilitate collaboration, and help with process improvement. Documentation also provides a historical record of a program's progress and activities. To ensure transparent communication and on-time project deliverables, we will provide the NDE with monthly reports containing information about:

- Project milestones
- Status of deliverables
- Accomplishments
- Key decisions
- Staffing changes
- Risks and mitigation or contingency plans
- Issues and resolutions
- Upcoming tasks and deadlines
- Change orders
- Action items

Please see Appendix K, *Sample Monthly Status Report,* which is an example of what will be made available to NDE no later than three business days following the end of a month.

Reviews and signoffs for all deliverables will be documented and available to NDE upon request. The Contractor will document the steps, timeline, and staff involved in the quality control procedures for each phase and deliverable of the project. The Contractor will confirm its agreement to fulfill this requirement.

NWEA employs several Quality Assurance (QA) and Quality Control (QC) activities to detect and minimize the impact of imperfect deliverables on the success of the program. Our QA/QC measures support our goal of striving to achieve an error-free solution.

The Project Management team, through its management of the program schedule and deliverables, will maintain an inventory of reviews and signoffs for all deliverables, which will be available to NDE upon request. The review durations may change depending on the complexity and size of the document being reviewed, but our goal is to allow five days for the first review round, three days for the second review round and two days for the final signoff for a document such as the Test Administration Manual (TAM). The way materials are reviewed will vary depending on the component in question. The review of a manual will look different than the review of a one-page document, or a report. The list below provides examples:

- **Test Coordinator Manual (TCM),** which we generally plan for two review rounds and a final signoff
- **User acceptance testing (UAT) of the system,** which we will give you a certain number of days to login as various user roles to test that the system is reflecting your business rules
- **Review of the paper test book,** which is generally one review and then final sign-off
- **Report mock-ups,** likely to be an iterative process with a final review round
- **Training Module**, which includes two review rounds of the screen shots/text and then a final review of the recorded training

Every custom-created Nebraska document that is presented to your stakeholders will receive a signoff by NDE before being posted and delivered as final. Our proposed interim solution, MAP, is an off-the-shelf assessment product, currently used by 233 of 245 (95 percent) public school districts in Nebraska. This means that the vast majority of districts would be familiar with both the solution and the documentation.

Please see Table 15 for a cross reference to where in our proposal we write about each functional area's rigorous quality assurance procedures.

Table 15: NWEA Team Quality Assurance Procedures

Functional Area	Proposal Response
Software, System, and Platform	A. 5. Technology for All Assessments, Page 104
Item Development, Field Testing, and Test Implementation	B. 1. Tests for General and Alternate Assessments Statewide Assessment Design, Page 129; Figure 29 on Page 151
Interim Solution – MAP Assessments	J. Interim Assessment System, Page 292
Partner Support	A. 4. Online Support, Page 84
Partner Training Content and Delivery	A. 3. Training for District Personnel, Page 81
Project Management	A. 1. Management Team for All Assessments, Page 57
Custom Reporting	H. 1. Reporting assessment results, Page 256
Psychometrics	G. 3. Item Evaluation for General and Alternate Assessments, Page 229

m. Invoices

i. Contractor will submit invoices according to the procedures and requirements set forth by NDE. It is expected that the payment schedule for this contract will be monthly with one payment for the services performed and deliverables provided during each month. The proposed contract will run from July 1, 2017 through June 30, 2018. Contractor will confirm its agreement to fulfill this requirement.

NWEA will submit monthly invoices in accordance with the procedures, requirements, and format set forth by the NDE starting in the month following contract award and continuing through the month after contract completion.

Each invoice will include a report that summarize services and deliverables provided by NWEA and its subcontractors for the month prior. In addition, the invoice will include budget status reporting, as required in requirement d. in this section. Specific contents and delivery schedule for invoices and budget status reports will be discussed at the kick-off meeting and agreed upon prior to the first billing period.

n. Project Control

i. Contractor must carry out this project under the direction and control of NDE. Within two weeks of the execution of the Contract, Contractor must submit the project plan to NDE's Assessment Office and Project Management Office for final approval. This project plan must be in agreement with must include the following:

1. Contractor's project organizational structure.

2. Contractor's staffing table with names and titles of personnel assigned to the project. This must be in agreement with staffing of accepted proposal. Necessary substitutions due to change of employment status and other unforeseen circumstances may only be made with prior approval of the State.

3. The project work breakdown structure (WBS) showing sub-projects, activities and tasks, and resources required and allocated to each, including a Key Date timeline.

ii. Contractor must manage the project in accordance with recognized project management standards. Contractor must use an automated tool for planning, monitoring, and tracking the Contract's progress and the level of effort of any Contractor personnel spent performing Services under the Contract. The tool must have the capability to produce:

1. Staffing tables with names of personnel assigned to Contract tasks.

2. Project plans showing tasks, subtasks, deliverables, and the resources required and allocated to each (including detailed plans for all Services to be performed within the next 30 calendar days, updated weekly or biweekly as directed by the State).

iii. Updates must include actual time spent on each task and a revised estimate to complete. Graphs showing critical events, dependencies and decision points during the course of the Contract.

iv. Any tool(s) used by the Contractor for such purposes must produce information of a type and in a manner and format that will support reporting in compliance with the State standards.

We confirm that this program will be carried out under NDE's direction and control. The NWEA management team and staff will prepare a detailed project plan, a component of which is a project schedule, for NDE review and approval within two weeks of the execution of the contract. This document will likely serve as the basis for a significant portion of the kickoff meeting discussed in Section A.1.i.

Project Plan

Within two weeks of the contract execution, NWEA will provide a draft project plan to be used to guide the implementation of this program in accordance with best practices outlined by the Project Management Institute (PMI). It is anticipated that this document will serve as the foundation of discussion at the kick-off meeting, and, once a baseline is approved, will serve as the reference document for project scope definition and control. The program plan will contain, at a minimum, the following elements:

- Project organizational structure
- Staffing table in alignment with the proposal (or with changes approved by the NDE)
- Work Breakdown Structure
- Milestone (key date) list including targeted delivery dates
- Risk management plan
- Communications plan and approved templates
- Change management process
- Baseline program schedule
- Pre, during, and post testing administrative processes and procedures including (but not limited to) content development, product training, professional development, scoring, and reporting
- Support services plan

The project plan is intended to be a living document, subject to approved modification throughout the life of the program.

Automated Tool for Planning, Monitoring, and Tracking

The creation of a detailed project schedule in an automated tool such as Microsoft® Project® will provide effective guidance to control the Nebraska Statewide Assessment program. This schedule will serve as the basis for managing the project and as a tool for evaluating NWEA performance on the contract. Our Program Management team has a great deal of experience working with states to create comprehensive schedules for large-scale assessment programs. As part of the draft project plan, within two weeks of contract execution, NWEA will provide a draft schedule based on our understanding of the key activities and supporting tasks that are pertinent to successful execution of the Nebraska Statewide Assessments, including task beginning date, end date and the resource responsible for each step in the process. In order to differentiate each delivery period, each task will be predicated with the corresponding administration year. Further descriptor columns could include task type, functional area, and dependencies on deliverables from other contractual components such as the summative assessment risk.

Our Program Management team will conduct regular weekly meetings (see Figure 5 for a sample agenda) with the entire project team, including subcontractors, as applicable. In this meeting, the project manager will review the project schedule with attendees. A variety of views of the schedule can be utilized to indicate:

- Staffing tables with names of personnel assigned to contract tasks.
- Milestones, tasks, and/or activities due for delivery or completion during the upcoming weeks.
- Items that remain incomplete from the previous week, and any others that Microsoft Project software predicts to be running late based on their current completion status.
- Actual time spent on each task and a revised estimate to complete, if necessary.
- Graphs showing critical events, dependencies and decision points during the course of the contract.

Figure 5: Weekly Meeting Agendas. Our Program Management team sends out a populated agenda similar to this sample before meetings with NDE. Please see Appendix I, Sample Meeting Agendas, for more details.

The program manager will follow up with task owners to discuss impacts of late or incomplete tasks and take necessary steps to ensure that the issues are corrected and the schedule is put back on track.

The project schedule is intended to be a transparent document for use by both NDE and NWEA. We will always discuss any impacts to the schedule or risks to deliverables during weekly meetings with NDE and during periods between meetings if it is urgent. Together, NWEA and Nebraska will proactively assess impacts and implement contingency plans to minimize the impact of slipping dates to the schedule. With regular review of the schedule, NWEA and NDE will have frequent and full visibility of the program progress. Should NWEA and NDE jointly determine that the schedule must be altered to facilitate meeting contractually mandated delivery dates, this will be documented and the schedule will be updated.

Risk Management

Risks are inherent to any complex, high-stakes project. At NWEA, we believe that thorough risk planning and management will serve as a key element of project control. The Nebraska Statewide Assessments

Program Management team is thoroughly versed in the industry best practices set forth in the PMBOK and have a clear understanding of the scope, costs, and activities required to successfully complete this program. Using this knowledge—and under the experienced leadership of Ms. Hopfensperger —this team will identify potential problems and employ strategies and processes to defend against any risks that may arise.

We have provided a sample of our Risk Management Plan in Appendix L. This plan includes:

- **Identification and documentation of potential risks –** Nebraska program team meetings will be conducted specifically to discuss potential risks and to establish a comprehensive list of those identified in a Risk Inventory. As a result, while the NWEA management team is focused on the project as a whole, team members from each functional group will scrutinize potential risks identified within their areas of responsibility.

- **Establishing the probability and impact of each documented risk –** Once risks are identified and logged in the Risk Inventory, each is assigned a level of both probability of occurring, and the impact on the project should it occur. Identifying both variables is critical to establishing and prioritizing risk mitigation plans and control strategies. A risk that is both likely and predicted to have a high impact on the program will generate increased attention to developing control strategies, as well as alert the NWEA management team to monitor this element most rigorously throughout the project.

- **Implementing control strategies** – After risks have been identified and prioritized, control strategies are developed and implemented to mitigate these triggering of risks into issues. While some control strategies may involve modification of processes or implementation of additional reviews and quality checks, others may involve establishing contingency or back-up plans to immediately address and lessen the impact of potential risks.

Reviewing and Updating

Our risk mitigation plans are created to be fluid and will be reviewed and revised routinely in collaboration with NDE. Those risks that could potentially impact near-term activities are reviewed at the kick-off meeting and discussed as part of the monthly meetings. Several times a year, the Nebraska Statewide Assessments management team will review and revise its risk management inventory to capture all changing aspects of the program's components and utilize this information for subsequent project planning.

2. Psychometric Support for All Assessments

a. The Contractor shall provide for the direct involvement of a qualified psychometrician with sufficient time to ensure technical quality for general assessments of English Language Arts, Mathematics, and Science, and alternate assessments for English Language Arts, Mathematics, and Science, such as:

i. Item and assessment formatting appropriate to both online and paper/pencil administration.

ii. Items and test forms for field testing and equating multiple forms including embedded items.

iii. Appropriate validity and reliability calculations.

iv. Appropriate cut-score processes as needed.

v. Alignment of items and test forms with a sufficient number of Nebraska State Standards to meet the requirements of USDE peer review.

vi. Inclusion of item statistics in the item banks for alternate and general assessments.

vii. Converting raw scores to scaled scores for reporting purposes.

viii. Technical and policy support for all assessments.

NWEA will assign Dr. Jungnam Kim as lead psychometrician for the Nebraska Statewide Assessments, with sufficient time to ensure technical quality for general assessments, including the items listed in this requirement. Dr. Kim will be supported by a number of resources across the organization, including a supporting psychometrician. We have found that utilizing a back-up psychometrician in larger programs ensures we can provide consistent support to plan, document, and analyze all assessment data.

Dr. Jungnam Kim

Dr. Kim received her doctorate degree in Educational Measurement and Statistics from the University of Iowa, where her doctoral work focused on calibration and proficiency estimation for IRT vertical scales. She also has a master's in Instructional Design and Technology. Dr. Kim's years of experience in education and assessment make her perfectly suited to support Nebraska in this work. She has led the psychometric analysis and technical documentation for multiple statewide accountability programs, including programs in Georgia, Colorado, and North Dakota. She has presented to and participated in state level TACs, as well as contributed widely to the field of psychometrics and high-stakes assessments. She has a deep understanding of the implications of and requirements of validity in assessments, from content to data and reporting, and has supported many standard settings. She has expertise in programming, adaptive test assembly, and comparability across testing modes.

Psychometric Support for Alternate Assessments

DLM psychometricians ensure technical adequacy is documented for the DLM Alternate Assessment System. This includes annual updates to the technical manual to describe field test and operational item bank statistics, reliability analyses, operational studies in support of the validity argument, and the standards validation process used to determine cut points between achievement levels. The technical manual chapters are distributed to the DLM Technical Advisory Committee and the DLM partner states, including the NDE, prior to their final dissemination to provide feedback on the analyses conducted and the ongoing research agenda.

Because DLM assessments make use of diagnostic classification modeling rather than traditional raw or scale score scoring procedures, the process of equating forms and converting raw scores to scale scores for reporting purposes is not necessary. Instead, the DLM psychometric team maintains the scoring model to report the highest linkage level mastered for each Essential Element. The DLM psychometric team will support independent alignment study between Nebraska content standards and the DLM Essential Elements by providing materials and support to the organization NDE hires to conduct the study.

b. The Contractor shall attend semi-annual one-day meetings of the NDE Technical Advisory Committee (TAC) as requested. The proposal budget may include costs for attendance at the meeting of up to three staff such as the project director, project lead psychometrician, and one additional staff member.

Technical Advisory Committee (TAC) Meetings are a critical component to your accountability system and to Peer Review. We have budgeted for our lead Psychometrician Dr. Kim and Project Director Ms.

Hopfensperger to attend the semi-annual, one-day meetings, taking place in Lincoln. In addition, either Dr. Karen Barton or Dr. Christina Schneider will attend, depending on agenda topics and needs.

Depending on the specific agenda, NWEA staff can present/introduce topics for discussion, be an active contributor to agenda topics, or simply be on-call if questions arise. It is important to note that additional staff may be required, such as psychometric staff or content staff focused on the alternate assessment. We will work with the state to ensure that the appropriate people are in attendance without including more than are needed.

Dr. Karen Barton

Dr. Karen Barton is a nationally recognized psychometrician, having served as lead psychometrician and senior manager over multiple state-wide general and alternate assessments, as well as serving on state level and federally funded TACs. She continues to contribute to the field in research on accessibility, new item types, and learning analytics over sixteen years. Dr. Barton most recently served as an executive over Learning Analytics and the development of digital instructional and assessment products, technology enhanced items and digital performance tasks, self-paced modules, interactive learning environments, interim assessments, and program evaluations.

Dr. Barton also has experience in the work of state education agencies, working as Assessment Specialist in the South Carolina Department of Education, and serving as Technical Advisory Board member to several state projects and to US Department of Education grants. Dr. Barton began her career in the classroom, as a special education teacher in South Carolina and Virginia. Dr. Barton has a Ph.D. in Educational Research and Measurement from the University of South Carolina, a master of science degree in Special Education and a bachelor of science degree in Psychology from Longwood University.

Dr. Christina Schneider

Dr. Christina (Christy) Schneider comes to NWEA from the National Center for the Improvement of Educational Assessment where she worked to build coherent connections across classroom, interim, and summative assessment systems and to support state and district policymakers in making their content expectations for student proficiency more transparent for teachers. Previously, Dr. Schneider was a Research Scientist and Manager at CTB/McGraw Hill where she led a team of research scientists and associates, and standard setting specialists.

During her tenure at CTB, Dr. Schneider was the lead research scientist for multiple state, large-scale summative assessments and for automated essay scoring on high stakes and formative products. She is the co-author of the innovative achievement level descriptor development framework that since 2012 has been used by 40 percent of states in the summative assessment process. Dr. Schneider is the lead author of two professional development curricula for teachers: one on a formative assessment based process for student learning objectives and one on formative classroom assessment. Dr. Schneider holds a Ph.D. in Philosophy from the University of South Carolina.

Alternate Assessments

DLM psychometric staff will be available to present to the NDE Technical Advisory Committee, as requested, up to once annually.

c. The Contractor may attend selected meetings of the state assessment advisory group upon request up to two times per year. Costs should be included for the project director and psychometrician to attend two meetings a year.

Our lead psychometrician Dr. Kim and Project Director Ms. Hopfensperger will attend the State Assessment Advisory Group Meetings upon request from NDE. We have planned and budgeted for attendance for these two staff members at two one-day meetings annually. At these meetings we are happy to present on any topics NDE requests (within our contract), be an active contributor or be there to answer any questions the advisory group may have.

As with the TAC, however, it is important to note that, depending upon the topic, we may suggest other experts attend these meetings. We will work with the NDE to assure attendance by the appropriate staff.

As active collaborators with the NDE, we believe that the success of an assessment system requires thoughtful development planning early in the project, as well as continual discussion and collaboration throughout the life of the contract. If all topics cannot be covered within the two-day planning meeting, we propose utilizing one of the six planning sessions to more thoroughly address the psychometric complexities of a comprehensive assessment system.

d. This proposal must address how the Contractor will meet the Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014).

As referred to in Sections G.6 and H.1.l, the uses of test scores are varied. The purpose of an assessment is valid when the body of evidence collected through development and delivery of the assessment supports that purpose and use. NWEA adheres to *The Standards for Educational and Psychological Testing*[3] throughout our content and psychometric development to ensure that test scores are meaningful for the purposes outlined by the NDE. We will also provide NDE with technical documentation that can be specifically cross-referenced to those standards. For example, from the intended inferences of each assessment (Standards for Validity, Cluster 1), to the factors affecting the reliability and thus the validity of those inferences (Standards for Reliability, Cluster 4) such as administration, scoring, and analysis, including the statistical documentation of reliability and validity (i.e., coefficients (Cluster 3), standard errors (Cluster 5), decision consistency (Cluster 6), various forms of validity (such as in Cluster 3). In addition, we will provide specific references for the NDE of our work as it relates to the Critical Elements.

Alternate Assessments

DLM psychometricians and psychometric support staff are committed to upholding *The Standards for Educational and Psychological Testing* for all aspects of the DLM alternate assessment system as demonstrated in existing technical manuals and reports. The psychometric team is responsible for conducting ongoing and new research in support of the DLM theory of action and the validity argument. Annual updates to technical documentation include the addition of annual test results, summary of

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[3] AERA, APA, and NCME, *Standards for Educational and Psychological Testing* (Washington, D.C., 2014).

operational and field test item statistics, updated reliability estimates, as well as continuous improvements to psychometric methodologies in order to best support the claims and inferences made from assessment results. DLM is also guided by a DLM Technical Advisory Committee that provides advice on design, analysis, and implementation issues with consideration for the professional standards.

3. Training for District Personnel

a. The Contractor and NDE Staff will provide training in:

i. Fall workshops- the Contractor will provide fall workshops each year to provide an annual update to school district personnel.

ii. Enrollment for ordering tests.

iii. Interim System – by October or date agreed upon by NDE in year one; by end of August or earlier in subsequent years.

iv. Test Administration for general and alternate assessment in English Language Arts, Mathematics, and Science.

v. Reporting – one month prior to the release of results.

b. With the exception of i. above, which requires in-person presentations, the above identified training can be provided through workshops or Web-Exes. Costs should be provided separately for workshops and for Web-Exes. In-person Workshop costs should include on-site registration, materials, and facility costs (average cost of $500-$1000 for a minimum of ten half-day workshops held across the state for at least 75 attendees for each of the four (above) required trainings. NDE will cover any other costs associated with on-site workshops.

At the foundation of a successful test administration, is a well-designed intuitive platform coupled with a strategic system of training and support. Our proposed training plan, displayed in Table 16, outlines our proposed modalities for the various requested trainings. The plan includes face-to-face and virtual live trainings for district personnel to ensure a successful administration of the summative, interim, and alternate assessments. We recognize the need for trainings to be available to educators on-demand and presented in a format that is clear, succinct and efficient. Online trainings available in real-time and in a recorded format allow educators to access trainings as their schedule permits and in a modality that best meets their learning needs. We pride ourselves in creating materials and trainings in a format that provides clear directions, complete with screenshots, in the least amount of time necessary.

As described in Section A.1.l, we place great importance on the quality of training, and believe that successful learning by attendees is essential. We will use a review process that ensures the quality of training content. This includes an initial collaboration with NDE on the general outline of the training and development of workshop agendas. The trainings are written and designed by NWEA resources with experience in adult learning. All content will be reviewed by the Program Management team. Program Management will collaborate with internal stakeholders to ensure adherence to quality standards and NDE's agreed upon schedule. The development of all materials will include a review cycle with NDE and final approval from NDE prior to delivery and publication.

Table 16: Nebraska Statewide Assessment Training for District Personnel

Training	Content	Mode of Delivery	Frequency/ Duration	Proposed Delivery Timeframe
Face-to-Face Fall Workshops	Annual update to school district personnel on all assessments, general preparations, and upcoming trainings	Face-to-face	Half-day workshops at 10 locations throughout Nebraska (regional locations to be decided at kick-off meeting)	August/September 2017
Interim System Training	Registration and administration of the interim assessment system for district and school level personnel	Recorded via web-based production	Maximum duration of 45 minutes *Recording available on demand*	August/September 2017
Summative Enrollment Training	Processes for ordering summative paper and pencil assessments	Recorded via web-based production	Maximum duration of 20 minutes *Recording available on demand*	November 2017
Alternate Assessment Test Administration Training	Required test administration training for the alternate assessment	Face-to-face in Year One Self-paced modules in subsequent years	Half-day workshops at 10 locations throughout Nebraska (regional locations to be decided at kick-off meeting) for year one	September 2017
Summative District Assessment Contact (DAC) Test Administration Workshop	Registration and administration information for the summative assessment	Live virtual training with a Q&A session. *For district scheduling flexibility, the same live training will be offered five different times, with one of the trainings being recorded.*	Maximum of 2 hours each *Recording available on demand*	February 2018
Summative Report Training	Access and interpretation of results	Recorded via web-based production	Maximum duration of 30 minutes *Recording available on demand*	May 2018

Face-to-Face Fall Workshops

In the fall of 2017, NWEA will host 10 half-day workshops at locations throughout Nebraska that will be determined in agreement with NDE at the kick off meeting. These workshops will introduce district personnel to NWEA program staff, provide an overview of the new assessment system and assist district staff to begin the preparation for interim, summative, and the alternate assessments. Participants will be provided with detailed calendar of assessment testing windows, general district and school staff responsibilities for testing, and a descriptive list of resources and materials that will be provided throughout the 2017-2018 school year. NWEA will work with NDE to integrate any specific state policy information or updates and would welcome NDE staff to join in the presentation and sharing of state specific information. We have budgeted for four program staff to attend each workshop. NWEA will assume all program staff travel costs. Per NDE requirements, we have also budgeted for facility rental and light refreshments at each session.

Interim Assessment Training

We are proposing off the shelf Measures of Academic Progress (MAP) as our interim solution. To support administration of this assessment, we recommend an online recorded training. This allows users to access the training at a convenient time and location. The majority of districts in Nebraska are familiar with MAP and administration procedures used for this assessment. For these districts, the Interim Assessment Training will serve as a reminder of best practices. For districts unfamiliar with MAP, this online training will introduce users to the administration practices and procedures.

Enrollment

In November, we will provide District Assessment Contacts (DACs) with an online recorded enrollment training. This training will include step by step directions, including corresponding screenshots, on how to order summative paper testing materials. Although we believe the intent in this training is to address the paper ordering process, we recommend including information in this session on managing student registration records for the online summative assessment. This would include topics such as how to add and edit student enrollment data and details about the appropriate use and selection of online accessibility features for students. The format of this training allows users to access the information at convenient time and location.

Alternate Assessment Test Administration Training

We are proposing Dynamic Learning Maps (DLM) as our alternate assessment solution. DLM requires training annually for educators who serve as test administrators and administer the DLM alternate assessments. Test administrators are not allowed access to their students' log-in information for KITE, the DLM testing platform, until their training is successfully completed. Training is provided in two formats: facilitated (in-person training with post-tests in Moodle, an online learning platform) and self-directed (all content and post-tests within Moodle). We are proposing facilitated in person trainings for year one and self-directed trainings for all subsequent years. In year one, DLM has budgeted up to ten on-site half day test administrator trainings. Each training will be designed for up to seventy-five attendees. Per NDE requirements, we have also budgeted for facility rental and light refreshments at each session.

Successful completion of the training requires test administrators to complete four modules and pass all four post-tests with a score of 80 percent or higher. Test administrators are able to retake post-tests as many times as needed in order to pass all parts of the training. Returning test administrators (those who successfully completed required training the previous year) must successfully complete a single

combined module with a score of 80 percent on each of four post-tests before being allowed access to their students' log-in information. Training time is estimated at less than one hour. If the module post-test is not successfully completed on the first attempt, additional training is required. The additional training can take an added thirty minutes to four hours, depending on the areas in which the test administrator is not successful on the first attempt.

The four modules for new test administrators instruct in the following areas:

- **About the DLM System:** Topics include illustration and discussion of the DLM maps, Claims and Conceptual Areas, Essential Elements, testlets, linkage levels, and the security demands of the DLM system.
- **Accessibility by Design:** The training emphasizes how Universal Design for Learning is used to ensure that test content is optimally accessible. Test administrators are also introduced to KITE Client, the technology platform used to deliver testlets.
- **Understanding and Delivering Testlets in the DLM System:** Topics include testlet structure, item types, completing testlets, standard test administration process, accessibility supports, allowable practices, and practices to avoid.
- **Preparing to Administer the Assessment:** Test administrators learn to check data, complete the First Contact survey, use practice activities and released testlets, and plan and schedule assessment administration.

The module that returning test administrators complete is a review of the information contained in these four modules as well as additional changes in DLM assessments that may have occurred since the previous year.

District and school level administrators are able to track test administration training through KITE Educator Portal by downloading the Training Status report. The report can be generated by district or school. Test administrators are listed by name, School ID number, and email.

While required test administrator training content is standardized, NDE has some flexibility in configuring their state's version of the course in Moodle. For example, NDE may choose to include additional required or supplemental DLM professional development modules. NDE can also choose to require face-to-face training and not make self-directed training available.

District Assessment Contact Test Administration Trainings

In February 2018, we will host up to five live virtual trainings for District Assessment Contacts (DACs). These training will provide DACs with essential information for a successful summative test administration. Topics will include best practices in test administration, using the student management system to confirm the accuracy of student demographic information, set individual student test settings and accommodations as appropriate, establish test sessions, monitor students during testing, and test security. Providing numerous virtual trainings allows DACs freedom to select a time that works best with their schedule. The format also allows for personal interaction and the integration of a live question and answer segment. After all virtual sessions have been conducted, NWEA will provide a final recorded version of the training. We will also consolidate attendees' questions into a frequently asked questions (FAQ) document to provide as an additional resource for district personnel. NWEA is skilled at providing virtual trainings and is confident that the information can be provided in this format. If, however, NDE would prefer the sessions to be conducted face-to-face, we can provide additional costing for the trainings.

Report Training

Near the end of the summative test window, we will provide District Assessment Contacts with an online recorded report training. This training will include step by step directions to access assessment results, including corresponding screenshots. Directions will also include how to use the various features within the reporting system to support district and schools' interpretation of assessment results.

Similar to the report training for the summative assessment, a video will be available for the alternate assessment. This video guides teachers through the contents of the individual student score report and how to interpret the contents.

Additional Training Supports

In addition to the array of trainings listed above, the test platform and assessment systems have been strategically designed to provide easy to navigate and on-demand support. Throughout the platform users will experience intuitive and easy to navigate screens as well as embedded page-specific help, guides, and tutorials. By design, the system also provides an on-demand system of support through each assessment system's help center.

In addition to the face-to-face fall workshop and the Alternate Assessment Test Administration Training, DLM has produced a number of supplemental training resources. These help videos will be referenced in trainings and will be available to all NE educators. These videos are available online at http://dynamiclearningmaps.org/district-staff-training-resources-im.

Quality Assurance: Process for Partner Training Content and Delivery

We place great importance on the quality of product training for our partners and believe that successful learning by attendees will positively impact the overall assessment program. We use a review process that ensures the quality of training content:

1. Content will be reviewed by the NWEA Program and Product Management teams to ensure both product and content are complete and accurate.

2. A second review will be conducted by the NWEA User Assistance group to confirm proper delivery, style, typographical, and formatting of the content.

3. Content will go through a final review by the NWEA Program Management team.

4. A draft of the document(s) will be sent to the NDE for final approval prior to publication and distribution.

The quality of our training delivery includes two parts: Ensuring understanding of the material, and the facilitation of the training. Learning assessments during the training will allow the participants and the NWEA trainer to ascertain learning obtained and detect trends suggesting that changes to the training curriculum are required. In addition, surveys of the training presentations will be distributed to track quality and performance of our facilitators. NWEA will ensure seamless integration of our subcontracted resources when appropriate

4. Online Support

a. The Contractor will provide toll-free telephone support to schools throughout the school year for general and alternate assessments and for the interim system. The proposal should discuss options for staffing the support center, training support personnel, and duration of support during peak usage times, such as prior to and throughout the testing windows. The proposal must also discuss procedures for ensuring that efficient service is provided in the event of a breakdown in telephone service.

We are pleased to offer NWEA Partner Support Services to Nebraska districts, schools, and educators. Our Partner Support Services teams have provided site readiness and timely, knowledgeable, and courteous support services. We are proud of the high marks we have received in this area from partner satisfaction surveys. In our most recent partner (customer) surveys, 80 percent of respondents indicated that we were able to resolve their issue in a single contact.

NWEA will provide resources to support Nebraska and its educators, providing assistance with generating roster files, configuration of the assessment program, accessing online reports, and general questions that may arise in the use of the system. The primary function of this Partner Support team is to provide telephone (toll-free), email, and chat support to schools and educators of Nebraska. Our Support representatives take complete ownership of all issues from beginning to end. Our Tier 1 representatives routinely resolve over 80 percent of support requests on first contact. Our high first call resolution increases end-user satisfaction and allows the NWEA staff to resolve issues quickly and with fewer handoffs.

We have an extensive database of industry-standard support resources, which we use to resolve service issues quickly and consistently. The support representatives actively review assessment materials to remain informed about the latest updates to the assessment platform and its supporting systems. We will use Nebraska specific materials and be familiar with all aspects of the program, policies and procedures to provide a high-quality support experience for Nebraska educators.

Staffing and Training

A culture of continuous improvement coupled with hiring practices focused on selecting individuals with strong customer-service orientation has created an excellent Support team that is well respected by our partners.

The NWEA Partner Support Services team will be staffed to meet the needs of Nebraska throughout the year. We monitor all service activities through daily, weekly, and monthly reports and will make adjustments as needed to ensure appropriate coverage for Nebraska support needs during peak usage times, such as prior to and throughout the testing windows.

Our experience working with over 8,700 partners gives us the knowledge, expertise, and ability to lead in diverse technology configurations. Given our work in 95 percent of Nebraska districts, as shown in Figure 6, we have Nebraska-specific knowledge and will ensure that NWEA Partner Support Services representatives are familiar with all policies and procedures to effectively and efficiently handle support requests.
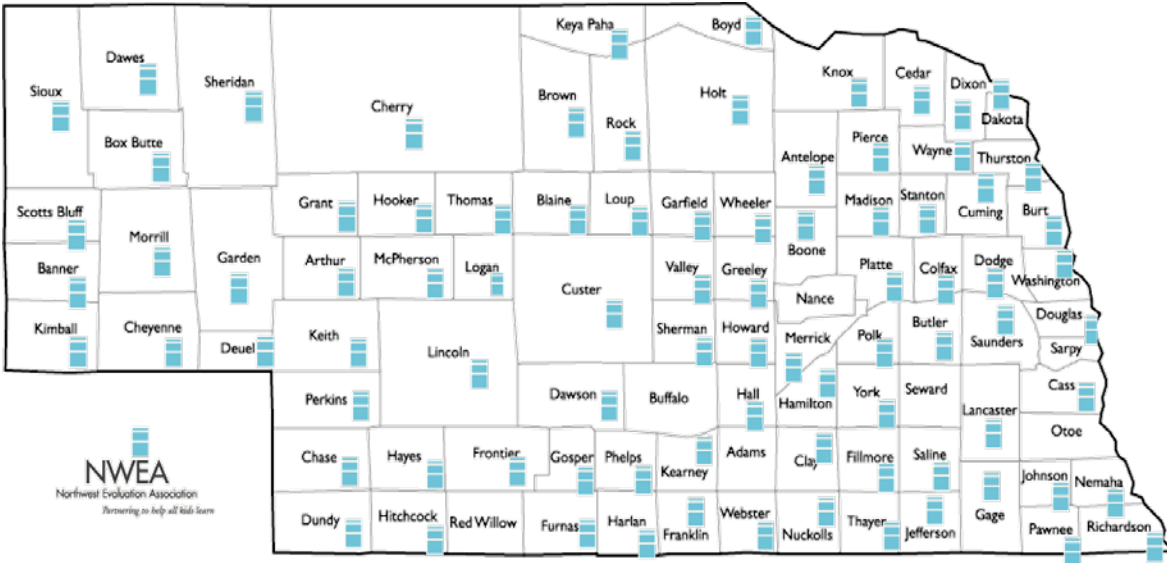
Figure 6: NWEA in Nebraska. Our interim MAP assessments and professional development are used in 95 percent of districts in the State.

We believe that every partner interaction should be a positive one. Our Partner Support Services team has established service protocols for efficiency, developed internal training programs to assure consistent high quality service, and incorporated partner feedback loops for continuous improvement.

All of our Tier 1 and Tier 2 Support staff members are required at hire to undergo a three-week training program led by our Senior Support Specialist team and team trainers. The training program consists of a combination of instructor-led and self-paced eLearning courses, covering all relevant team policies and procedures, including security requirements of handling student data, product expertise, and troubleshooting requirements. In addition, several days of "phone shadowing" are built in to our program, to ensure each new staff member has the opportunity to participate in calls with veteran staff monitoring, prior to working independently. Senior Support Specialists are responsible for continually updating training program content, to ensure all Support team staff members are knowledgeable of current policies.

In addition, the project managers and Product Training resource dedicated to NDE's program will train the support staff on Nebraska-specific policies. Reports from our phone system and customer relationship management (CRM) tool, as well as call monitoring tools, will be used in monitoring quality and in the determination of additional training needs.

Multiple Methods of Accessing Support

The NWEA Partner Support Services staff phone schedule is structured to ensure maximum availability of specialists during key hours of the day while maintaining coverage throughout business hours.

Phone Support

Our Voice Over Internet Protocol (VOIP) phone systems allow callers to quickly reach the first available representative. VOIP also provides remote access capabilities for our staff, enabling Partner Support team members to provide seamless service even during times of inclement weather or office closure.

Email Support

Emailed support requests are also handled quickly and efficiently.

It is our goal to respond to all emails within twenty-four hours from time of receipt. Emails received within NWEA business hours are responded to on the same business day.

Chat Support

Chat is a convenient method of contacting support for in-the-moment questions or for use in the rare occurrence of a phone service disruption.

Partner Support Services Availability

We will ensure that all representatives who handle calls, emails and chats are trained on the assessment platform and familiar with the unique policies and procedures established by the State.

NWEA will provide Partner Support availability to Nebraska from 8:00 a.m. to 5:00 p.m. Central Time (CT) Monday through Friday, and 7:00 a.m. to 5:00 p.m. CT during the testing windows. We will work with Nebraska to refine support hours if necessary.

In the unlikely the event of a breakdown in telephone service, we maintain redundant phone servers; if the primary server fails calls are rolled to the secondary server. If these fail, an in-product message will be posted pointing users to our chat service. Partner Support staff can be put into the chat queue or respond to email to handle incoming support requests.

Quality Assurance: Process for Partner Support Operation

The NWEA Partner Support team is committed to providing quality care for our partners and maintaining the high level of service we have established. To support this commitment, we use a variety of structures, processes, and requirements for NWEA partner support staff members, as shown in Table 17.

Support Statistics

- In 2016, we handled over 76,000 phone calls with an average hold time of **1:23 minutes.**

- During 2016, we handled **100 percent** of emailed support requests within twenty-four hours – over 19,000 emails.

- During 2016 we handled over **12,000 chat support requests** usually within two minutes.

Table 17: Partner Support Quality Assurance

Process	Description
Staff Policies and Procedures	Our Partner Support team adheres to documented policies and procedures to provide accountability for delivery of consistent, accurate information to our partners. Each member of the NWEA Partner Support team is responsible for the accuracy of information shared and the tools, resources, and workflows utilized each day to support this responsibility. Our internal knowledge base, containing thousands of articles that span from troubleshooting techniques through team processes, is updated on an ongoing basis and regularly reviewed for accuracy. Nebraska policies and expectations will be available as part of our internal database of industry-standard support resources. Internal communication methods, including alert mechanisms, instant messaging, and discussion forums, are all integral to the distribution to our staff the most current information to be shared with our partners.
Case Management Standards	NWEA staff members are required to follow established support case management standards, including regulations on capturing all actions taken and technical advice provided, and requiring that all partner concerns reach a successful conclusion prior to case closure. Through the use of our customer relationship management application, we ensure that all partner emails receive timely responses, all interactions are thoroughly documented, and all relevant details are captured in order to provide the fastest service possible.
Scheduling to Ensure Consistent Phone Coverage	The NWEA staff phone schedule is structured to ensure maximum availability of specialists during key hours of the day while maintaining coverage throughout business hours. Our Voice Over Internet Protocol (VOIP) phone systems allow callers to quickly reach the first available representative. VOIP also provides remote access capabilities for our staff, enabling Partner Support team members to provide seamless service even during times of inclement weather or office closure.
Incident Response/Bug Reporting Processes	Our internal reporting and alert processes are built for early identification of system-wide technical issues as they emerge. These processes include documented steps staff members are required to follow to verify and escalate problems for prompt resolution. Our escalation procedures include providing frequent and accurate messaging to users during the rare occasion when there is a problem, providing visibility into the issue and estimated time to resolution. NWEA will adhere to negotiated escalation and approval policies prior to communicating out to Nebraska stakeholders.
Standardized, Comprehensive Nebraska-specific Training	NWEA staff members are required to complete an instructor-led, three-week training program. This training includes competency assessments and required resolution of real-life use cases. Staff members are also required to participate in ongoing trainings through the same program to maintain up-to-date knowledge and skills.

Table 17: Partner Support Quality Assurance

Process	Description
Caller Satisfaction Surveys	The goals of the NWEA Partner Support team are to answer calls promptly, furnish appropriate assistance to partners, and provide callers with a positive support experience. Partner support staff members sustain each phone call until the caller confirms that an incident is either resolved or that he or she fully understands the next steps. NWEA will send satisfaction surveys after each case is closed, not more often than once every 90 days. This survey measures support quality and experience, experience of the support representative, and resolution perspective.
	The survey results are reviewed regularly by Partner Support Leadership and used for coaching opportunities with staff. Additionally, team managers review cases regularly and call randomly selected partners for follow-up to confirm professional, knowledgeable, helpful support service.
	We will share the State's summary data of the Satisfaction Survey with NDE during the end-of-year sessions and use data to drive decision-making going forward.

Our feedback systems, customer satisfaction surveys, and manager case history reviews are designed to inform continuous improvement. Results are regularly compiled, evaluated, and incorporated into the support system to create even more consistent and positive client experiences.

Help Desk Support for Alternate Assessments

Dynamic Learning Maps' Service Desk operates year-round to support educators with their questions related to DLM alternate assessments. The Service Desk is open 7:00 a.m. to 6:00 p.m. CT Monday through Friday during the spring testing window and 8:00 a.m. to 5:00 p.m. CT at other times of the year (except national holidays and December 26 through January 1). Tier 1 support will provide a response or resolution back to the originating caller within 24 hours. Tier 2 help desk support will trouble shoot problems not solvable by Tier 1 support. Tier 2 support will be available 8:00 a.m., to 5:00 p.m. CT Monday through Friday (except national holidays and December 26 through January 1).

DLM will provide a dedicated toll-free number for Nebraska callers. Individuals may also contact the Service Desk by emailing DLM-support@ku.edu.

The DLM Service Desk is staffed with experienced team members, including Tier 1 and Tier 2 support. New team members complete a formal training program, followed by a period where they are partnered with an experienced team member. Twice per year, DLM staff works to develop and provide supplemental training on the DLM assessment system for all Service Desk agents. Topics may include changes in individual state policies, reminders about consortium policies and best practices, enhancements to the Educator Portal, and anticipated hot topics. As part of the training, Service Desk agents are directed to contact DLM staff with any questions that require state input or the state to develop or amend a policy.

The DLM Service Desk effectiveness is monitored with a dashboard, updated every weekday, that shows statistics on call volume, call time, ticket volume, and ticket resolution. In the event that service metrics drop below the threshold established for high-quality and timely service, leaders collaborate to identify

solutions ranging from broadcast communication on topics generating high call volume to shifting staff resources to meet demand during peak times.

In the event of a datacenter failure, telephone or email outage, DLM will provide a timely status update to the NDE. If the primary datacenter is lost, the DLM website will fail over to the backup datacenter within 4 hours. The DLM website may be updated remotely and includes a page with KITE and Educator Portal status messages. The DLM test updates listserv is also used to communicate urgent messages if needed during the testing window. In case of a service interruption, the DLM project manager will also contact NDE directly to explain the issue and expected resolution.

b. The Contractor will provide NDE with reports analyzing use of customer support services. At the discretion of NDE, weekly reports that track resolution of issues reported in customer service calls may be requested, especially if issues arise that cause dissatisfaction with the assessment and/or interim system.

NWEA will provide NDE with weekly reports analyzing use of customer support services. These reports will track resolution of issues reported in customer service calls, especially if issues arise that cause dissatisfaction with the assessment and/or interim system.

As part of the weekly status report NWEA will provide a technical support status report that lists the following items:

- First-call resolution percentage
- Number of incidents resolved in less than thirty minutes
- Top four incident categories
- Call volume
- Peak call time(s)
- Contact Trends
- Average call duration

Please see Appendix M, *Sample Customer Service Reports*, for an example of this weekly report.

We will notify NDE of any prominent issues in the weekly status meetings, and we will record them in the meeting minutes. Additional information can be made available to NDE by request.

Review of the incidents reported by the partner and solutions applied may inform future product development, system enhancements, technical training, product training revisions, and/or FAQs provided to NDE, district, and other stakeholders during future training and ongoing support.

NWEA will provide NDE a summary report of all incident transactions at the end of the quarterly testing season. The delivery schedule of the report, along with the format and the information contained within the report, will be defined through negotiation between NDE and NWEA. Our standard summary report contains the following information:

- Caller/emailer name
- District/School
- Date and time
- Summary of issue
- Category/sub-category of the issue

- Resolution
- Date and time of resolution
- Knowledge base solution number and description

This electronic record shall be delivered in a format that will allow the NDE to sort by district, school, date, etc. This report will be helpful in quarterly reviews of program performance and help inform any changes that may be made to the program after each test administration.

Service Reports for Alternate Assessments

The DLM Service Desk provides service reports as requested regarding ticket volume, topics, and resolution. Reports will be provided monthly at a minimum and may be provided weekly if issues arise that the NDE would like to address quickly in order to minimize local dissatisfaction or concern.

The Service Desk uses a ticket tracking system to maintain customer contact history and contribute to the team's continuous improvement processes. Inbound calls and emails are logged within this system, including:

- Contact name
- Contact email
- District
- School
- Date and time of event
- All subsequent communication related to the incident, summary, and resolution time.

Each incident is categorized according to a set of predefined topics and subtopics aligned with defined support categories. These categories are continuously refined to ensure that both metrics and the resulting questions are classified to provide valuable information when constructing future training and documentation.

Information from the ticket system feeds into monthly summary reports showing aggregate communication trends. A detailed report including individual contacts will also be provided to NDE to show the individual communications as logged by the customer support team. Tickets for all DLM states are also evaluated at the consortium level to identify areas for future training or improved documentation. Common topics are shared with state partners during periodic partner calls.

5. Technology for All Assessments

a. Online Assessment Security

Proposals must include a detailed description of the methods that will be used to ensure the security of the online assessments.

As an organization that seeks to aid in the improvement of educational outcomes for all children, NWEA is dedicated to the privacy and appropriate use of student information and recognizes the importance of its protection. NWEA has policies in place to protect personally identifiable information (PII) derived from student information and maintains student information in accordance with Family Educational Rights and Privacy Act (FERPA).

As a custodian of partner data, NWEA is committed to ensuring the confidentiality, integrity, and availability of NWEA information assets and resources, including, but not limited to, the data of our partners. In doing so, NWEA information security controls are developed and implemented under the following principals to:

- Protect the confidentiality, integrity, and availability of NWEA information assets and those of its partners;
- Comply with applicable privacy and data protection laws;
- Enable the business to take necessary and calculated risks through risk assessments;
- Grant access to sensitive, proprietary, or other confidential information only to those with a need to know and at the least level of privilege necessary to perform their assigned functions;
- Provide security training opportunities and expert resources to help individuals understand and meet their information security obligations; and
- Follow the policies and procedures established by the Center for Internet Security Critical Security Controls.

Figure 7 shows many of the security concerns NWEA addresses through our policies and procedures.
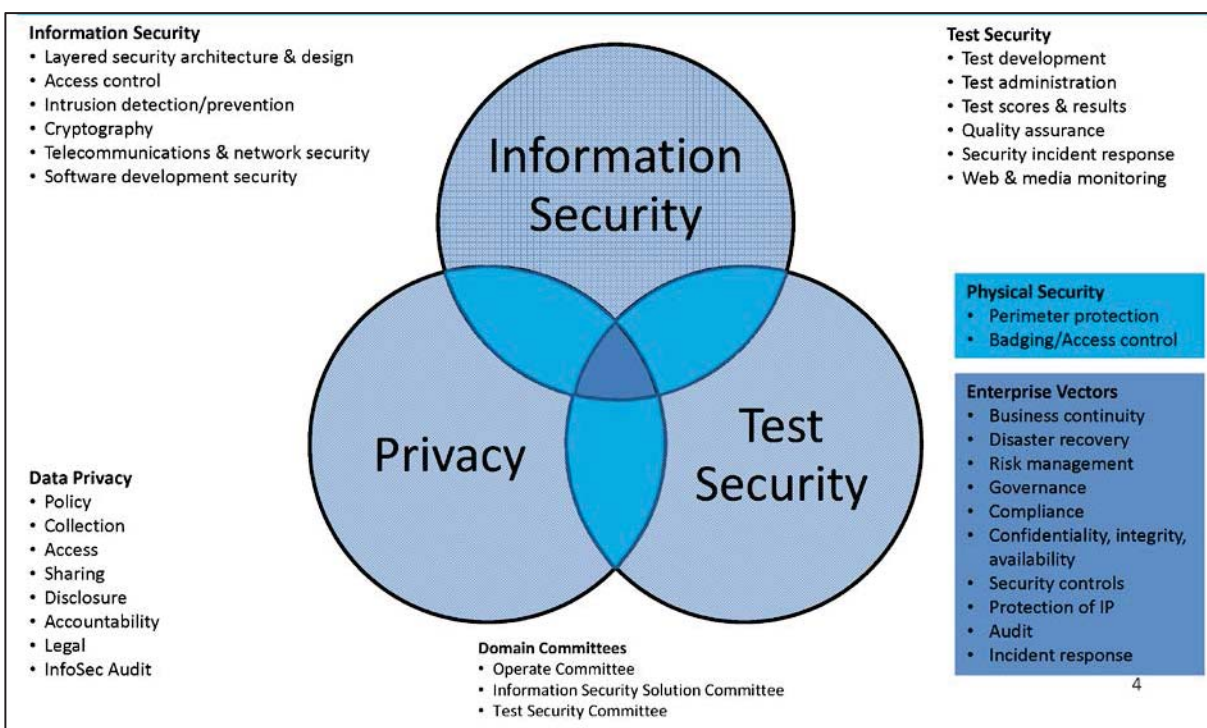
Figure 7: NWEA Security Domains. This image shows many of the security concerns NWEA takes into consideration in each of our partnerships, including with the NDE for Nebraska Statewide Assessments.

Test Security Program

The integrity of state assessment results, and the fairness and validity of decisions based on those results, are dependent on a robust test security program. Credible test security provides equal testing opportunities for all students. The goals of test security are to:

1. Ensure accurate scores by securing test items and the data channels they utilize to ensure that the assessments measure what they are supposed to measure, and

2. Preserve student privacy throughout the processing chain by limiting access to all of that data to authorized users and providing test item security.

The NWEA test security framework is based on a continuous improvement cycle to prevent, detect, investigate, resolve, and improve. A formal Test Security Plan is generally organized around the assessment life cycle and is based on a foundation of industry best practices and standards. The plan enhances security by establishing policy, processes, procedures, and training to maintain test security throughout the development and administration of tests, and responding well when an irregularity is detected or a security breach occurs.

Our Test Security Plan

NWEA contracted with an industry-leading test security vendor to conduct a security audit in 2016. Following the audit, a Test Security Plan is in development, and will be available to the NDE upon request when it is complete – expected in February 2017. The Test Security Plan incorporates the audit's results and recommendations into a framework that covers the test security goals, regulation, and management.

Appropriate management of test security, as described in the Test Security Plan, intersects with every aspect of our organization. It encompasses aspects of:

- Budget and finance
- Exam development and maintenance
- Maintenance of intellectual property and student privacy
- Secure item and exam design
- Exam administration
- Monitoring activities
- Incident response

NWEA will work with the NDE to ensure test security policies and procedures are written into the ancillaries to communicate a clear message maintaining the security of the test.

In relation to online assessment, our test delivery platform is designed to ensure the highest security throughout the testing process. When a student logs in to a test session, the test is not started and no test questions are made visible to the student until the proctor has confirmed the student and activated the test session by using the proctor dashboard.

All data transmissions during the entire assessment process are encrypted and secured via SSL encryption methods. Item responses are not stored/cached locally. Responses are captured in real-time and stored in our secure servers before presenting the next item to the student.

A lock down browser will prevent students from initiating other browser sessions and/or to have access to other content on the testing device, unless they exit the test. In the event students exit the test during test administration, they will need to log back in and have the proctor re-activate the test before proceeding. In these instances where a student has exited the test and been allowed to log back in, as an additional security feature, our adaptive test engine will present a new item in place of an item that was presented in its place before exiting the test. This alleviates any item exposure the student had, both from a test security and test validity perspective.

Online Security of Alternate Assessments

DLM maintains security in administration of the KITE system and the storage and transfer of private information.

DLM fully understands the importance of test security to ensure valid interpretation of test data. We comply with physical security requirements by using hosting providers that conform to SAS 70 auditing standards for physical access and PCI compliance. Most of the project management, test development, and data analysis activities take place at DLM. The on-campus offices are in a secure wing that can only be accessed with a key; all hallways have video surveillance as well. Most work is done at one of our sites using secure server systems. DLM staff accesses those servers via a secure VPN connection when they need to work remotely.

All KITE applications handle educator and administrative passwords using industry-standard encryption techniques; users must create strong passwords and may change their own passwords in accordance with the password policy. All applications generate access records that can be reviewed by system administrators to track access. All items used for released testlets exist in a separate pool from items used for summative purposes, ensuring that no items are shared among secure and non-secure pools. Only authorized users of the KITE assessment system have access to view items.

In accordance with FERPA rules, students', teachers', operations', and administrators' access to personal student data is limited to student records in which that person has a legitimate educational interest. All users in the system are provided the minimum amount of access required. Throughout the lifetime of the product, security levels, groups, and the access provided will be reviewed periodically to ensure continued compliance.

Operational access to all servers is controlled by keys that are provided only to system administrators who manage the production data center in the operations team. Access to the networking equipment and hardware consoles is limited to the data center itself; remote access to these devices is limited to the data center-specific administration host.

Access to individual KITE applications is controlled according to the policies set forward for that application and the data the application maintains. All access policies and accounts are reviewed periodically to ensure that access to systems is limited to the appropriate populations.

In addition to physical and electronic security measures, test security is promoted through required training and certification requirements for test administrators. Test administrators are expected to deliver DLM assessments with integrity and to maintain the security of testlets. State, district, and school users are expected to complete the security agreement within Educator Portal each year. By accepting the security agreement, users agree not to store or save assessment materials to computers or personal storage devices, to not print testlets, and to not share personal passwords with others.

The proposal must describe a procedure and timeline for evaluating district capacity for online assessments including local storing (cache) for large districts. The system proposed must assure that districts are able to meet the capacity demands of online testing at peak times.

Our web-based online assessment system uses very minimal bandwidth and has been used across the nation for the past several years. Our implementation support team provides documentation that outlines network bandwidth recommendations and implementation steps for districts and schools, to ensure they are able to meet the capacity demands of online testing. Our support teams will work with districts and the NDE to alleviate any concerns and enable Nebraska districts to meet the capacity demands, even at peak times.

As part of the onboarding process, 3-4 months in advance of the testing window, NWEA Implementation Support staff will work with districts to identify any bandwidth or other network related issues that may impact online testing. Where needed, our support team in collaboration with the district technology staff will run diagnostic tools to identify any problems and provide specific recommendations. Our online assessment system architecture is designed such that there is no need for local storing (caching). This eliminates the need for district staff to install programs on every device that may be used for assessment, as well as procuring and setting up caching servers. It also eliminates the need for uninstalling these same programs from every device in the district following testing. The district, thus, avoids this huge time and resource drain. A typical computer lab with 20-30 workstations require ~2MB of bandwidth. With 95 percent of the districts currently administering MAP Online testing, we are confident with the capacity demands districts are able to meet.

c. Online Assessments

Online assessments should maximize the use of technology while facilitating ease of use by students of all levels. The proposal should describe appropriate testing tools such as:

Our mission – *Partnering to help all kids learn* – includes those who have specific learning needs. Our approach is situated within the framework of universal design, in which accessibility is increased and the need for accommodations is minimized. Our experience in accommodations research and in the development of our platform and items reflects our philosophy of universal design and the creation of assessment experiences that reflect what each child is accustomed to during learning.

Please see our alternate assessment partner, DLM's, response to sub-requirements i.-xiii. of this requirement, beginning on Page 95.

i. Audio capacity with human-voice-recorded text-to-speech for appropriate accommodations and/or to provide directions/instructions.

With an adaptive test administration, the extent of the adaptivity is reliant upon the depth and breadth of the item bank. As such, many, many items are leveraged during each administration. We have found the creation of human voice audio to unnecessarily limit the benefits from an adaptive experience. Embedded text-to-speech technology will be available to students during summative administration. The student is able to control the speed and volume, and stop the audio at any time while the text is

being read. This allows for students needing this accommodation to also experience an adaptive test administration.

ii. Speech-to-text capacity if open-ended items are included.

The Nebraska Statewide Assessments will not currently have open-ended items that require text entry and, therefore there is no need for speech to text at this time. However, should such item types be desired in the future, NWEA will work with NDE to assure an expedient timeline for supporting this need.

iii. Ability for the online system to provide hard stops for students who need extended testing time, without compromising the security of the test or burdening districts or NDE with manual reactivations.

NWEA understands the critical need for all students to have a positive experience during testing, irrespective of any testing accommodations. Our systems are designed to be configurable so that situations, such as the need for a hard stop, can be handled with ease without compromising the security of the test.

For students who need extended testing time, proctors will be able to allow students to hard stop the test and resume later to come back and finish. These actions (pause or hard stop, resume test) do not require any manual intervention by the district or the NDE, and can be completely managed by proctors using the dashboard. In the event students pause or hard stop the test, they will need to log back in and have the proctor re-activate the test before proceeding. *Upon students resuming the test, as an additional security feature, our adaptive test engine will present a new item in place of an item that was already presented before exiting the test. This alleviates any item exposure the student had, both from a test security and test validity perspective.*

iv. Font size, contrast, and coloration that is adaptable for students with special needs or age appropriateness.

While taking an assessment, students that have a need to change the size of an image or text can do so by changing the font size on their device. They or their teacher or proctor can also change the color and contrast of the screen.

v. Assessment items with reading passages should use a split screen so as to keep the passage visible while moving through the items.

Our platform supports use of a split screen to keep passages visible while moving through items or to keep items visible while scrolling in a passage, as seen in Figure 8. We will work with NDE to create an item-writing style guide that aligns with our platform. If items adhere to this style guide, our system can keep the reading passage visible while moving through the items.

Figure 8: Split-Screen Scrolling. Our system supports keeping one side of a split screen static while a student scrolls through the other side.

vi. Acceptable range of screen resolutions.

NWEA assessments can be delivered on computer displays with resolutions of 1024 x 768 or more.

vii. Need to scroll down or to the right is kept to a minimum.

We follow content development best practice to minimize the need to scroll down or to the right during test-taking.

viii. Capability to mark an item for rechecking before finishing the test.

This is not applicable to computer adaptive testing because the student is not allowed to move back and/or forward within the test.

ix. Notification to students who attempt to exit the test if items are incomplete or marked for rechecking.

This is not applicable to computer adaptive testing because each item is required to be answered before moving on to the next item. The answer from what items is what determines the next.

x. A visual indication of the items answered.

While computer adaptive testing cannot provide a number of items remaining, the number of items answered is displayed at the bottom of the test screen, throughout the assessment.

xi. Capability to reactivate a test, if needed, for incomplete tests.

The assessments can be paused at any time and resumed within a designated period of time – determined collaboratively with NDE.

xii. In the possibility of an interruption in a testing session, the system should minimize loss of student responses.

Our system is designed to gracefully handle machine, local-network, and internet outages. After each student responds to a test question, the student's progress through the test is preserved. This ensures that regardless of the type or duration of outage, a test may always be resumed exactly where it left off once connectivity is restored. The proctor dashboard will show the status of students who were impacted by an interruption.

xiii. Online system that must track students' use of tools and accommodations so research can be conducted into the effectiveness of the use of tools and accommodations provided to students.

Our system tracks tools and accommodations assigned to students, and is being enhanced to also track when these tools and accommodations are used, at the item level. See our response to A.6.c. for further details.

Online Assessment Technology for Alternate Assessments

DLM alternate assessments were designed using Universal Design principles. The assessments are delivered through a user interface designed specifically for students with significant cognitive disabilities. The navigation features, layout, methods for answer marking, and submission processes are optimized for students who are eligible for alternate assessments. In this context, the DLM assessment system also includes a variety of accessibility supports to meet students' unique needs.

For DLM assessments, there are three categories of supports available. The first category provides supports within the KITE Client (the online assessment delivery system), including magnification, invert color choices, color contrast, overlay color, and spoken audio. Table 18 provides a list of accessibility supports in the DLM system.

Table 18: Accessibility Supports in the DLM Assessment System

Category 1 Supports Provided in KITE Client	Category 2 Supports Requiring Additional Tools/Materials	Category 3 Supports Provided Outside the System
▪ Magnification ▪ Invert Color Choice ▪ Color Contrast ▪ Overlay Color ▪ Spoken Audio	▪ Uncontracted Braille ▪ Alternate Form-Visual Impairment ▪ Single-switch System/Access Profile Enabled ▪ Two-switch System ▪ Individualized Manipulatives ▪ Calculator	▪ Human Read Aloud ▪ Sign Interpretation of Text ▪ Language Translation of Text ▪ Test Administrator Entering of Responses for Student ▪ Partner-Assisted Scanning (PAS)

The requirement to scroll down or to the right will vary depending on magnification level of a testlet and the screen size of the testing device. Testlets that have no magnification will not need scrolling, while a testlet with x5 magnification may require some scrolling.

The second category of supports require additional tools or materials outside of KITE, including uncontracted Braille, alternate form-visual impairment, Single-switch System, Two-switch System, Individualized Manipulatives, and Calculator. The third category includes supports provided outside of KITE Client such as Human Read Aloud, Sign Interpretation of Text, Language Translation of Text, Test Administrator entering the responses for the student, and Partner-Assisted Scanning (PAS).

Changes to supports may be made at any time. The test administrator changes supports by editing the Personal Needs and Preferences (Access) profile for that student in Educator Portal, then logging back into KITE. Changes in category 1 supports and single switch configuration changes take effect immediately.

DLM assessments are administered in short testlets that contain 3 – 8 items and an engagement activity. Each testlet is treated as a separate test in KITE. The student controls when to move to the next screen in a testlet. There is no time requirement for a testlet, and students may go back to an item to change a response or respond to an unanswered item.

The final screen of the testlet asks the student to verify that they have completed the testlet by showing which items have responses and which do not. Each item will have a green check mark if it has a response. A blank red box means that an item has no response. A student may select the blue Go Back button, as seen in Figure 9, to return to the item that needs a response. After the item has a response, that item's box on the final screen of the testlet will have a green checkmark.

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Are you done?

Red boxes ☐ mean you are not done. Ask your teacher for help.

Green checks ☑ mean you are done. You can choose end.

1 ☑   2 ☐   3 ☑

☑ Answered   ☐ Not answered

⬅ GO BACK

END ⮕

Figure 9: Go Back Button. At the end of testing, a student will see a green checkmark in a box for items with a response and a red box without a checkmark for items without a response. He or she may select the blue "Go Back" button to return to items needing responses.

A student's responses will not be saved if the student exits mid-testlet. The green End button must be selected on the final screen of the testlet for all responses to be saved. A warning message appears when End is selected, and the student or teacher must confirm they are ready to submit the testlet.

Each DLM testlet is created as a separate test in the KITE system and each testlet typically takes less than ten minutes to complete. Once a testlet is submitted, it is no longer available. Test administrators are encouraged to administer very few testlets consecutively and to take breaks between testlets.

Test administrators are also encouraged to allow students to take breaks during a testlet in the case of fatigue, disengagement, or behavioral problems that are likely to interfere with a valid assessment of what students know and can do. The KITE system allows for up to 90 minutes of inactivity without timing out to allow teachers and students to pause for breaks during testlet administration. When administration begins but the student is unable to engage and respond for any reason and a short break is not sufficient, the EXIT DO NOT SAVE button is available on every screen and may be used to exit the testlet, allowing the teacher and student to return to it at another time. If this option is used, the testlet begins at the beginning the next time it is selected from the list of available testlets. No manual reset is required. Because the testlet is designed as an intact assessment experience and items are placed in the context of an engagement activity, previously selected answers are not saved and the student starts from the beginning of the testlet when re-entering after using EXIT DO NOT SAVE.

The proposal should include a solution in each subject area to allow students to learn how to navigate the online assessment system and utilize accommodations and tools.

Our assessments are designed to support our mission to help all kids learn, so our goal is to eliminate any barriers to Nebraska students' success on assessments. We have online training and sample tests currently available for our interim assessments, and will collaborate with NDE to create online student training solution for the Nebraska's summative assessments in each subject area. Please see our response to Section B.1.p., beginning on Page 157, for details on our practice tests for Nebraska's general assessments.

As examples, we have created a student-friendly informational video and practice tests for MAP, which are available at http://warmup.nwea.org/warmup_start_educators_map.html. During implementation, we recommend educators help students prepare by visiting this site, sharing the video, and administering a warm-up test.

We offer other optional resources to help students prepare for taking a MAP test, including presentations and reading materials. Figures 10 and 11 show sample slides from a Microsoft PowerPoint® presentation created to help students prior to taking a test. NWEA will develop a unique Nebraska presentation for each content area to assist student in understanding how to navigate the online assessment system and utilize content specific accommodations and tools. These presentations will include screenshots to display the various navigation features and content relevant tools and accessibility features. Each presentation will include talking points to assist educators in presenting the information to students.
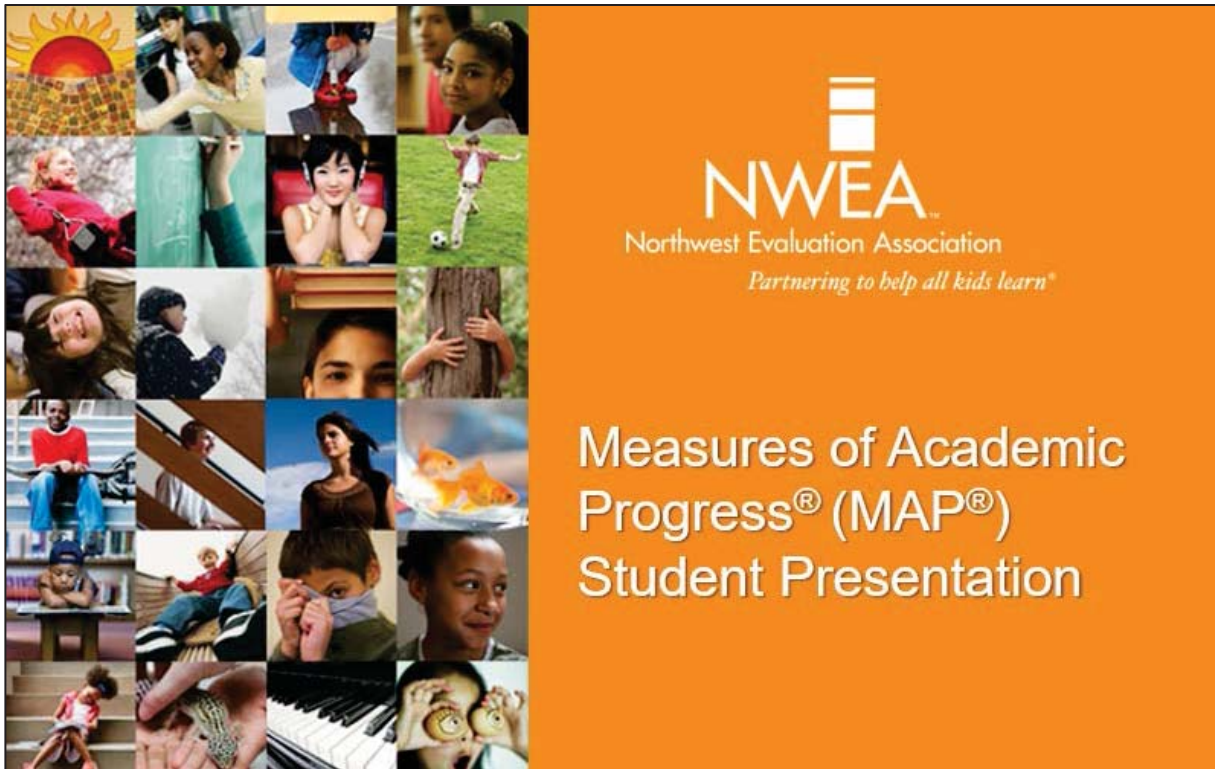
Figure 10: Preparing Students for Testing. This PowerPoint presentation is a sample of one created to prepare students for MAP assessments.

Figure 11: Student Tutorial. This presentation serves as a tutorial to help students understand how to use the assessment system and its built-in tools, such as a calculator available on some questions.

Online Student Training for Alternate Assessments

The portal includes a practice area that is separate from the section where tests are delivered. The DLM consortium provides demo student logins in the Test Administration Manual. These logins allow a student access to practice activities so that they may become familiar with the technology prior to assessment. The practice activities are tutorials on how to navigate the system, use the available features, record and change their answers, revisit previously answered items, and finish a test. Along with released DLM testlets available in the same practice area, the practice activities also provide opportunities for students to try out various accessibility supports. Each demo student account has different PNP (Access) profile options selected. The Accessibility Manual also encourages use of these demo accounts to evaluate accessibility supports prior to testing.

Our web-based test management system is accessible via all of the web-browsers listed in the Table 19 below, and we continue to keep our platforms and systems updated. We support the latest versions of browser and/or operating system releases.

The system provides functionality for district and school personnel, such as rostering and managing student data, managing test sessions, including proctors having the ability to view student testing progress and/or to restart and rest tests. This comprehensive system enables user-role-based permissions and privileges to manage student and assessment data, and is very easy to use.

Table 19: Accessible Operating Systems and Web Browsers

Device	Operating System	Internet Explorer®	Safari®	Firefox®	Chrome™
Windows® PC	Windows 7, 8, 8.1, or 10	10 or 11		45 or higher	41 or higher‡
Macintosh®	Mac® OS X v10.8, .9, .10, or .11		6.2 minimum – 9 maximum	45 or higher	41 or higher‡
Chromebook®	Google Chrome OS™ (41 or higher is best)				41 or higher‡

Our test management system is efficient and intuitive for educators to use; in fact, 95 percent of Nebraska districts are successfully using our system. With regard to the ability for a user to login as another user for support purposes, we recognize the need for quick and efficient resolution of support issues. NWEA is highly attentive to both PII and FERPA regulations and has designed a system that allows for rapid resolution of support issues without compromising user login security.

Figures 12 and 13 show screen shots of useful search filters that are available for educators. This search functionality provides users an opportunity to search students or students in testing sessions by applying several sub-filters.

Figure 12: Student Search. This functionality lets users search students using several sub-filters.

Figure 13: Test History Search. This functionality lets users search test history using several sub-filters.

Figure 14 shows a screen shot of our proctor dashboard that provides real-time status of student testing progress, and allows proctors to manage students' testing activities such as confirming to start, suspending, and/or restarting after pause/hard-stop. This dashboard also provides critical testing information for each of their students, such as number of items they have responded to, and number of minutes in the test.

Figure 14: Proctor Dashboard. This dashboard gives educators and proctors a real-time view of student testing progress. They can also manage tests from here.

Quality Assurance: Software, System, and Platform

NWEA employs a Software Quality Assurance (SQA) process within the software development life cycle (SDLC) that routinely checks the developed software to ensure it meets desired quality measures. SQA processes test for quality in each phase of development – from unit and feature/function level tests at the component level (i.e., assessment engine, reports, administration, etc.) by the scrum teams, to enterprise level tests for both integration and reliability, in production-like environments, by dedicated teams.

Our focus on integration and performance, with dedicated teams and environments, has been instrumental in providing the best possible user experience for our partners.

In addition, our culture and practices assure continual improvement of our processes, tools, and organizational structures. After each of our releases, in accordance with Agile practices, we conduct formal retrospectives to collect and act on dimensions of our release process where opportunities for improvement have been identified. These steps have paid significant dividends for our teams, specifically around our automation and deployment process as we moved to a continuous integration/delivery model.

We also employ a DevOps methodology, illustrated in Figure 15, which emphasizes tight collaboration and communication between development, quality assurance, and operations during the software development and release process.
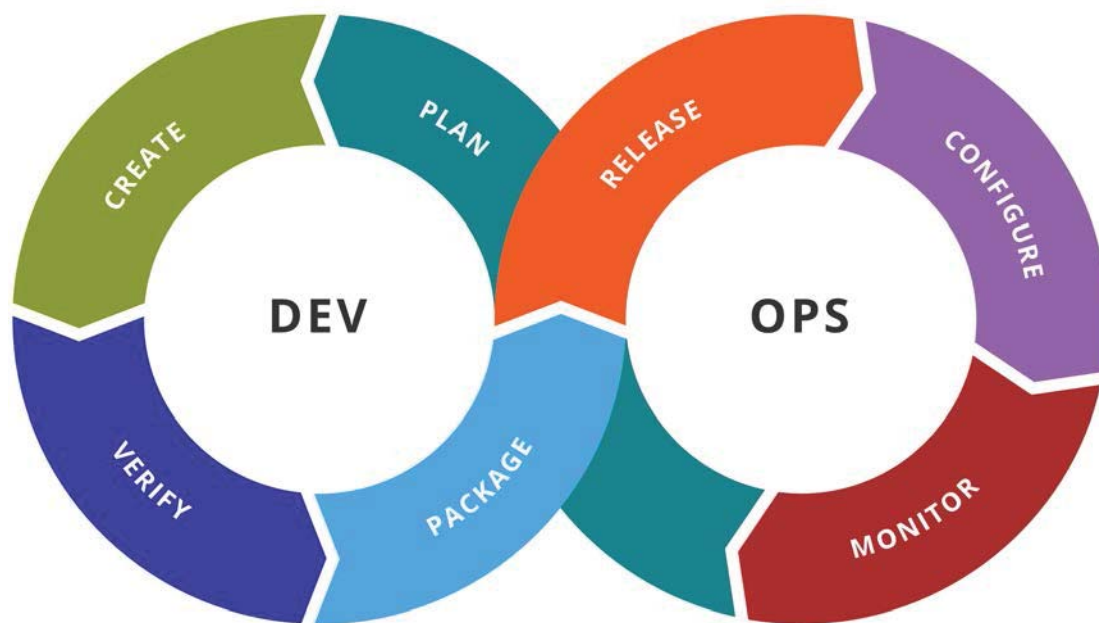
Figure 15: DevOps Toolchain. This methodology ensures cohesion between development and operations teams[4].

We are involved in the continuous improvement throughout the entire software development cycle. During this process of developing and releasing software, QA is involved in recommending improvements based on what we learn during development, testing, and feedback from the operations group. Through our continual involvement in this DevOps model we are able to detect problems earlier in the cycle, which gives us time to correct the issues and results in better quality when we release software.

In addition to these core functionality and reliability testing practices, we employ a number of other approaches to ensure the integrity of our software, as described in the Table 20.

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[4] Kharnagy, via Wikimedia Commons, Creative Commons BY-SA 4.0 (http://creativecommons.org/licenses/by-sa/4.0.

Table 20: Ensuring Software Integrity

Approach	Description
Ad-Hoc Testing	A testing phase where the tester tries to "break" the system by randomly trying the system's functionality.
Black Box Testing	Functional testing based on requirements with no knowledge of the internal program structure or data. Black Box testing indicates whether or not a program meets required specifications by spotting faults of omission – places where the specification is not fulfilled.
Boundary Testing	Testing that focuses on the boundary or limit conditions of the software being tested.
Breadth Testing	A test suite that exercises the full functionality of a product but does not test features in detail.
Browser/Platform Testing	A test suite that exercises cross-platform web application accessibility from any of various web browsers within different operation systems.
Concurrency Testing/Group Testing	Multi-user testing geared toward determining the effects of accessing the same application code, module, or database records.
Depth Testing	A test that exercises a feature of a product in full detail.
End-to-End Testing	Testing a complete application environment in a situation that mimics real-world use, such as interacting with a database, using network communications, or interacting with other hardware, applications, or systems if appropriate.
Exploratory Testing	Exploratory testing seeks to find out how the software actually works, and to ask questions about how it will handle difficult and easy cases. The tester configures, operates, observes, and evaluates the product and its behavior, critically investigating the result, and reporting information that seems likely to be a bug.
Functional Testing	Application test derived from the specified functional requirements without regard to the final program structure.
Reliability Testing	Confirms that the application under test recovers from expected or unexpected events without loss of data or functionality.
Negative Testing	Testing aimed at showing software does not work.
Performance Testing	Testing conducted to evaluate the compliance of a system or component with specified performance requirements. Often this is performed using an automated test tool to simulate large number of users. Also known as "load testing."
Regression Testing	Selective retesting to detect faults introduced during modification of an application or system component, to verify that modifications have not caused unintended adverse effects, or to verify that a modified application or system component still meets its specified requirements.
Scalability Testing	Performance testing focused on ensuring the application under test gracefully handles increases in workload.
Smoke Testing	A scaled-down regression test of an applications major functionality.
Stress Testing	Testing conducted to evaluate a system or component at or beyond the limits of its specified requirements to determine the load under which it fails and how.
System Testing	System-level tests verify proper execution of all application components, including interfaces to other applications. Tests are performed to verify that the system meets both functional and nonfunctional requirements.

Table 20: Ensuring Software Integrity

Approach	Description
Unit Testing	The testing is done to show whether a unit (the smallest piece of software that can be independently compiled or assembled, loaded, and tested) satisfies its functional specification or its implemented structure matches the intended design structure.

NDE User Acceptance Testing

The above section provides the quality assurance processes and the rigor we follow during our software development life cycle, to ensure product deliverables meet utmost quality. In addition, NWEA will work with the NDE to establish and facilitate a User-Acceptance-Testing (UAT), so that the NDE staff can engage in review of the systems that are configured for their use. It also provides the NDE an opportunity, before being released to districts/schools, to validate agreed upon business rules that are programmed and established in each of the test delivery life cycle.

In collaboration with the NDE, NWEA will establish a UAT plan using an environment (mock/simulated students and data conditions) that is separate live data. In this environment, staffs will perform final user acceptance testing for the entire process from test taking through reporting.

Test Management System for Alternate Assessments

DLM has designed and created the proprietary software to be used by both teachers and students in DLM alternate assessments. District staff and teachers and students will use the portal to administer and take assessments. User feedback has been sought throughout the creation and revision process, with consortium states suggesting feature improvements and voting for a list of priorities for technology enhancements for the coming year.

Educator Portal is accessible through:

- Firefox 38.7.1 or above
- Safari 9.0.3 or above
- Internet Explorer 11
- Chrome 35 and above

Educator Portal and KITE Client are developed using responsive design principles that leverage HTML5 and CSS3, enabling fast response times for educators managing data and for assessment delivery to students on multiple devices ranging from desktops to tablets.

Educators (users) and students are listed in browsers, and lists may be filtered or sorted for ease of use. Most browser columns also have search boxes so that typing the first characters of the search will auto-populate possible results. Users, students, and rosters (which connect users to students) may be created manually through the user interface or for one or more records via .csv upload.

NDE will select which district personnel will manage user and roster uploads. NDE chosen data managers can add and remove user (teachers, test administrators, test proctors) and student data either in batches or individually. Student look-up is quick, with results varying by the individual user's role and permissions in order to comply with PII requirements. For example, a state-level user will see students

across the state, a district-level user will see students across the district, and a teacher will see students rostered to them.

Teachers, as well as state, district, and select building personnel, are able to monitor students' assessment progress through Educator Portal. They can also easily access each student's information, including the Access Profile and First Contact survey as well as testing progress, on the View Students screen.

To aid educators in monitoring testing and other aspects of data management, there are several reports and data extracts available on demand in Educator Portal. The Educator Portal User Guide, provided in Appendix N, includes procedures for accessing and understanding reports and data extracts. Many reports and data extracts may be downloaded and saved to a user's computer for viewing or printing at a later time. Access to reports and data extracts is based on an individual user's role and associated permissions in Educator Portal. Many reports and data extracts may be filtered for viewing at the state, district, or building level, but limited by the user's role. A list of reports and extracts available in 2016-2017 is provided in Table 21.

Table 21: DLM Reports and Extracts in 2016-2017

Report or Data Extract Title	Description
DLM Test Administration Monitoring	Number of testlets assigned, in progress, and completed, by subject, for each student.
Monitoring Summary	Summarizes student testing completion information at school, district, or state levels.
Blueprint Coverage	Monitor a student's actual testing compared to the blueprint for his or her subject and grade. (Used during the instructionally embedded assessment window only.)
Student Progress	Summarizes the progress of each student in a subject area for instructionally embedded assessments, including assessments planned and completed, and mastery status for linkage levels tested.
Class Roster	Displays the most recent assessment and current instructional goals for one or more students participating in instructionally embedded assessments.
Year End Student Reports (Individual and Bundled)	Individual student score reports from the year's DLM assessments.
Accessibility Profile	Access Profile settings by student
Accessibility Profile Counts	Student accessibility profile counts by organization.
Current Enrollment	Current enrollment information for active students.
Roster	Student assignment by educator and subject.
Security Agreement Completion	Completion of security agreement by user.
Training Status	Report of educators who completed test administration training requirements.
Users	Educator Portal users and their associated role(s).

To comply with data security practices and ensure the integrity of Personally Identifiable Information (PII), users are not allowed to access Educator Portal via another user's credentials. Rather, users may be assigned to more than one role, and toggle between those roles to see different information relevant to each role without logging out and back in to Educator Portal. The system uses roles and permissions to define which information is visible to each user. A state-level user may view state, district, and building level details, while a teacher may only view details of students rostered to them. A list of roles and permissions and best practices for assigning those roles is presented in Appendix O, *Data Management Manual,* as part of the procedure for a data manager when uploading users into Educator Portal.

The DLM consortium uses several methods to communicate quickly about technology issues that may arise. For example:

- The KITE status page on the DLM website provides updated information on KITE and Educator Portal functionality. The indicator is green if systems are performing normally, yellow if there is limited functionality (e.g., slow response, intermittent problem), and red if the system is offline.
- There is an area in Educator Portal where announcements may be posted for quick visibility when users first log in.
- DLM produces test updates when there are urgent messages about testing, including potential technology problems. Updates are posted to the DLM website and educators may self-register for listserv delivery so that copies of the messages are automatically delivered to their email.

DLM staff communicate regularly with state education agency staff from the partner states regarding critical issues so that agency staff may use additional communication channels within their states (e.g., technology director listserv) to share information.

f. District Access to Assessment Information

i. The system must have a secure access web-based system for district administrators and District Assessment Contacts (DAC) to verify information such as enrollment by grade/school, and to collect or confirm information provided by the state such as contact information of district personnel and grade configurations.

We recognize the importance of district staff to have access to grade-level enrollment data and to verify or make changes as appropriate. NWEA will implement Educational Data Systems' (EDS) proprietary Internet-based software application called CORE (Custom Orders, Retrieval, Editing system). EDS has successfully implemented the CORE system for multiple large-scale assessments. CORE resides on EDS' secure, password-protected, encrypted (Secure Socket Layer certificate—SSL) Web server. Districts will access CORE's functionality by using a single sign-on through the NWEA portal. EDS and NWEA will ensure a seamless and accurate secure login for districts, so that system user credentials customize access to data in CORE.

CORE will be the primary source for all online and paper/pencil enrollment counts. EDS will preload the Nebraska entities master file (i.e., file of district and school names, counts, grade configurations, etc.) provided by the NDE and will check the file to be sure it is up to date and complete. Included in the file will be grade configurations and enrollments by grade and school. This information will be presented on screen, along with an editing function so that DACs can update the information, as needed.

Each DAC will be provided access to CORE for viewing and verifying enrollment by grade and school, and to collect or confirm information provided by the NDE, such as contact information of district personnel and grade configurations.

CORE's functionality will be customized for use with this program. An example of an administrator portal home page with editing capabilities is shown in Figure 16.

Figure 16: Administrator Portal Home Page. District Assessment Contacts will be able to verify and change information as necessary.

An example of an editing screen used to update shipping information is provided in Figure 17.

Figure 17: Update Shipping Information Screen. Shipping information can be verified and updated through CORE.

All information regarding district access to enrollment information for alternate assessments is provided in response to A.5.f.iv.

ii. The system should have appropriate levels for viewing and changing information and must have appropriate security.

The design and functionality of CORE allows for different configurations and user rights and will be fitted to NDE's needs. Based on user roles, those within in the system will have access to only the items for which they have identified based on their role.

The CORE system is a secure web-based administrator portal housed on EDS's secure, password-protected, encrypted (Secure Socket Layer certificate—SSL) web server. The system has been used by over 1,500 district coordinators each year for the last seven years for the management of the California English Language Development statewide assessment program. It houses millions of student records, thousands of private contact records, thousands of data files, and a secure document archive, as well as other secure pieces of assessment information for California districts.

EDS web servers are backed up locally by Rackspace, EDS's third-party Managed Internet Service Provider. In addition, EDS uses real-time continuous database backups using a third-party provider, Hewlett Packard® LiveVault®. Data is encrypted at all times, during transit and storage, and resides at LiveVault's ISO 27001-compliant off-site data centers. Archival backup media will be stored in a geographically separate and secure location. EDS will allow only EDS owned and provided equipment to be directly connected to EDS networks; all unused data ports will be disabled.

Based on the configurations and user rights, CORE provides confirmation notices through e-mail of changes made to data to the responsible parties for that data.

Once a user makes a change, a message will pop up on the screen asking the user to verify that the changes should be made. Another message will confirm the changes has been made, and an email message that a change was made will be sent to the DAC email address on file.

iv. The system must be accessible by the appropriate NDE staff. The proposal must describe how these requirements can be met.

Also based on the configurations and user rights, NDE staff will be able to gain any detailed information they choose. EDS will customize the user roles for NDE, including a role that has access to all district and school information for authorized NDE users. NWEA will provide NDE authorized users a login and password that gives them access to the DAC contact information, grade configurations, enrollments, and other pieces of information. When an NDE-level user logs in, he/she will use a drop-down menu to select the district. Once the district is selected, the user will be able to view the district's information.

District Access to Alternate Assessment Information

State and district personnel are able to access student information, including the Access Profile, First Contact survey, personal information, and assessment progress through a secure connection to Educator Portal. Only specific roles at the state, district, and building level are permitted to change information in a student's EP account, including the Access Profile and First Contact survey. NDE will determine who will have this access in Educator Portal. The integrated assessment model includes both instructionally embedded and spring assessment windows, and management of both types of assessments takes place in Educator Portal. Both teachers and administrators have accounts. Educator Portal is enhanced on a regular basis, with input from state-level stakeholders about priorities for improvement each year. Enhancements are planned for 2017-2018 to expand the information that may be stored in the system and provide notifications when changes to data are made.

v. The interim system also requires a secure access web-based system which may be separate from the summative system because the interim system will be accessed by classroom teachers as well as administrators.

Our interim assessments operate on a secure user-friendly platform where users of all technical skill levels can easily access student data and assessment results. The administration and reporting center is available from any location with an Internet connection so users can perform the following administration tasks:

- Manage user, student, organization, program, and test data
- View on-demand reports, test results, comparative data, and operational reports
- Access instructional resources
- Create testing sessions and administer tests

NWEA will provide a web-based user interface to manually upload roster data and student demographic data via a roster file native to NWEA. The format of the roster file will ensure the cleanest possible data exchange between Nebraska school districts and NWEA. The user interface will require a student id as a unique identifier and the student id will remain as a unique key identifier throughout the NWEA systems and data stores. The user interface will be available only over SSL and will require a user login to access the page. The web-based user interface will allow authorized users to upload, update, and delete student data. It is assumed that the Nebraska school districts will use NDE Student IDs as unique identifiers. The use of NDE Student ID will ensure a smooth transition to the data available from the NSSRS. For existing MAP district partners, NWEA will work with the NDE to create a cross reference between student ids that have been rostered and the NDE Student ID

Data transfer from NSSRS will be supported by the following mechanisms as demonstrated in Figure 18:

▪ Multiple Standards compliant APIs (Ed-Fi, OneRoster™, and others) will be exposed to allow for the collection of roster data as well as student demographic data. Student APIs will be keyed by the NDE Student ID and the NDE Student ID will remain as a unique key identifier throughout the NWEA systems and data stores. The SSL (https) based APIs will be further secured by the standard OAuth 2.0 client credentials flow.

▪ Secure File transfer will be available to upload roster data and student demographic data. The file format will be native to NWEA to ensure the cleanest possible data exchange between NDE and NWEA. The student data structure within the file will be keyed by the NDE Student ID and the NDE Student ID will remain as a unique key identifier throughout the NWEA systems and data stores. SFTP will be the only protocol available for file transfers to ensure a secure delivery of student data.

▪ A user interface will be available to manually upload roster data and student demographic data. The user interface will require the NDE Student ID as a unique identifier and the NDE Student ID will remain as a unique key identifier throughout the NWEA systems and data stores. The user interface will be available only over SSL and will require a user login to access the page.

Data transfer to NSSRS will be supported by the following mechanisms:

▪ APIs will be exposed in NWEA native and Ed-Fi compatible formats. Student APIs will be keyed by NDE Student ID. The APIs will expose the demographic data previously provide by the NDE. The SSL (https) based APIs will be further secured by the standard OAuth 2.0 client credentials flow.

▪ Secure File Transfer will be available download student, assessment, and demographic data. The file will be keyed by NDE Student ID. The file format will be native to NWEA, known as a Combined Data File (CDF), similar to the files that some Nebraska districts receive currently.
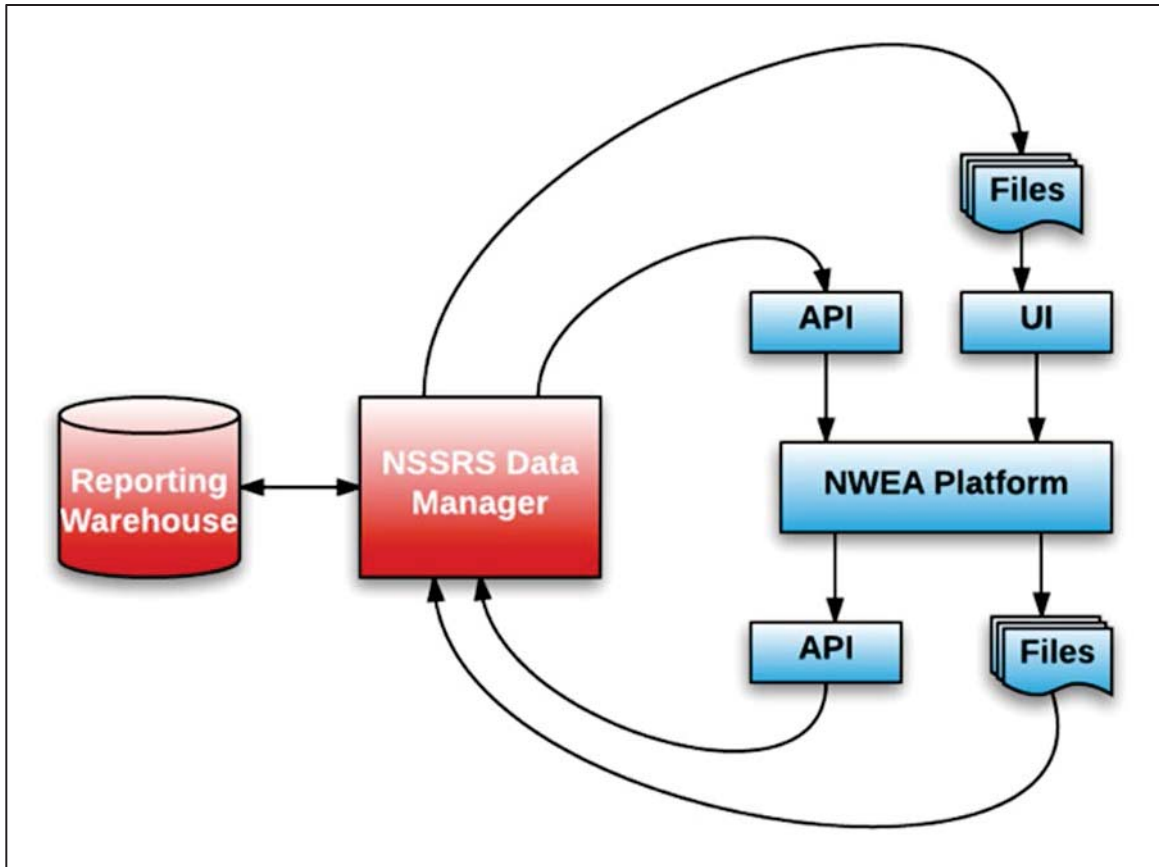
Figure 18: Data Transfer Process. Our system provides accuracy and security throughout the process.

For more information on data integration, and Figure 19, see our Confidential and Proprietary Volume.

More information about data transfer is provided in Section H.1.e.

Alternate Assessment Data

DLM student enrollment records, including state student identifier, demographic information, grade level, school, and assessment program, are maintained in KITE Educator Portal. Nebraska students would be identified by their NDE Student ID as the unique identifier. All subsequent DLM assessment management, administration, and score reporting is based on the unique student record. CETE will accept one file per year from NDE for the purpose of populating student records for the school year, prior to the start of testing in the fall. Educator Portal offers capability for district and school staff to manage changes in student enrollment data after the initial data load.

Any software updates and maintenance to the assessment software system should be kept to a minimum, preferably once a year, to ease the burden on districts. If possible, annual updates should occur in the summer before the school year starts. Software updates should always allow ample time for district technology staff to complete the work prior to the testing window and include time to verify the system is prepared for testing.

Updates that are unavoidable, should be able to occur automatically and without the necessity of an uninstall/reinstall process. NDE and Districts should receive as much advanced notice as possible for any software updates and the processes involved.

Nebraska educators should not be burdened by software updates and system maintenance that take place during prime testing season or that take a great deal of time. Our web-based assessments keep updates to a minimum, and we will give NDE and Nebraska educators advance notice when updates or maintenance will occur. These updates or maintenance will be during non-peak testing times (usually weekends), and we can also designate a blackout period with no maintenance or updates during the NDE testing window.

Alternate Assessment Software Updates/Maintenance

Software updates and maintenance for Educator Portal and KITE are planned on an annual basis. The majority of Educator Portal updates are made in the summer, when traffic is at a minimum. However, the DLM assessment system is open September through June each year. When additional updates are needed beyond summer months, the goal is to only implement high-priority items and at a time when there would be the least burden to local educators. Each enhancement is carefully tested before it is released. Software updates are communicated to consortium partner states as they are planned, and again after the updates are released. Updated documentation is updated quickly for each release and the availability of updated documentation is publicized via the DLM updates (website and listserv). Since Educator Portal is accessed via browser, there is no need to reinstall any software after an update.

New versions of the KITE client are released each fall for each operating system. Once released, every effort is made to push out updates in the background and without requiring installation of a new or updated KITE client.

i. The proposal is to include a link to an online video that demonstrates the test engine and test management system. If the video contains proprietary information, the start of the video should indicate so.

For the NDE's consideration, NWEA includes our video link, which demonstrates the NWEA test engine, test management system and student testing experience for the Interim Assessment currently used in Nebraska districts. This video is intended to not only highlight our system functionality but to also represent in-house video capabilities that could be used to support the NDE's program and stakeholders. As we work with NDE on the proposed multi-component system, we could choose to create similar videos for a variety of Nebraska audiences as a separate cost option.

The link is https://vimeo.com/199941929

Video Demonstrating Alternate Assessment

Online videos that demonstrate Educator Portal and KITE can be found at the following link: http://kiteassessments.org/overview

6. Accessibility and Design

a. NDE is committed to the use of technology to facilitate the efficiency and accessibility of the assessments. Throughout its response, Bidder will provide specific examples of how technology will be applied to support the assessment system including meeting the requirements of accessibility as defined by the Americans with Disabilities Act as amended in 2008.

NWEA believes that accessibility applies to all students. Our philosophy underscores elements of universal design and individualization for student users with diverse needs, and our approach focuses on accessibility, tools and accommodations. We are active in research nationally and we have taken critical steps in contributing to the field of accessibility and universal design, as we describe in detail below. We will strive to maximize the validity of our assessments for the greatest number of students, including those with disabilities and those who are English language learners (ELL). At the heart of our efforts is a commitment to providing assessments which are adaptable to a combination of unique learning needs, easily perceived and clear to each student; yielding valid information about what each student knows and can do.

The information below provides examples and explains how NWEA defines Accessibility, Tools and Accommodations, followed by specific examples of how NWEA has and continues in our dedication to meeting the needs of all kids through nationally collaborative efforts specific to accessibility.

Accessibility, Tools, and Accommodations

Accessibility is the foundation for the systems that create our assessments because we focus on universal design. If you start with accessibility first, then test and item aids follow, and the more you attend to universal design and accessibility, the less kids need accommodations. In our context, this means that all content areas will be created considering universal design and accessibility standards from the start. For example, alternative text descriptions (alt-tags) for images are an important feature on a website to provide access to those using screen readers. Alt tags provide descriptions of pictures, charts, graphs, etc.to those who may not be able to see the information. Laying this foundation ensures our product is accessible for students using various accommodations. Utilizing national standards such as WCAG 2.0 and ARIA, help to guide the creation of our accessible foundation.

We also have contributed to the field specific to ensuring universal design and accessibility. NWEA, with support from the National Center for Accessible Media (NCAM), has created detailed and thorough guidelines for describing many variations of images, charts, and graphics targeted specifically to the disciplines of reading, language usage, science, and mathematics. The guidelines review concepts such as item integrity, fairness, and the unique challenges image description writers face in the context of assessment. These guidelines result in consistent, user-friendly, and valid image descriptions that support the use of screen readers. This approach pushes NWEA to the top of the competition. Given our mission to help all kids learn, NWEA is firmly committed to high quality accommodations and expects to continue to build on our offerings in the years to come.

Table 22 shows our accessibility information and definitions.

Table 22: NWEA Accessibility Information and Definitions

Term	Definition or Description
Accessibility	Accessibility allows access for all people, including those with disabilities, to participate.
Follow WCAG 2.0 Guidelines	Web Content Accessibility Guidelines (WCAG) 2.0 defines how to make web content more accessible to people with disabilities.
Accessible Rich Internet Application (ARIA)	ARIA is a W3C protocol that defines ways to make web content and web applications (especially those developed with Ajax, JavaScript and HTML) more accessible to people with disabilities
Keyboard Navigation	This accessibility feature makes all of a site or application's functionality available through a keyboard, with no mouse required
Image Description (alt-text/tag)	The alt-tag is used by screen readers to describe what is in the image and the function of the image on a webpage
Universal Design for Learning (UDL)	UDL provides a blueprint for creating instructional goals, methods, materials, and assessments that work for everyone – not a single, one-size-fits-all solution, but rather flexible approaches that can be customized and adjusted for individual needs

Tools are made available for all students on the assessment. These tools are embedded into the user interface for each item and are at the appropriate test level. Tools are not specific to a certain population but will be available to all users whenever necessary so that students can use these tools during their testing experience. Table 23 includes examples of tools and their functionality on our assessments. We will work with the NDE to determine the most appropriate, construct-relevant tools needed on the Nebraska Statewide Assessments.

Table 23: Sample System Tools

Tool	Use
Highlighter with eraser	The highlighter is available for students to highlight desired text to make it easier to read
Calculator	The calculator is embedded in relevant questions for mathematical computations

When tools are thought about *during the test design phase*, accommodations become more precise to individual needs. Accommodations have an intended audience. The audience typically includes students who are either on an individualized education plan/program (IEP) or students receiving accommodations under Section 504. It is vital for validity and reliability that these accommodations are tracked from the beginning of a student's testing experience. Table 24 on the following page includes accommodations that we currently support on our platform.

Table 24: Currently Supported Student Accommodations

Accommodation	Purpose
Refreshable Braille	A refreshable Braille display or Braille terminal is a device for displaying Braille characters, usually by means of round-tipped pins raised through holes in a flat surface. Blind computer users who cannot use a computer monitor can use it to read text output.
Screen reader	A screen reader is a software application that attempts to identify and interpret what is being displayed on the screen (or, more accurately, sent to standard output, whether a video monitor is present or not). Screen readers are used by students with no or low vision.
Color contrast	This accommodation tool allows a student to change the color contrast of the screen from item to item throughout the entire test. For example, a student may choose an inverse color scheme that makes dark items light and light items dark.
Magnification	This accommodation tool allows students to enlarge text and graphics onscreen while preserving clarity, contrast, and color.

More can be found in our NWEA FAQ document specific to accessibility and accommodations provided in Appendix P.

We are excited to be developing many additional accommodations and test aids (such as integrated Text to Speech, digital notepad, dictionary, screen masking) that will be available in early 2018.

Commitment to Innovations in Accessibility and Accommodations

NWEA is continuously looking to be innovative with technology so that students with disabilities, English language learners (ELL), and ELLs with disabilities all have access to an assessment. By making accessibility part of the NWEA processes, our assessments and supports will become more user-friendly for all.

We work directly with teachers and students who use accommodations and assistive technologies in multiple states and with national organizations, including the Center for Assistive Technologies, Gallaudet University, Freedom Scientific®, American Printing House for the Blind, and the WGBH National Center for Accessible Media (NCAM®). In partnership with NCAM, NWEA created an instructive style guide for describing images using words or phrases, known as alt text (alternative text), or alt tags.

This ongoing and collaborative research and development will directly benefit Nebraska students who need either online or paper-based accommodations.

Students requiring extra accommodations or support will benefit from our pioneering work to make our tests available to all students.

Unlike assessment providers who make their products accessible on a single accommodations technology, we listened to students who already use these technologies (such as those in Figure 20) to make various accommodations work with our adaptive assessments. Earlier this year, we conducted a usability study of our available accommodations, to get feedback from the students and educators working with these technologies.

Figure 20: Familiar Technology. In a recent study of third- through twelfth-grade students, our interim assessment, MAP, was used with Job Access with Speech (JAWS) screen reader, voiceover, and refreshable Braille technologies. Adapting our tests to current accommodations technology rather than creating our own, ensures the accuracy of test scores by eliminating the possibility that students will score lower due to their struggles with a new technology.

"It felt really good," said one student at Arizona School for the Deaf and Blind in Tucson. "I can easily do everything on my own…just like anybody else would."

Our new accommodations demonstrate that "these young people are capable," as stated by William Koehler, assistant superintendent at Arizona School for the Deaf and Blind. "They have the capability and the capacity to demonstrate their proficiency in those content areas, and we have a testing process that will honor the skills that they know. But for those skills that they have yet to learn, it will allow us to drill down into those skills more effectively and more efficiently because we won't be spending all that time wondering what they can do."

For a video about the important work we are doing to make assessments accessible, please go to: https://www.nwea.org/assessments/map/accommodations-accessibility/#scrollNav-2

Accessibility Development

NWEA understands that building accessibility into a product is not something you do overnight and cannot be just an add-on to a platform. Rather, when building in accessibility, it is a commitment for the entire organization and is something that needs to be thought about during the planning stages of every development release. With our accessibility offerings being online, NWEA has created an accessibility checklist that follows accessibility standards and protocols provided by the ADA, 508 compliance and WCAG 2.0 Guidelines.

Figure 21 indicates our current process for ensuring that accessibility is not just thought about at the beginning, but that accessibility is part of our process at every step. This figure shows our internal accessibility checklist. The accessibility checklist is a combination of Section 508 standards, WCAG 2.0 Guidelines, and other various sources such as standards from CAST and National Center of Educational Outcomes (NCEO).

From planning to testing, accessibility is part of everything we build, buy or design.

Plan	Elicit & Design	Prioritize	Build	Test
Include accessibility in: • Estimations • Roadmap planning • Seating plan • Resourcing	Include accessibility in: • Requirements • Design • User experience • Refer to Acc. Checklist	Ensure: • MVP is accessible	Ensure: • Build for accessibility • Refer to Acc. Checklist	Verify: • Test for accessibility • Refer to Acc. Checklist

Go to the Checklist

When accessibility isn't baked in, it's like making muffins and forcing blueberries into the muffins. They're not really the same. Yes, you may have an accessible system, but it's not a good system.

-Cordelia McGee-Tubb

508 Standards
A legal requirement to make electronic information and technology accessible for all users.

WCAG 2.0
The Web Content Accessibility Guidelines provide technical recommendations for making web content accessible.

NCAM Review
A high level 508 review of NWEA systems by the National Center for Accessible Media.

Other Resources
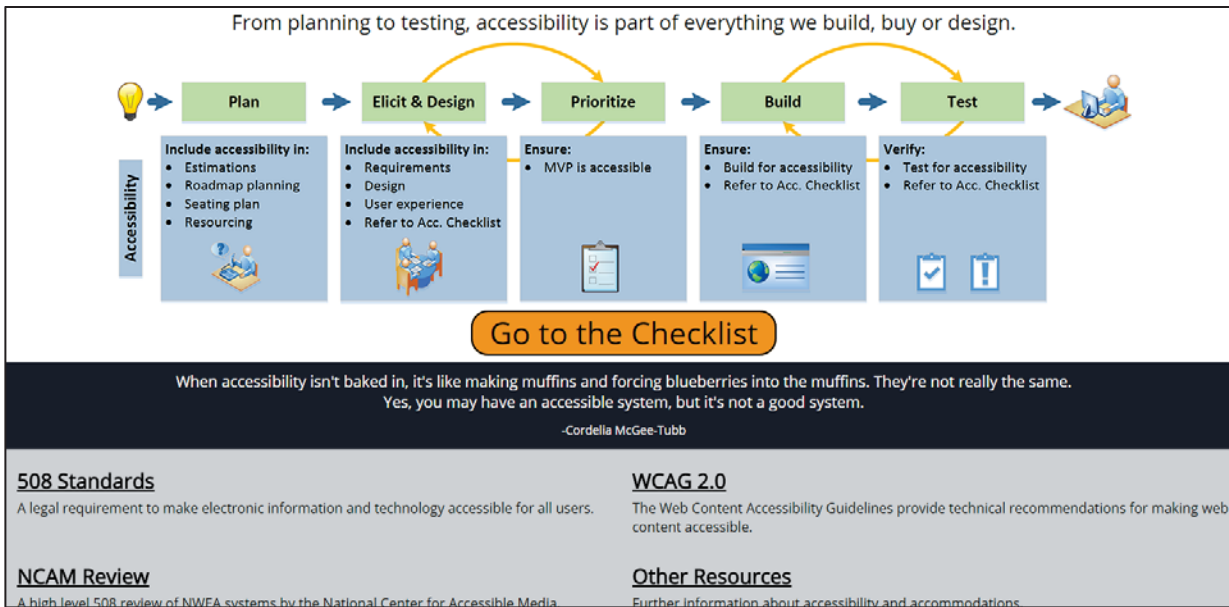Further information about accessibility and accommodations.

Figure 21: NWEA Accessibility Development. In our internal accessibility checklist, each of the four categories and their sub-categories is considered during assessment development.

The checklist is broken down into four different categories, Visual Standards for Accessibility, Accessible Navigation, Alternatives for Inaccessible Content and Accessible Multimedia. Each of these four categories have different sub-topics explaining and showing with examples, how we can build in accessibility. Each category and each sub-topic is evaluated and considered during our development process.

b. The proposal must address the principles of Universal Design as articulated in materials developed by the National Center for Educational Outcomes at the University of Minnesota (NCEO) and available at: http://www.cehd.umn.edu/NCEO/TopicAreas/UnivDesign/UnivDesignTopic.htm

Ensuring our assessments are accessible to students with a variety of needs, including those with disabilities, is a core part of our mission, *Partnering to help all kids learn.* With a strong foundation in Universal Design for Learning (UDL), NWEA is committed to making our assessments engaging and accessible for all students.

Trained by the Center for Applied Specialized Technology (CAST), our content team ensures each item is created with the principles of UDL in mind. These principles, which provide a framework for developing flexible items to support many kinds of learners and maximize options for assessments provide multiple means of:

- Representation
- Action and expression
- Engagement

Applying UDL principles to our assessments helps to reduce barriers and minimize irrelevant information from the items, so the assessment can show what each student knows.

Partnering with experts in the field, including CAST and the National Center for Accessible Media, has given us opportunities to participate in and conduct frequent training around UDL. We have also worked with our partners to develop a variety of flexible items and aids, designed to enhance the assessment experience for all students. We offer flexible accommodations that allow students to use their own third-party assistive technology with our assessments. For tools and supports that are not currently available in or compatible with our assessments, we have a dedicated plan to expand our accommodations and supports to meet the needs of every student.

The computer adaptive tests we offer as our solution for Nebraska's assessment needs increase the amount and quality of information educators can glean about students of all abilities. Adaptive tests minimize testing time while maximizing the amount of psychometric information (with a lower standard error of measurement) educators can have about each child. This ensures that scores are highly reliable and accurate, even for students at the high and low ends of a normal distribution of scores.

We will use the principles of Universal Design during our reading passage development process, to make sure that the passages we bring forward to NDE and Nebraska educators are accessible to the widest range of students possible, and that passages do not create obstacles that interfere with measuring student ability. During passage review with Nebraska educators, we will provide coaching to participants so that they may verify that reading passages are appropriate for the assessments.

During item writing workshops with Nebraska educators, NWEA will provide information and instruction around Universal Design. When the item writing workshops are completed, all written material will undergo an internal review from our experts at NWEA. For the delivery of online material, this includes a check for adherence to the Accessible Portable Item Protocol (APIP). These protocols include (but are not limited to) verifying that items are accessible for the widest range of students possible, avoiding potential bias, and ensuring items are good candidates for accommodations such as Braille and large print.

Universal Design in the Alternate Assessment

DLM staff employ universal design principles during the development process of the alternate assessment to account for the student population's characteristics, including accessibility and bias considerations. Universal design principles were applied in the design of the assessments and in the technology used to deliver the assessments.

For assessment content, universal design principles were implemented to make the node content accessible by changing how the skill would be assessed (i.e., allowing for multiple ways to demonstrate skills). The application of these principles ensure that learning map model nodes represent skills and understandings that are not dependent on information exclusively available through one sense. These decisions are largely guided by universal design principles of flexibility of use and equitability of use. In other cases, it has been clear that some students need to acquire cognitive skills differently than the general education population in order to achieve a learning target. If alternate nodes are required, developers have attempted to identify an alternate path around the problematic node(s) by describing the specific instructional method or the cognitive skills required to circumvent the node(s) and achieve the learning target.

The portal provides students with accessible content. Teachers complete the Access Profile (Personal Needs and Preferences) to provide accessibility supports within the portal (e.g. magnification, color contrast, spoken audio), as well as to alert the test administrator to necessary accessibility supports

used outside of the system during the assessment (e.g. uncontracted Braille, human read aloud, sign interpretation of text). Prior to the release of the first testlet, teachers complete the First Contact survey to determine the linkage level recommendation.

Students' assessment experiences are customizable. Educators use the Access Profile in the Educator Portal to select the appropriate accessibility supports delivered within the system, and thus tailor each student's assessment experience based on individual needs. Test administrators should complete the Access Profile before the assessment begins. The Access Profile can also be adjusted as a student's need change, even during an assessment window. Supports such as display enhancements or Text-to-Speech can be changed at any time, even in the middle of a testlet.

The portal supports include magnification, overlay color, invert color choice, color contrast, switch use, and spoken audio. Additionally, the test administrator may use an interactive whiteboard, projector, or any magnification device that works with the computer screen. For familiar texts in ELA assessments, the test administrator may retrieve the texts from the DLM references and print the texts in the size and contrast the student needs or read the text to the student.

Alternate forms for students who are blind or have visual impairments (BVI) but do not read Braille have been developed for certain Essential Elements and linkage levels. BVI testlets are teacher-administered, requiring the test administrator to engage in an activity outside the system and enter responses into portal. The general procedures for administering these forms are the same as with other teacher-administered testlets. Additional instructions include the use of several other supports (e.g., human read aloud, test administrator response entry, individualized manipulatives) as needed. When onscreen materials are being read aloud, test administrators are instructed to (1) present objects to the student to represent images shown on the screen and (2) change the object language in the testlet to match the objects being used. Objects are used instead of tactile graphics, which are too abstract for the majority of students with the most significant cognitive disabilities who are also blind. However, teachers have the option to use tactile graphics if their student can use them fluently.

c. The online technology must track student use of accommodations/tools provided for students with IEPs, 504 plans, or for students who are English Language Learners.

Authorized district or school personnel will be able to identify and assign testing accommodations to students, prior to testing, based on their IEP, 504 plan, or English language learner identification. Our system tracks these assignments and is an invaluable data point to our psychometric team in applying this during their calibration, equating, and other activities.

Tracking Accommodations in the Alternate Assessment

Two extracts provide information to educators about the accessibility features (i.e., accommodations/tools) recorded for students. They are the Accessibility Profile extract and the Accessibility Profile Counts extract.

The Accessibility Profile extract creates a .csv file that lists the accessibility (Access Profile) settings for the students enrolled in a particular district or school. Only students who have Access Profile settings are included in the file. The file contains a column for every possible Access Profile setting and indicates if that setting has been chosen for a student. See Figure 22 for an example.

	D	E	O	P	Q	R
1	Student Last Name	Student First Name	Display - Overlay Color	Display - Overlay Color Activate by Default	Display - Overlay Color Code	Display - Overlay Color Desc
2			Selected	Selected	#87cffd	Light Sky Blue
3			Selected	Not Selected	#f5f2a4	Pale Goldenrod
4			Not Selected	N/A	N/A	N/A
5			Not Selected	N/A	N/A	N/A
6						

Figure 22: Accessibility Profile .csv file. This file lists accessibility settings for students enrolled in a particular school or district.

The file indicates whether or not a feature or support has been selected for a student, and, if a feature or support has multiple settings, the details of those settings are listed. For example, the overlay color can be set to one of several predetermined colors. Each record also indicates the last time the Access Profile was modified, and by which user.

The Accessibility Profile Counts extract shown in Figure 23 creates a .csv file that lists the total number of students who have a particular setting on their Access Profile. The report includes columns of information about the Access Profile settings in use.

E	F	G	H
Display - Magnification	Display - Overlay Color	Display - Invert Color Choice	Display - Masking
1	2	2	1
0	0	0	0

Figure 23: Accessibility Profile Counts Extract. This file lists the number of students with a particular setting on their Access Profile.

Depending on the level of Educator Portal access, a user can retrieve summary data in several configurations. User with district-level or state-level access will select filters for the report. The district-level filter window displays a choice of two summary levels (District or School) and three possible combinations for selecting the data to be included in the .csv file.

B. Assessment Development

1. Tests for General and Alternate Assessments Statewide Assessment Design

a. NDE is looking for an innovative approach to assessment as it moves forward in assessing College and Career Ready standards in ELA, mathematics, and science. Assessments may include multiple choice items; however, NDE seeks assessments that test standards at higher depth of knowledge and include rigorous new item types that are effective in assessing higher order thinking skills while also better at engaging students than multiple choice items.

The innovative statewide assessment system we hope to develop with NDE can provide measures for interim and summative purposes and attends to the tenets of Accountability for a Quality Education System, Today and Tomorrow (AQuESTT). We envision a balanced assessment system of multiple measures developed cooperatively to meet the needs of Nebraska learners and educators, and to provide NDE with purpose-driven, valid assessments.

A balanced assessment system, according to the National Research Council, in "Knowing What Students Know," should exhibit **comprehensiveness** (range of approaches and measures of and for student to demonstrate what they know), **coherence** (models of learning connected across instruction and

assessments), and ***continuity*** (progress over time).[5] Our proposed design encompasses each of these three "Cs."

Comprehensiveness

Often with fixed form assessments, students are given a very limited opportunity to show what they know. The amount of error in resulting scores is much higher for students in the upper and lower performance ranges, limiting the validity of the results. Adapting the test in real time to provide students with greater opportunity to demonstrate what they do know increases the statistical information and validity of their scores. And, as is now allowable per ESSA, these assessments can adapt above and below the student's assigned grade. With an adaptive statewide assessment providing timely results, teachers can have the information they need to help students at the right level at the right time. The Nebraska Statewide Assessment program will benefit from our years of experience and research in successfully delivering adaptive assessments.

Variations in item format and measured constructs also provides more comprehensiveness in assessments. Formatively, teachers are able to observe student performances in many different ways, from projects, peer interactions, presentations and research, to quizzes and exams with a variety of item types. NWEA will provide multiple item types and ways in which students can interact with assessment content that align to Nebraska standards, allowing for demonstrations of complex thinking.

Coherence

There are multiple ways to bring coherence across assessments in your system. Often there is little connection between formative assessments and the classroom level and the cumulative summative at the end of the year. Interims are often linked to summatives to provide predictive information of how students might do at the end of the year. When a system of assessments can be tied together more directly, while supporting multiple approaches, there is coherence. One way to consider building the coherence is through achievement level descriptors, ensuring those are clearly, vertically articulated, and can be understood and operationalized from the classroom to the summative reporting.

In addition, when standards are unpacked to reveal possible learning paths (such as through a learning continuum), teachers have examples of how they might operationalize the intentions of standards, the achievement level expectations for summative and interim, into formative opportunities relevant to their own curriculum and student needs. From formative and interim opportunities, through to summative assessments – for general and alternate student groups – our design intentions are to support *all* students throughout their learning and assessment experiences. Such learning paths can further be connected from the general to the alternate assessments, as NWEA works in collaboration with DLM, to find meaningful inflections in student pathways, particularly for higher functioning students in the alternate assessment population.

To provide a stronger link between interim and summative, the assessments in the future could share similar adaptive constraints and provide results in light of the achievement levels and learning

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[5] James W. Pellegrino, Naomi Chudowsky, and Robert Glaser, eds., Committee on the Foundations of Assessment Board on Testing and Assessment, Center for Education, and National Research Council, *Knowing What Students Know: The Science and Design of Educational Assessments* (Washington, D.C.: National Academy Press, 20011)

continuum to provide instructionally relevant links beyond the statistical. We can bring this to life through Nebraska specific achievement levels, with items and skills tied to a learning continuum, and with our advances in adaptive assessments across interim and summative.

Continuity

As students engage in comprehensive and coherent assessments over time, the measures can be flexible to timing and frequency of administrations. The adaptive nature of our assessments will also minimize testing burdens and maximize usefulness of information with rapid results. And as assessments can be connected in terms of learning, teachers and students will be able to see and interpret growth throughout the year, across the assessments in the system.

Theory of Development

At NWEA, student learning is central to our mission and the starting point for all assessment design and creation. To meet that mission, our assessments must improve student learning. As a result, every item developed is not only well aligned by the standard and complexity; each option or wrong answer is linked to instructional feedback that can be used by educators to help determine what is next for students in their learning. We do this with a combination of students' progress both across grade and within grade, and by leveraging first and foremost the standards, learning progressions, and expectations of achievement delineated in Achievement Level Descriptors.

Learning progressions – the road or pathway that students travel as they progress toward mastery of the skills needed for career and college readiness – form the core of our thinking. Learning progressions are usually captured as a visualization of student progress in a subject area, and there are many ways to think about them. For NWEA, they were created and refined in order to understand how students learn and what they are ready to learn next. Learning progressions cross grades to show how students learn topics and underpin content development for both interim and summative assessment products at NWEA. While not included in this proposal, we are interested in working with NDE to refine learning progressions for the Nebraska standards and innovatively to connect learning across general and alternate populations.

Under the leadership of Dr. Christina Schneider, NWEA focuses on the standards down to their Achievement Level Descriptors (ALDs) to align content more fully to understand where a student's learning is within a standard. ALDs are described in more detail in Sections B and I.

The ALD development framework enables valid inferences about student content area knowledge and skill in relation to a state's content standards measured on a large-scale assessment. The evidence documentation should be consistent with learning progressions so that teachers, item writers, and parents have an understanding regarding what student growth within the content area looks like, both within a single grade and across multiple grades.

Standards

Because the standards truly represent the foundation of what is expected of students in terms of their learning, the item and test development begins with a review of the standards. As part of the standards review, the content specialists on the Nebraska program will work toward an understanding of how Nebraska interprets the standards and how the interpretations may affect development. If item and passage specifications are available, we will study these documents to make sure we understand the various nuances of how they should be interpreted for assessments. If these documents do not exist, we

will work closely with NDE to develop them. Our content specialists will take particular note of content standards versus process standards and then determine primary performance expectations that can be covered from each standard.

Specifications, Alignment, and Style

Coordinating overall passage and item specifications as well as the program's unique qualities in a Nebraska-specific Style Guide will be critically important to the program's success. A solid set of item specifications will make it easier to create content that aligns to Nebraska standards at the depth and breadth required. Each standard will be examined and unpacked. These specifications will drive which item types and even which stimulus types can be used to appropriately measure the standards.

The alignment process is another area in which we will work closely with NDE. After any existing items are imported into the NWEA item management system, we will use those that we and the NDE agree upon. In this way the NDE staff can feel confident that their assessment will rigorously represent the appropriate range of content, and NWEA can also determine the most urgent needs for development based on gaps in the bank. The close analysis of existing items will also help our content specialists better understand the Nebraska standards and development targets for new development.

NWEA will work with NDE staff to discuss and determine NDE's desired approach to cognitive complexity. This includes Depth of Knowledge (DOK) criteria and text complexity, which includes reading load for test takers. NWEA staff members are versed in multiple approaches for such work and will be happy to discuss them with NDE staff.

The Nebraska Style Guide will capture layout and other preferences not captured within the Item Specifications documents. These style requirements track qualities such as font and font size for each grade level and preferred layouts for charts, graphs, and maps. They can also indicate which types of emphasis words or topics are acceptable to use and which are best to avoid.

Item Development Plan for ELA and Mathematics

NWEA proposes custom development of test items for the Nebraska assessment program, starting with embedded field test items for spring 2018 in English language arts and mathematics, and embedded field test items for science in spring of 2019. In order to make sure that the new field test material is truly appropriate for Nebraska's students, we plan to utilize the expertise of Nebraska educators in the item writing process as described in B.1.h. This way, Nebraska can be sure it is using content that is specific to its students' needs and measuring its standards as intended. As during passage and stimulus development, we will rely heavily upon specifications documents during the development phase. NWEA will propose a development plan in partnership with the state, with the expectation that field test items will be embedded into an operational form administration derived from items in the NDE bank for the spring 2018 administration.

As we transition to a computer adaptive tests, we have assumed that the existing Nebraska item bank will suffice for both English language arts and mathematics through the transition. Our development plans are based on that assumption, as shown below in Table 25. If incorrect, the number of items to develop may need to be modified and costed appropriately to cover such a change.

The development plan will specify how many items will be written within each content area.

Table 25: Nebraska Item Development Targets

Grade	Year 1 Dev 1		Year 1 Dev 2		Year 2 – 4 (each year)	
	Multiple Choice Items	Technology Enhanced Items	Multiple Choice Items	Technology Enhanced Items	Multiple Choice Items	Technology Enhanced Items
English Language Arts						
3	120	90	96	72	96	72
4	120	90	96	72	96	72
5	120	90	96	72	96	72
6	120	90	96	72	96	72
7	120	90	96	72	96	72
8	120	90	96	72	96	72
Mathematics						
3	30	90	48	72	48	72
4	30	90	48	72	48	72
5	30	90	48	72	48	72
6	30	90	48	72	48	72
7	30	90	48	72	48	72
8	30	90	48	72	48	72

The numbers of items written will account for loss during the item writing process, as well as attrition at content and bias review.

Stimuli Development Across Content Areas

At the start of the development cycle for each content area, we will perform a gap analysis of existing items to determine what needs to be developed to maintain a robust bank. A key component of determining our development targets involves analyzing how many stimuli need to be developed to support items. With all stimuli that we develop, we will provide a level of rigor and depth that will allow us to develop a wide range of items across a variety of item types. Additionally, stimulus material for all content areas must seem authentically representative of the stimulus material students might encounter in a classroom setting to allow the assessment to measure accurately students' college and career readiness.

In order to best meet the level of rigor and cover the broadest range of standards for Nebraska, we propose a blend of Public Domain and Commissioned passages for English language arts. Our English language arts passage development plan is detailed in Section B.1.m. All stimuli created for Nebraska within the scope of this program are owned by the State during and after the contract term unless agreements are made otherwise.

Item Review and Development

Our item development process relies upon the involvement of Nebraska educators and stakeholders. We understand that no one can better help us deliver material that is reflective of current practices and

teachings in Nebraska's classrooms than its teachers and stakeholders; we plan to leverage this expertise by enlisting educators to write test items across all content areas. We will continue to enlist the expertise of Nebraska educators throughout the review process, including their participation in passage review and item content/bias review.

After items are written by Nebraska educators, the material in question begins to move through a thorough review cycle designed to evaluate content, style, and accessibility. This review cycle and the various participants is elaborated upon throughout this section. All NWEA team members are well-versed in best practices for assessments and will also be well-versed in Nebraska's expectations and specifications. Checklists will be used within each step of the process to make sure that each item is reviewed thoroughly.

NDE Pre-Review

NWEA will post 25 percent of passages and items across all grades for Nebraska review as part of the item development process. This will occur prior to stakeholder item content and bias review meetings. Nebraska's feedback at this stage will allow NWEA to make sure that item development is meeting the needs of Nebraska and to make adjustments as appropriate to material that will be presented to stakeholders.

Item Content and Bias Review Meetings

To make sure that all stimuli and items are appropriate for Nebraska's assessments, it is critical that stakeholders review all material. After material travels through the NWEA internal review processes, we will bring educators together to review items for content validity and an absence of bias and sensitivity issues. Giving stakeholders the opportunity to review and inform items guarantees that the material reaching students is appropriate and meaningful.

Exposure to content review is extremely valuable to state educators as well as to the community members who serve as bias and sensitivity experts. Similarly, the better understanding of bias and sensitivity issues is particularly valuable for educators to consider in their classroom work and environment.

NWEA will train the stakeholders participating in the content and bias review. For example, participants will learn to review items for qualities including (but not limited to):

- Proper alignment and cognitive complexity
- Clear and concise wording
- Presence of a correct answer
- Diversity of background and cultural representation
- Avoidance of stereotypes
- Avoidance of topics that may cause discomfort to test takers
- Stimuli and item accessibility, and adherence to universal design

During content and bias review, NWEA facilitators will help manage time and keep discussions productive. NWEA facilitators will also track committee decisions and recommendations and present this information to Nebraska for the purposes of reconciliation. A list of all meetings we are proposing for this project is provided in Table 14, beginning on Page 62.

Quality Assurance: Item Development, Field Testing, Test Implementation

Item Development

NWEA will collaborate with NDE to interpret their standards and develop item specifications that will ensure high quality items for the assessments. The processes are described throughout our response to this requirement. Table 26 shows how we will measure quality.

Table 26: Item Development Quality Assurance Processes

Process	Description
Staff Policies and Procedures	The NWEA Implementation Support staff follow documented policies and procedures to lead a new partner though the start-up of the content development.
Standardized, Comprehensive Training	Our content staff complete a training on state summative content development practices. Staff members are required to participate in ongoing trainings through the same program to maintain up-to-date knowledge and skills.
Documentation	The NWEA content staff are required to follow established documentation standards. This assures the accuracy and quality of the initial setup, and provides a historical record of a partner's experiences during the implementation of your program. Documentation is monitored for accuracy by the content lead.
Customer Feedback	NWEA relies on customer feedback to help inform improvements in service. At the each stage of development, the NDE staff and Nebraska educators are asked for feedback on the current process and requested changes moving forward. Our goal is to make the Nebraska content development effort as smooth as possible for our new partners.

Test Specifications

NWEA will collaborate with NDE to develop test specifications at the beginning of the contract to provide a smooth transition between previous and new assessments. As this will be an adaptive administration, decisions relevant to the desired test specifications are not form-specific and will need to be considered against the size of the available item pool. As is customary, test specifications will include the blueprint, required accommodations for the overall test, and documentation of decisions needed to create adaptively administered operational forms with embedded field test items. These specifications, which are essentially constraints and rules which guide our adaptive engine, in addition to the item bank analysis, will also inform the item development plan. Test specifications will be reviewed by NWEA content and psychometric staff and NDE staff each year prior to development and test construction. Given that our solution for Nebraska relies heavily upon teacher-written items, we understand the requirement for meeting onsite with NDE for finalization of test items. Details for all project meetings are included in Section A.1.

Field Testing

NWEA will provide embedded field test items for English language arts and mathematics for the spring 2018 online administrations, as per NDE's request. Even though the items will not have data attached to them until after they have been field-tested, psychometric and content collaboration at this point in the

contract will make sure the items, layout, and administration is in line with the test specifications and goals of the assessment.

Data Review

NWEA will facilitate a data review of the field-tested items to allow Nebraska and its designees to determine whether the items are eligible to appear on operational administrations.

After being trained on the data review criteria and given an overview of the assessment development process as a whole, Nebraska educators and stakeholders will review items and their data. The committee will determine if the items accurately measure the content or if other factors may have affected the data. Feedback from the committee and Nebraska will be used to determine whether each field-tested item can be used operationally, edited and re-field tested, or rejected. Data review participation is an excellent professional development opportunity for educators, as it allows detailed insight as to how students perform on various items. Educators can see firsthand whether there are particular areas of success or struggle for students and how students perform on various item types across the range of standards.

Following data review, all items accepted by the committees and the NDE as being ready for operational testing will be added to the operational bank for possible use during test construction.

Logistics of the data review meetings are provided in Table 14 in Section A.1.h.

Operational Test Construction

For Nebraska, NWEA will follow the vision for an innovative assessment system laid out in the RFP and recommends the following operational construction:

Prior to operational test construction, NWEA and Nebraska staff will review all necessary materials and plans for test construction. The process for test construction for adaptive administrations will vary slightly from the traditional fixed-form review process. The review will consist of validation steps to ensure the desired blueprints and test specifications result in aligned student test events. For example, once the constraints for the engine have been set, through blueprints and specifications, we will run simulations against the item pool and provide summary statistics to demonstrate the resulting administrations typify what is expected. We will run analyses and graphics, similar to those described in Section G on test calibration and equating analyses.

In the first administration, in order for all items to be on the same scale, items will need to be administered that are in common with last year's administration and in common across randomly equivalent groups. Each administration will have common items to link to each other, including anchor items to link to previous administrations. These items will contribute to the student's individual score, along with the unique operational items that make up the remainder of the items administered adaptively to each student. NWEA psychometricians will work with NDE and NWEA content staffs to select the appropriate linking item characteristics to ensure coverage of content and statistical measures and constraints in the engine to support consistency in the scales. Nebraska staff will be able to review and approve the design, the test specifications, and the constraints that drive the adaptive engine.

When embedded field-testing is used, field-test items will be selected based on the needs of the program and embedded in the agreed upon item administration sequence within the operational administration.

After forms are finalized, NWEA content and publishing staff will review forms in the testing environment as a quality check to confirm that each form is accurate in its entirety.

Innovative Approach to Alternate Assessments

The Dynamic Learning Maps (DLM) Alternate Assessment System assesses student achievement in English language arts (ELA), mathematics, and science for students with the most significant cognitive disabilities in grades 3 – 8 and high school. The purpose of the system is to improve academic experiences and outcomes for students with the most significant cognitive disabilities by setting high and actionable academic expectations and providing appropriate and effective supports to educators.

The DLM Alternate Assessment System is based on large, fine-grained learning map models. These innovative learning map models are highly connected representations of how academic skills are acquired, as reflected in research literature. The DLM maps consist of nodes that represent discrete knowledge, skills, and understandings in either ELA or mathematics, as well as important foundational skills that support student learning of the targets associated with grade-level content standards.

Seen in its entirety, the DLM map is highly complex, as shown in, Figure 24, which displays a large section of the mathematics map, with the nodes in red boxes and the connecting lines in black.
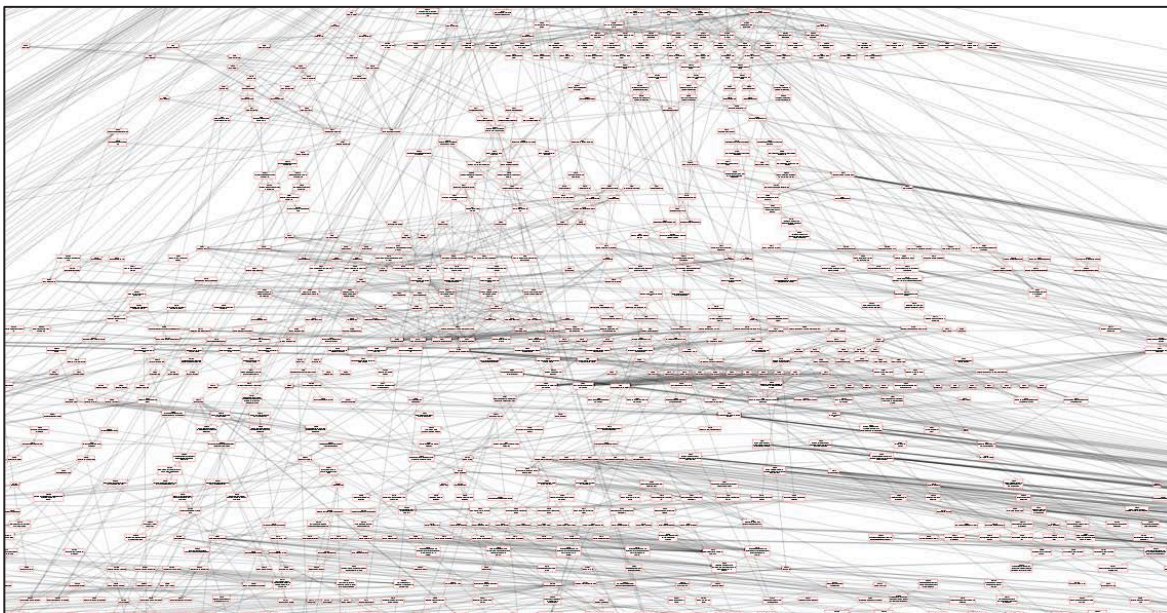

Figure 24: DLM Map. This depicts a section of the mathematics map

A closer look at smaller sections of the map reveals how the discrete nodes are described and connected. Figure 25 provides an illustration of a small segment of the English language arts map. DLM maps are read from the top down, moving from the least to most complex concepts.
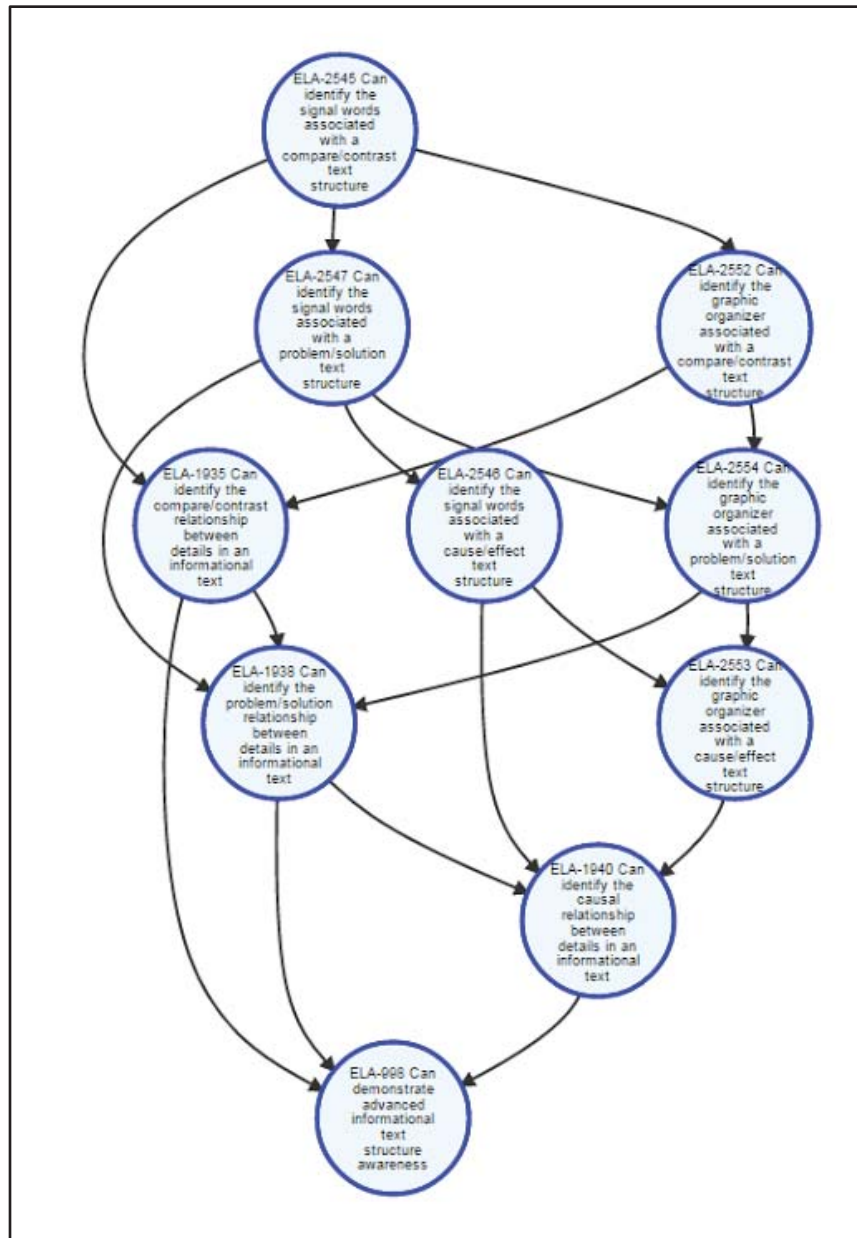
Figure 25: DLM ELA Map. This image is a sample excerpt from the map.

The Essential Elements (EEs) specify academic targets, while the DLM maps clarify how students can reach those targets. For each EE, neighborhoods of nodes, called linkage levels, are identified as assessment targets. In ELA and mathematics, assessment items are based on nodes at the five linkage levels: Initial Precursor (IP), Distal Precursor (DP), Proximal Precursor (PP), Target (T), and Successor (S). In science, there are three linkage levels, Initial, Precursor and Target.

The overall structure of the DLM Alternate Assessment System had four key relationships between system elements (see Figure 26):

1. College and career readiness standards and Essential Elements for each grade level

2. An Essential Element and its target-level node(s)

3. An Essential Element and its associated linkage levels

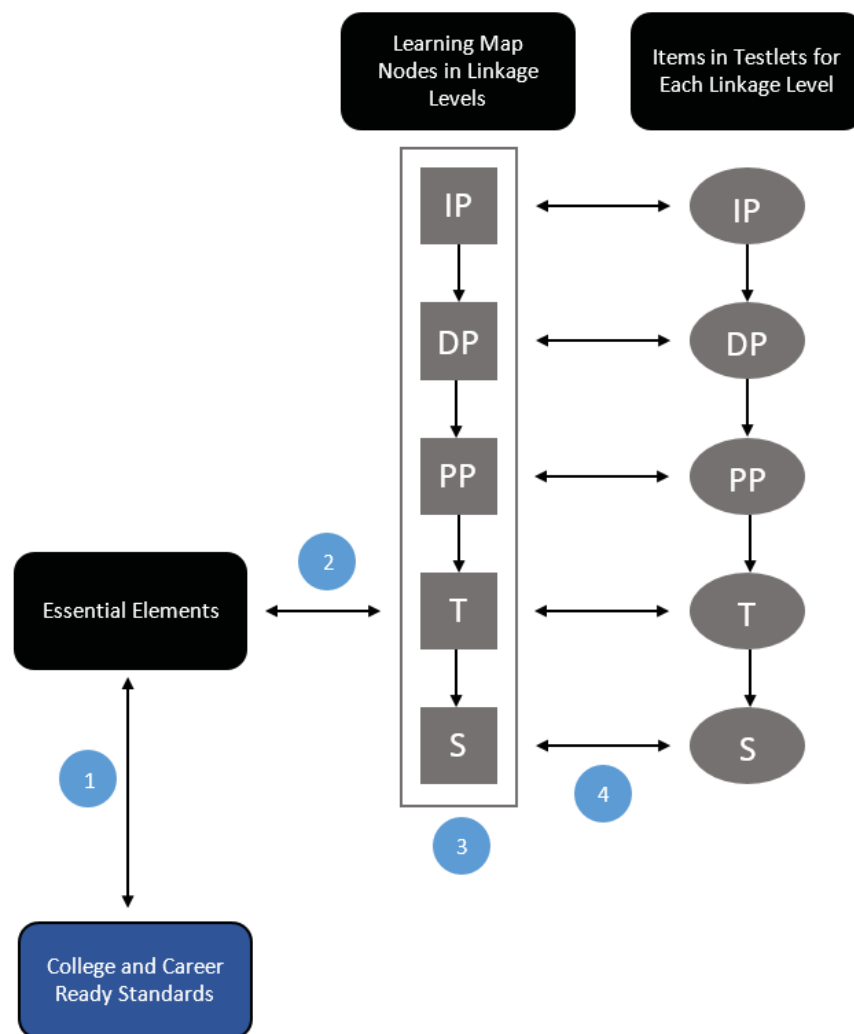4. DLM map nodes within a linkage level and assessment items

Figure 26: Relationships in the DLM Alternate Assessment System. Linkage levels for ELA and mathematics are Initial Precursor (IP), Distal Precursor (DP), Proximal Precursor (PP), Target (T), and Successor (S).

The DLM assessments are delivered as a series of testlets, each of which contains an unscored engagement activity and three to nine items. Assessment items are written to align to nodes at one of the five linkage levels and are clustered into testlets (see Figure 27). Therefore, each linkage level is specifically assessed. Students are placed in the assessment at the appropriate linkage level based on information collected about their expressive communication and academic skills. Adaptive suggestions for the next appropriate testlet are provided by the system, based on the student's performance.
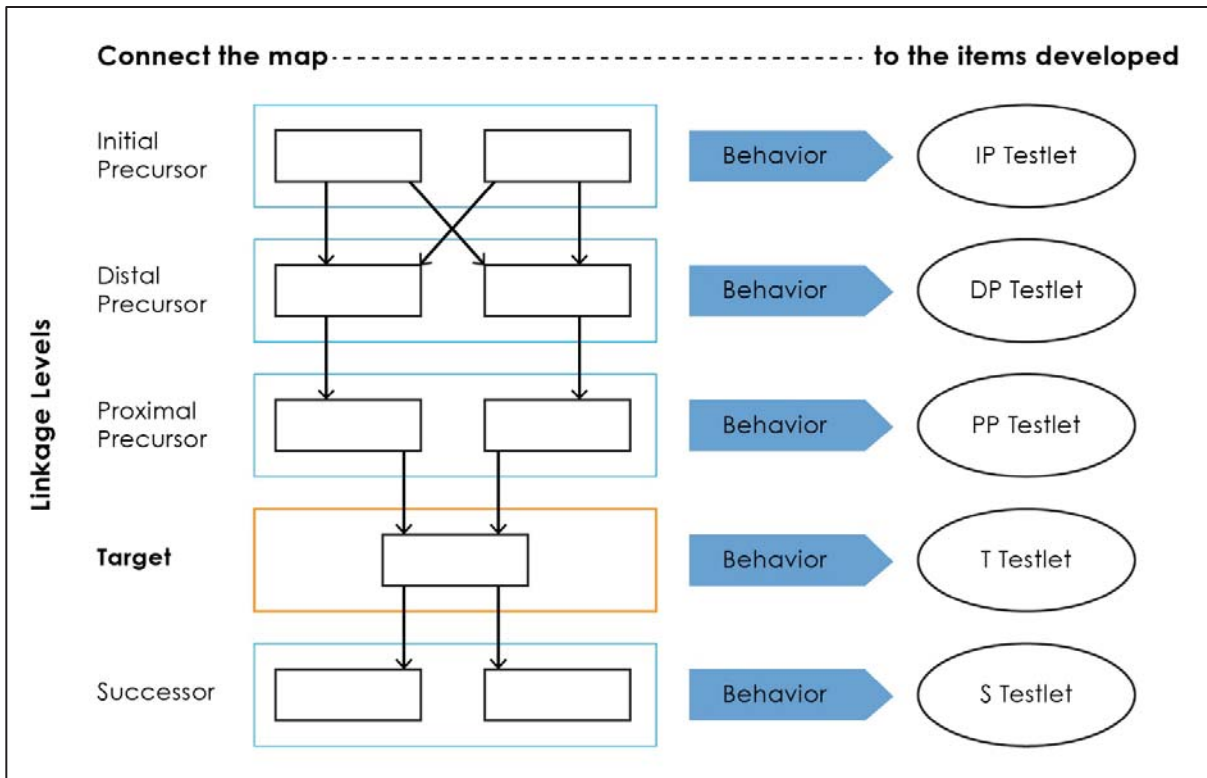
Figure 27: DLM Testlets. Assessment items clustered into testlets.

The KITE system was designed to deliver the next generation of large-scale assessments and was tailored to meet the needs of students with the most significant cognitive disabilities. Educators use the Educator Portal online application to manage student data, assign instructionally embedded assessments, retrieve resources needed for each assigned testlet, and retrieve reports. The KITE Client is the student portal that allows students to log in and complete assigned testlets. Practice activities and released testlets are also available to students through the KITE client. The KITE Client, a customized version of Firefox, launches in kiosk mode and prevents students from accessing unauthorized content or software while taking secure, high-stakes assessments. The interface is supported on desktops and laptops running Windows® or Mac® OS X; Chromebook®; and iPad® tablets.

The DLM alternate assessment is designed to map students' learning throughout the year, using different item types in testlets that are embedded in day-to-day instruction. In this way, assessment happens as part of instruction, which both informs teaching and benefits students. Assessments are selected by teachers for delivery throughout the fall and winter. In the spring, assessments are delivered using an adaptive algorithm to gather additional information about what students know and can do at the end of the school year. Results from the entire year are used to produce summative results.

There are two general modes for DLM testlet delivery: computer-delivered and teacher-administered. Computer-delivered assessments are designed for students to interact independently with the computer, using special assistive technology devices such as alternate keyboards, touch screens, or switches as needed. Computer-delivered testlets emphasize student interaction with the content of the testlet, regardless of the means of physical access to the computer. Teacher-administered testlets are designed for educator to administer outside the system, with the test administrator recording responses

in the system rather than the student recording his or her own responses. These teacher-administered testlets include onscreen content for the test administrator that begins by telling, in a general way, what will happen in the testlet. Directions for the test administrator then specify the materials that need to be collected for administration. After the educator directions screen(s), teacher-administered testlets include instructions for the engagement activity. After the engagement activity, items are presented. All teacher-administered testlets have some common features:

- Directions and scripted statements guide the test administrator through the administration process
- The engagement activity involves the test administrator and student interacting directly, usually with objects or manipulatives
- The test administrator enters responses based on observation of the student's behavior

Testlet organization, the type of engagement activity, and the type and position of items vary depending on the intended delivery mode (computer-administered or teacher-administered) and content being assessed (reading, writing, mathematics, or science).

ELA reading testlets have been built around texts adapted from or related to grade-level appropriate general education texts. Short narrative passages have been constructed from books commonly taught in general education, and short informational texts were written to relate to thematic elements from narratives. All passages have been deliberately written to provide an opportunity to assess specific nodes in the maps associated with different EEs and linkage levels. Text complexity for passages has been reduced from the grade level texts for students without significant cognitive disabilities, focusing on core vocabulary, simple sentence structure, and readability.

ELA reading testlets include an engagement activity, which outlines the structure of the testlet and instructs the student and/or test administrator how to proceed through the testlet. In reading testlets, the first reading of the text is considered a part of the engagement activity. In computer-delivered testlets, the engagement activity instructs students to read the text on their own or with read-aloud support as a selected accessibility support. In teacher-administered testlets, the engagement activity introduces the testlet to the test administrator, who will read the story or text with the student.

Teacher-administered testlets require the test administrator to assess the student outside the KITE system and enter responses. For ELA reading teacher-administered testlets, the engagement activity is also the first reading of the text. In this case, the directions for the engagement activity are presented to the test administrator.

All English language arts writing testlets are teacher-administered. For writing testlets, the test administrator engages in a scripted activity with a student outside the KITE system and then enters observations and ratings of the student's writing process and product into KITE Client. Mathematics testlets start with an engagement activity that provides a context for the questions. Mathematics testlets are built around a common scenario activity to investigate related facets of student understanding of the targeted content. Similar to mathematics testlets, science testlets begin with an engagement activity that provides a context for the questions and are built around a scenario or activity related to scientific knowledge and practices.

Results from the DLM alternate assessment are intended to support interpretations about what students know and are able to do and support inferences about student achievement, progress, and growth in the given content area. Results provide information that can be used to guide instructional decisions as well as information appropriate for use with state accountability programs.

b. Technology-enhanced items must contribute to a significant portion of the assessment unless an off-the-shelf solution is being provided that does not include technology-enhanced items. NDE is interested in inclusion of adaptive testing. While open-ended items may be included, the Contractor must include analysis of student time to administer and demonstration of ability to return assessment results to students, schools, and parents on a timely schedule. Evidence of timeliness of return of results is a critical part of this RFP.

Our summative assessment solution for Nebraska is to develop and deliver computer adaptive assessments for English language arts, mathematics, and science that include multiple-choice and technology-enhanced items. In order to deliver timely results and score reports to students and educators, we will rely upon technology-enhanced items that can be machine-scored.

As NWEA content specialists begin our work with Nebraska, an area of particular focus is item type appropriateness as it relates to Nebraska's content standards. NWEA content specialists will scrutinize the Nebraska standards closely in order to see which standards are best measured by technology-enhanced items. We will not recommend technology-enhanced items (TEIs) simply to meet a particular quota, but we will support NDE's desire to include more technology-enhanced items on the assessments, as we believe an increased use of technology-enhanced items will:

- Provide coverage of broader ranges of DOK levels,
- Provide students with a more authentic and engaging test experience that also offers a deeper assessment of standards, and
- Enable deeper and more meaningful interactions with items and texts

Below is a list of item types and item aids that are available for use in the Nebraska Statewide Assessments.

- Choice Interaction (TEI)
- Choice Multiple Interaction (TEI)
- Gap Match Interaction (TEI)
- Drag & Drop (TEI)
- Click & Pop
- Cloze Drag & Drop
- Match List
- Graphic Gap Match Interaction (TEI)
- Drag & Drop
- Click & Pop
- Text Entry Interaction (TEI)

- Number Line Association (gap and graphic gap matching)
- Label Image Drag & Drop
- Label Image Click & Pop
- Sort into Containers
- Classification
- Common Stimulus Reading Items
- Calculator – Basic
- Calculator – Advanced
- Calculator – Scientific
- Highlighter

We have also added many TEI item types and interactions to our item bank, including those below, which will be available for Nebraska Statewide Assessments.

- Evidence-Based Selected Response/Choice Interaction
- Equation/Text Entry
- Grid item –Drag and Drop, Hot Text
- Composite items combining types above

We are confident in our capability to support computer adaptive testing. NWEA is a pioneer in the field of adaptive testing. By design, our flagship Measures of Academic Progress assessments, proposed as the interim system for Nebraska, are fully computer adaptive at the item level and each student experiences a unique test based on each of his or her responses. This level of adaptivity can be incredibly powerful for students with special needs, as well as those who are in need of remediation or who are ready for advanced instruction – all while minimizing overall testing times and standard errors of measurement in each score, and maximizing psychometric information for each student.

We recommend using computer adaptive testing for the general assessment to capitalize on many of the advantages mentioned above, such as minimizing overall testing times. We will work with NDE to balance the depth of your existing pool with the desired constraints of our adaptive engine. Our solution for English language arts does not include any items that require human scoring. Thus, we have dropped the constructed-response items from our test design for ELA. We will include sets of stimulus-based multiple choice and machine-scored TEIs to fully assess the required sections of Nebraska's English language arts standards. It is with these TEIs specifically, as shown by one of Nebraska's released items (Figure 28), that the concept of writing may be assessed without human or artificial scoring.

INDEPENDENT WRITING ITEMS

17. This question has two parts. Answer part A, and then answer part B.

Read the paragraph.

> I like many kinds of pets, but I think dogs are the best. Dogs can learn to obey when their owners say, "Sit," or "Come." Dogs wag their tails or bark when they are excited. They are easy to feed because they seem to like almost everything. Dogs need to go for walks, and walks are good exercise for dog owners.

Part A

Which sentence BEST concludes the paragraph?

A. Cats are good pets too.

B. All in all, dogs are the best pets.

C. Some dogs shed lots of fur in the spring.

D. In the end, every pet is someone's favorite.

Part B

Why is your choice in part A the BEST choice?

A. It is a fact.

B. It restates the opinion.

C. It states another opinion.

D. It gives a fact that supports the opinion.

Figure 28: Assessing Writing. Items such as this released item from Nebraska's bank can be used to assess writing without human or artificial scoring.

If, in the future, Nebraska wishes to discuss adding constructed-response items back into their design, we would be happy to discuss another plan.

We understand the considerable time and energy invested statewide in preparing for and administering an assessment. Our proposed solution for Nebraska incorporates the great work Nebraska educators have contributed to your item bank. This approach demonstrates our respect for classroom instruction and our desire to minimize testing time and to be good stewards of Nebraska educator resources invested in developing the item bank.

Timeliness of Results

All items are machine-scored and students will receive their test results immediately once they have completed their tests. Please see our responses to Section H, Reporting for All Statewide Assessments, for further details on timeliness of return of results.

Item Types in the Alternate Assessment

Several item types are used in DLM testlets. Most types are used in both English language arts and mathematics testlets, while science testlets only use Multiple Choice Single Select (MCSS) items. Some types are used only in testlets for one content area. The following item types are used in DLM testlets:

- Multiple-choice single select (MCSS)
- Multiple-choice multiple select (MCMS)
- Select text (English language arts only)
- Matching lines (mathematics only)
- Drag-and-drop (mathematics only)

Most items within the testlets have answer options presented in a multiple-choice format using either text or images. Technology-enhanced items are used on a limited basis due to the additional cognitive load they can introduce. Some assessed nodes in the DLM maps require complex cognitive skills such as sorting or matching that are difficult to assess efficiently in a multiple-choice format while keeping the length of the assessment constrained. In these cases, technology-enhanced items that matched the construct described by the nodes were used in order to avoid having to use many multiple choice items to assessment same construct. Evidence for the accessibility and utility of technology-enhanced items was collected from item tryouts and cognitive labs.

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c. NDE is interested in a proposal that will meet the requests of Nebraska stakeholders in response to options allowed under the ESSA. Assessments must meet the requirements of peer review under ESSA and include:

-measurement of higher order thinking skills,

-measurement of growth on a vertical scale, and/or

-adaptive items in order to measure growth in student learning more accurately.

As the National Research Council's pivotal work, *Knowing What Students Know: The Science and Design of Educational Assessment* sets forth, multiple assessments should be designed for multiple purposes and attend to the three pillars of the assessment triangle: how students learn (cognition), how learning is measured (observation), and how useful is the reported information (interpretation). [6] Given the innovative flexibility in the ESSA, NDE and NWEA are in a pivotal position to move assessment towards engaging, interactive, and helpful learning opportunities that reflect the three pillars of the assessment triangle. *The summative assessment we are proposing for Nebraska will meet the requirements of peer review under the ESSA*.

In terms of how students learn and integral to ESSA's focus on higher order thinking skills, NWEA assessments are built upon formative instructional principles, providing immediate feedback and valid,

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[6] James W. Pellegrino, Naomi Chudowsky, and Robert Glaser, eds. Committee on the Foundations of Assessment. Board on Testing and Assessment, Center for Education. Division of Behavioral and Social Sciences and Education. *Knowing what Students Know: The Science and Design of Educational Assessment. (*Washington, DC: National Academy Press. National Research Council. 2001).

reliable data that can be used to inform instruction, improve learning, and monitor progress and growth over time. Student learning can be measured by items of multiple types. Items will be included in the assessments that meet the rigor of a summative test in terms of alignment to and complexity, depth, and breadth of coverage of Nebraska standards.

ESSA also supports the use of adaptive testing, with some flexibility relevant to grade level item administration. The adaptive nature eases the burden of testing time for students and teachers, while individualizing the assessment to each student's ability, and thereby maximizing the reliability of all students' results. We will work with NDE to ensure that the breadth of adaptivity is consistent with ESSA flexibility (i.e. above and below one grade level) as desired by NDE and the extent to which the item bank supports.

All of the items will be concurrently calibrated and vertically articulated across grades to support strong measures of growth from year to year. Based on item response theory measurement scales, a consistent record of student achievement and growth can begin in kindergarten and continue through high school. Individual student scores and growth are comparable across students and across time – within and across years.

These multiple measures are key to meeting multiple goals of and intended uses for the assessments. Further, the adaptive nature eases the burden of testing time for students and teachers, while individualizing the assessment to each student's ability, and thereby maximizing the reliability of all students' results. Together, the multiple measures will provide information to Nebraska students and teachers about student learning (cognition) along a learning continuum, and measure student learning (observation) relative to standards students are really ready to learn and are already achieving[7].

Peer Review and the Alternate Assessment

The DLM essential elements (EEs) are alternate or extended content standards that link to college and career readiness standards and represent rigorous expectations for students with significant cognitive disabilities. The development of the EEs began in February 2011, when initial planning meetings were held between DLM project staff; Edvantia, Inc., a DLM subcontractor; state partners; and state educational agency content experts. The structure of the EEs ensures that expectations increase in complexity from grade to grade. This approach was key to ensuring that the EEs represented the highest possible expectations for students with the most significant cognitive disabilities. The learning map models developed by DLM project staff were used to prioritize EEs for inclusion in the blueprint in each content area. EEs were evaluated by determining the position within the maps of EE-aligned nodes. EEs selected for inclusion in the blueprint had the potential to maximize student growth in higher order thinking skills across grades. The linkage levels associated with each EEs provide differentiated access to grade-level connected content at different levels of complexity.

In the instructionally embedded window for English language arts and mathematics (Approximately September-February) teachers are able to select EEs and linkage levels within some constraints on which individual students will be assessed. The system provides teachers with the necessary supports and

Vygotsky, L.S., *Mind in Society: The Development of Higher Psychological Processes*, Cambridge, Massachusetts: Harvard University Press (1978).

assessments to support student growth. As students learn over time, teachers can choose to assess them at higher linkage levels to demonstrate growth. These choices are implemented in the Instructional Tools Interface (ITI) in The Educator Portal. A teacher can make instructional plans in ITI and then testlets are assigned to the student after instruction is complete. In the spring assessment window, students take a series of testlets in ELA, mathematics and science that are adaptively assigned based on the requirements of the test blueprint. In English language arts and mathematics, the testlets are selected based on the EEs on which the student was assessed during the instructionally embedded window with preference given to ensure that students met the requirements of the test blueprints. Science is currently a spring-only assessment, but the consortium is working toward a full integrated model science assessment that parallels English language arts and mathematics.

The integrated model is designed so teachers can flexibly use instructionally embedded assessments over most of the school year to track student growth. Teachers have access to a student progress report in Educator Portal that summarizes information about instructionally embedded assessment results. Test administrators may find the report useful when planning or reviewing instruction for a student. The report displays the conceptual area(s) tested, the grade level expectation (EE), the level tested, and, for levels tested, the student's mastery status.

Summative results from the DLM alternate assessment are intended to support interpretations about what students know and are able to do and support inferences about student achievement, progress, and growth in the subject. With advice from the DLM Governance Board and Technical Advisory Committee, work is underway on appropriate measures of growth given the nature of DLM assessment psychometrics and the students who take these alternate assessments.

d. For ELA and mathematics, the Bidder shall respond with information on a summative assessment for grades 3-8 for operational administration in spring 2018 that is:

-An off-the-shelf assessment (commercially available, published, or Contractor-owned), or

-An assessment developed with items from other sources that is augmented or customized for Nebraska, or

-An assessment developed with items from Nebraska's item bank.

NWEA is proposing a general assessment for grades 3 – 8 developed with items from Nebraska's item bank for the first year, with the addition of new items developed with Nebraska educators in future years.

NWEA proposes the use of the Dynamic Learning Maps Alternate Assessment System for Nebraska's alternate assessment. DLM assessments are available in grades 3 – 8 and high school in English language arts and mathematics and in grade bands in science. For Nebraska, science would be delivered in grades 5, 8, and 11. The DLM assessments would be delivered as an off-the-shelf product. However, NDE would have the option to join the consortium governance board and have input on continuous improvement of the assessment system.

e. For science, the state expects a Contractor may use Nebraska's current science items and test blueprints to provide a summative science assessment in spring 2018 and 2019. If an off-the-shelf assessment is proposed, the assessment must include alignment to the current Nebraska State Standards of Science. In subsequent years when college and career ready science standards are adopted, NDE expects a new assessment design that is aligned to the future Nebraska College and Career Ready Standards of Science, meets the intent of the new generation of

innovative science assessments, and can contribute to a system to measure three-dimensional science learning. The proposal must address assessing the legacy standards and solutions for measuring the College and Career Ready Standards for Science, with field-testing to begin in 2019.

NWEA proposes to use Nebraska's current science items and test blueprints for the summative science assessments in spring 2018 and 2019. However, we recommend moving to a partially computer adaptive model, whereby the students experience a similar administration as in English language arts and mathematics, while the extent of adaptivity can be limited to the items and blueprints specified. This will minimize testing time and allow for field testing to begin as soon as possible in order to be prepared to move to a new generation science test based on the Nebraska College and Career Ready Standards of Science in spring 2020.

Alignment, Specifications, and Style

NWEA will begin our work with Nebraska by engaging in a thorough analysis of the Nebraska College and Career Ready Standards of Science and any specifications already generated by the state. If specifications documents do not exist, we will begin working on developing them as soon as possible in conjunction with Nebraska. Our ability to align material to the standards is critical for us as we work to develop a meaningful measurement tool that fits the needs of Nebraska's stakeholders.

As such, we will begin our work with the content specialists on the Nebraska program to gain an understanding of how Nebraska interprets the standards and how the interpretations may affect development. They will take particular note of multi-dimensional nature of the new standards. Another key component in our standards review process will be considering which item types are most appropriate to assess each standard in terms of allowing a range of skills and rigor to be assessed practically and meaningfully.

The alignment process is another place where we will work with Nebraska. After any existing items are imported into the NWEA item management system, we will use those that we agree upon. In this way the NDE staff can feel confident that the assessment will rigorously represent the appropriate range of content, and NWEA can determine the most urgent needs for development based on gaps in the bank.

NWEA will work with NDE staff to discuss and determine the best approach to cognitive complexity. This includes DOK criteria and text complexity, which includes reading load for test takers. NWEA staff members are versed in multiple approaches for such work and would be happy to discuss them with NDE staff.

We will coordinate overall passage and item specifications as well as the program's unique qualities in a Nebraska-specific Style Guide. A solid set of item specifications will make it easier to create content that aligns to Nebraska standards at the depth and breadth required. Each standard will be examined and unpacked. These specifications will drive which item types and even which stimulus types can be used to appropriately measure the standards.

The Nebraska Style Guide will capture layout and other preferences not captured within the Item Specifications documents. These style requirements track qualities such as font and size for each grade level and preferred layouts for charts, graphs, and maps. They can also indicate which types of emphasis words or topics are acceptable to use and which are best to avoid.

Item Development Plan

NWEA proposes custom development of test items for the Nebraska assessment program starting with field testing in 2018. This way, Nebraska can be sure it is using content that is specific to its students' needs and measuring its standards as intended. As during passage and stimulus development, we will rely heavily upon specifications documents during the development phase. NWEA will propose a development plan in partnership with the state.

The development plan will specify how many items will be field tested within each content area. Table 27 includes our proposed field test targets for the summative science assessment.

Table 27: Nebraska Science Field Test Targets

Grade	Year 1 Dev 1			Year 1 Dev 2			Year 2 – 4 (each year)		
	Multiple Choice Items	Technology Enhanced Items	Forms to field test	Multiple Choice Items	Technology Enhanced Items	Forms to field test	Multiple Choice Items	Technology Enhanced Items	Forms to field test
5	60	60	12	120	120	24	120	120	24
8	60	60	12	120	120	24	120	120	24

The numbers of items written will account for loss during the item writing process, as well as attrition at content and bias review. These assumptions are 50 percent for the first year first development and 20 percent in all subsequent developments.

Stimuli Development Across Content Areas

At the start of the development cycle for each content area, we will perform a gap analysis of existing items to determine what needs to be developed to maintain a robust bank. A key component of determining our development targets involves analyzing how many stimuli need to be developed to support items. With all stimuli that we develop, we will provide a level of rigor and depth that will allow us to develop a wide range of items across a variety of item types. Additionally, stimulus material for all content areas must seem authentically representative of the stimulus material students might encounter in a classroom setting to allow the assessment to measure accurately students' college and career readiness.

All stimuli as well as items created for Nebraska within the scope of this program are owned by the State during and after the contract term unless agreements are made otherwise. For example, if an outside bank is procured to meet passage and item needs, the material in said item bank will likely remain in the ownership of the proprietors of the bank in question.

Item Writing

When possible, NWEA will use Nebraska educators to write the science items. However, NWEA will also work with independent item writers to assist in development. NWEA has item-writing experts who are skilled in creating high quality content of varying item types across content areas, including science. We will use item writers who have, at minimum, bachelor's degrees and extensive experience in science. Once we have screened and entered into contracts with our writers, NWEA content specialists will create custom item writer training. Once the training is approved by Nebraska, we will deliver item writer training as needed.

Once items are submitted, item writers will receive clear and specific feedback from NWEA content specialists as they review the items. Stimuli and items that do not meet the needs of Nebraska will be returned to item writers for revisions. Writers will be expected to adhere to the stimuli and item specifications documents provided to them. Item writers will also need to be mindful of Universal Design principles to develop material that is accessible to the most students. All expectations for the writers are discussed during their training.

During review, NWEA content specialists will make sure that items follow the principles of Universal Design to allow accessibility to the greatest range of students. NWEA content specialists will also review items to make sure that the item type used makes the most sense for the item in question. We will provide a range of item types that demonstrate a range of depth and complexity for each content area.

Internal Item Review and Development

Regardless of the source of the new items, the material begins to move through a thorough review cycle designed to evaluate content, style, and accessibility once received by NWEA. All NWEA team members are well-versed in best practices for assessments and will also be well-versed in Nebraska's expectations and specifications. Checklists will be used within each step of the process to make sure that each item is reviewed thoroughly.

NWEA science content specialists have experience in developing science content that will serve Nebraska's purpose in developing a reliable assessment tool. This experience includes formal training in their content areas as well as classroom and large-scale assessment experience. Our content specialists are also trained in Universal Design as well as bias and sensitivity awareness.

Editorial review is a crucial component of our item development cycle. NWEA editors will use quality checklists to make sure that items adhere to Nebraska's style guide. An area of focus for our editors will be to ensure that items are free of problems or issues that may limit item accessibility for students. Editors will collaborate with content specialists when necessary to resolve queries.

Items will also undergo fact checking when appropriate. Content specialists scrutinize factual material presented in stimuli and items upon initial review, but independent fact-checking by editors provides yet another opportunity to guarantee the accuracy of all material presented on Nebraska's assessments.

NDE Pre-Review

NWEA will post 25 percent of stimuli and items for NDE review as part of the item development process. This will occur prior to stakeholder item content and bias review meetings. Nebraska's feedback at this stage will allow NWEA to make sure that item development is meeting the needs of Nebraska and to make adjustments as appropriate to material that will be presented to stakeholders.

Item Content and Bias Review Meetings

To make sure that all stimuli and items are appropriate for Nebraska Statewide Assessments, it is critical that stakeholders review all material. After material travels through the NWEA internal review processes, we will bring educators together to review items for content validity and an absence of bias and sensitivity issues. Giving stakeholders the opportunity to review and inform items guarantees that the material reaching students is appropriate and meaningful. Exposure to content review is extremely valuable to state educators as well as to the community members who serve as bias and sensitivity experts.

Similarly, the better understanding of bias and sensitivity issues is particularly important for educators to consider in their classroom work and environment.

NWEA will train the stakeholders participating in content and bias review. For example, participants will learn to review items for qualities including (but not limited to):

- Proper alignment and cognitive complexity
- Clear and concise wording
- Presence of a correct answer
- Diversity of background and cultural representation
- Avoidance of stereotypes
- Avoidance of topics that may cause discomfort to test takers
- Stimuli and item accessibility, and adherence to universal design

During content and bias review, NWEA facilitators will help manage time and keep discussions productive. NWEA facilitators will also track committee decisions and recommendations and present this information to Nebraska. Meeting assumptions and details are provided in Table 14 in Section A1.h.

Test Construction

NWEA will collaborate with Nebraska to develop test specifications at the beginning of the contract to provide a smooth transition between previous and new assessments. Test specifications will include the blueprint, required accommodations for the overall test, and documentation of decisions needed to create the operational and field-test item banks. These specifications, in addition to the item bank analysis, will also inform the item development plan. Test specifications will be reviewed by NWEA content and psychometric staff and Nebraska staff each year prior to development and test construction.

Alternate Assessment in Science

DLM science assessments use EEs in science in grade bands in 3 – 5, 6 – 8 and high school, and achievement standards have been set for specific grades including grades 5, 8, and 11. The DLM science Essential Elements (EE) are aligned to the Next Generation Science Standards, and the grade-level expectations in the Essential Elements reflect multi-dimensional science learning. Although Nebraska is transitioning from legacy standards to new standards, NWEA proposes the use of DLM science assessments beginning in spring 2018. A staff-generated crosswalk of the DLM Essential Elements to the Nebraska State Standards of Science. DLM would provide materials and support to an NDE-hired third party that will conduct an independent alignment study on the relationship of the science EEs to the Nebraska College and Career Ready Standards of Science. An external alignment study providing evidence of links between the EEs, NGSS and DLM assessments was conducted for the consortium in 2016-2017. After evaluating the links between DLM EEs and the NCCRSS, NDE will be able to rely on the consortium-level alignment evidence of the relationships between the DLM Essential Elements, linkage levels, and assessments.

f. NDE requires delivery of alternate statewide assessments in English Language Arts and mathematics for grades 3-8 & 11 and science for grades 5, 8, & 11. NDE is open to an innovative technology approach to assessing students with the most significant cognitive disabilities.

Dynamic Learning Maps provides alternate assessments for students with the most significant cognitive disabilities in grades 3 – 8 and in high school in English language arts and mathematics and in grade bands for science including 3 – 5, 6 – 8, and high school. Nebraska will be able to administer the high school assessments in grade 11 for all three subjects. The DLM system relies on an innovative, learning map model-based approach to measuring student learning over time. In the proposed integrated assessment model, Nebraska teachers will have access to a cutting-edge, online assessment system that maps student learning throughout the year in English language arts and mathematics. The spring assessment window collects additional information using adaptive, online delivery of testlets that measure student knowledge skills and understanding in English language arts, mathematics and science.

g. Nebraska's assessments must measure the depth and breadth of Nebraska's standards, demonstrating a balance of content emphasis and cognitive complexity through all depths of knowledge levels. If an off-the-shelf test is proposed, the proposal must provide evidence of alignment to Nebraska state standards that has been completed by using non-Contractor consultants or a non-Contractor organization, that includes evidence of the alignment of forms of the assessment in terms of distribution of content (i.e. knowledge and cognitive process) across the full range of the State's grade-level content standards. If a custom or blended assessment is proposed to be developed, the assessment must be aligned to Nebraska's standards and the Contractor will be responsible for providing an independent alignment study and review in the first year of implementation. Nebraska does not intend at this time to assess the listening and speaking standards of ELA.

NWEA is proposing a custom assessment for the summative assessments for Nebraska and will work with the NDE to meet the requirements of an independent alignment study. Our staff will prepare materials to support the contractor that the NDE selects for this study. Once completed, NWEA content staff will collaborate with the NDE in order to determine the outcomes of the alignment study.

Valid interpretations of student performance can only be made when items are aligned with targeted skills, standards, and expected performance. We have more than three decades of experience aligning assessments to specific state standards, using an evidence-based process. We start with a thorough review of the Nebraska College and Career Ready Standards and alignment criteria documents, which describe skills to be measured and expected level of performance.

Each item is reviewed by content specialists for alignment to the Nebraska standard being assessed, as well as the targeted DOK and cognitive demand. Content specialists also review the items for adherence to the item specifications and aligned reporting categories.

The Nebraska Statewide Assessments program must meet the depth and rigor of your standards. To ensure this, we will partner with the NDE to select item reviewers, including Nebraska teachers.

By combining Nebraska's educators' expertise with our depth of experience, independent alignment studies, and reviews throughout the assessment development process, NDE will have strong evidence of alignment for material that we provide for the Nebraska assessments.

Alternate Assessment Alignment to Standards

DLM blueprints cover a broad range of content connected to college and career ready standards. However, the NDE requires additional evidence of alignment between Nebraska's content standards and the DLM Essential Elements. DLM will provide materials and support to a third-party vendor hired by the NDE to conduct an external alignment study focused on the relationship between Nebraska's College and Career Ready Standards for English language arts and mathematics and the Essential Elements. Additionally, the relationship between the Nebraska College and Career Ready Standards for Science and the Essential Elements will be evaluated, pending the Nebraska standards' completion in 2017. Results will inform the degree to which the DLM Essential Elements align to the Nebraska Standards.

On behalf of the consortium, independent alignment studies have already been conducted on the relationships between the DLM Essential Elements, learning maps in English language arts and mathematics (and linkage levels in science), and the assessments. Evidence addressed both content and cognitive processes. Copies of the full technical reports from those alignment studies would be provided to the NDE upon award.

h. If the proposal is not for an off-the-shelf test, item development for new assessments will continue to involve Nebraska educators.

The solution we propose for general assessments for Nebraska will rely heavily upon Nebraska educator involvement. Nebraska teachers know best what is accurately reflective of classroom learning and meaningful to the student population. They work daily with students and provide the best gauge as to whether assessment material is appropriate for Nebraska students. Therefore, we plan to engage Nebraska educators in item writing for the assessments. With their deep knowledge of the Nebraska Content Area Standards, Nebraska teachers will provide the sharpest insight as to what questions students should be asked at each grade in each subject, and how to create items that span a range of

complexity and standards. We plan to draw educators from a wide range of districts across the state in order to ensure the best representation of student knowledge and populations for the assessment.

The knowledge and expertise of Nebraska educators will blend seamlessly with the expertise NWEA will provide in the item-writing process. While we know that Nebraska has numerous educators who have participated in the item writing process in the past, we will continue to make sure we provide teachers with proper levels of support, guidance, and feedback. We will make sure that Nebraska educators continue to be exposed to the most current principles and philosophies around best practices in item writing, and we will provide specific and targeted feedback during workshops that will allow educators to continue their professional development in this area. While the majority of time in the workshops will be devoted to the actual item writing process, we will designate time each day to review as a group items that have been written that day, and brainstorm whether changes or refinements are needed and how they should be applied.

Many of our NWEA content specialists have experience with teacher-written items, and we look forward to meeting face-to-face with Nebraska educators to produce material that will result in a truly collaborative assessment for the state of Nebraska. Our content specialists with experience in teacher-written items recommend that we populate committees with a mixture of experienced teacher item writers and those who have never participated in a workshop of this nature. We will provide coaching and support to all participants, while the experienced teacher item writers will also be able to offer coaching and pointers to new writers. We understand that the workshops in which Nebraska teachers create assessment material are critical in the development of a greater level of teacher enthusiasm about the assessments, and the experience provides an opportunity to promote a better understanding of the goals of the assessment through schools and communities across the state.

i. If an off-the-shelf solution is being proposed, the proposal shall include ways in which the Contractor plans to include Nebraska educators in aspects of the process of providing the state summative tests.

Although DLM alternate assessments are treated as an off-the-shelf test for this proposal, there are several ways in which Nebraska educators may join those from other consortium states to contribute to the ongoing development of the system. Educators from consortium states are often invited to participate in item writing, item review, and operational studies, and asked to provide feedback on new ideas. Regardless of consortium involvement, Nebraska educators would specifically be recruited as panelists for the standards validation process described in Section I.

j. The proposal shall describe a process for ensuring that all test items are linked to the Nebraska State Standards or provide evidence of alignment to sufficient number of Nebraska state standards, or provide plan for completing alignment. The current Tables of Specifications are available in the Technical Report available on the Assessment website at: https://www.education.ne.gov/Assessment/NeSA_Technical_Reports.html

Standards

-September 15, 2014 the Nebraska State Board of Education adopted Nebraska's College and Career Ready Standards for English Language Arts.

-On September 4, 2015, the Nebraska State Board of Education adopted Nebraska's College and Career Ready Standards for Mathematics..

- In 2010, the Nebraska State Board of Education adopted the Nebraska Science Standards.

Standards review will be the first content development step of Nebraska's contract with NWEA. As part of the standards review, the NWEA content specialists on the Nebraska program will work toward an understanding of how NDE interprets the standards and how the interpretations may affect development. If item and passage specifications are available, we will study these documents to make sure we understand the various nuances of how they should be interpreted for assessments. If these documents do not exist, we will work closely with NDE to develop them. Our content specialists will take particular note of content standards versus process standards and then determine primary performance expectations that can be covered from each standard.

Coordinating overall passage and item specifications as well as the program's unique qualities in a Nebraska-specific Style Guide will be critically important to the program's success. A solid set of item specifications will make it easier to create content that aligns to Nebraska standards at the depth and breadth required. Each standard will be examined and unpacked. These specifications will drive which item types and even which stimulus types can be used to appropriately measure the standards.

The alignment process is another area in which we will work closely with the NDE. After any existing items are imported into the NWEA item management system, we will use those that we and the Nebraska agree upon. In this way the NDE staff can feel confident that their assessment will rigorously represent the appropriate range of content, and NWEA can also determine the most urgent needs for development based on gaps in the bank. The close analysis of existing items will also help our content specialists better understand the Nebraska standards and development targets for new development.

Our plan to involve Nebraska's educators throughout the development cycle will help us to develop and maintain items that align strongly to Nebraska's Content Standards. From item writing to item content and bias review, educators will be called upon to confirm whether items are aligned accurately.

Our ability to ensure strong alignment to Nebraska's content standards will be bolstered tremendously by our collaborative work with the NDE and Nebraska's educators on the development of ALDs for Science during standard setting. Under the leadership of Dr. Christina Schneider, NWEA focuses on the standards down to their Achievement Level Descriptors (ALDs) to align content more fully to understand where a student's learning is within a standard. ALDs describe a student's level of achievement (e.g., Basic, Proficient, Advanced) on a large-scale assessment[8]. ALDs are created to guide:

- Item writing
- Cut scores
- Score interpretation on student reports

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[8] Lewis, D. M. & Green, D. R. (1997, June). The validity of performance level descriptors. Paper presented at the 1997 Council of Chief State School Officers National Conference on Large Scale Assessments, Colorado Springs, Co.; Perie, M. (2008), A Guide to Understanding and Developing Performance-Level Descriptors. Educational Measurement: Issues and Practice, 27: 15–29.

- Teacher understanding of expectations for the progressions of student performance at each achievement level

Schneider and Egan[9] recommend that these ALDs be developed sequentially so that the ALDs are interrelated, consistent with the ALD development proposed by Egan, Schneider, and Ferrara[10].

The ALD development framework enables valid inferences about student content area knowledge and skill in relation to a state's content standards measured on a large-scale assessment. The evidence documentation should be consistent with learning progressions so that teachers, item writers, and parents have an understanding regarding what student growth within the content area looks like, both within a single grade and across multiple grades.

As NWEA is proposing custom development for Nebraska's assessment, we will adhere to the requirement of the RFP to conduct an independent alignment study and review.

By combining Nebraska's educators' expertise with our depth of experience and the independent alignment study and review, NDE will have an abundance of documented proof of strong alignment for material that we develop for the Nebraska assessments. This strong alignment is critical to us as providers of quality assessments, and we look forward to partnering with NDE for all of these efforts.

Alignment Process for the Alternate Assessment

On behalf of the consortium, independent alignment studies have already been conducted on the relationships between the DLM Essential Elements, learning maps in English language arts and mathematics (and linkage levels in science), and the DLM alternate assessments. Evidence addressed both content and cognitive processes. Once the NDE-hired contractor completes an independent alignment study on the relationships between the DLM EEs and Nebraska's State Standards in all three subjects, the combined evidence from the reports will be used to provide evidence of alignment to a sufficient number of Nebraska state standards. Assuming the independent alignment study is complete by spring 2018, the combined evidence could be analyzed by end of summer 2018.

k. If items are to be written by Nebraska educators, the proposal should include the costs of the Contractor assistance in editing of test items. Nebraska would consider proposals that include Contractor supplied test items.

Once the item writing workshops with Nebraska educators are complete, our internal processes include reviews of all items by our experienced content specialists as well as other experts within NWEA. Even after the teacher workshops are complete, item development remains a collaborative effort that relies upon extensive quality checks before we deem an item ready to appear before students. Figure 29 displays our thorough item development review process.

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[9] Schneider, M.C., and K. Egan. 2014. "A Handbook for Creating Range and Target Performance Level Descriptors." NCIEA. Retrieved from http://www.nciea.org/publication_PDFs/Handbook%20091914.pdf
[10] Karla L. Egan, Steve Ferrara, Christina Schneider. Writing Performance Level Descriptors and Setting Performance Standards for Assessments of Modified Achievement Standards: The Role of Innovation and Importance of Following Conventional Practice, in Peabody Journal of Education 84(4):552-577 · October 2009

RIGOROUS ITEM DEVELOPMENT AND REVIEW

CREATION

NWEA content experts conduct multiple reviews to ensure the development of high-quality test items.

1 Item Specification Creation
Specifications provide guidance to item writers regarding the content, context, cognitive complexity, item format, and item asset.

2 Item Writing
NWEA will work with Nebraska teachers to write items for your statewide assessment program.

REVIEW

3 Permissions & Plagiarism
Items are first reviewed by acquisition and permissions specialists.

4 Content Validation
Two NWEA content specialists assign and review Depth of Knowledge (DOK) level and other content related metadata to the item, and perform a thorough content and alignment review.

5 Item Owner
A Content Specialist uses a detailed Item Review Checklist to confirm that the item is instructionally relevant, important and aligned, has clear face validity, is free of sensitivity and fairness issues, and is sound in terms of item construction. Item writers then revise the item as needed based on established criteria.

6 Content Confirmation
A second content review is performed by a different Content Specialist from the same subject area. This second reviewer attends to the overall editorial and pedagogical integrity of the item using the Item Review Checklist, and validates the alignment and cognitive demand designations. The Content Specialist also verifies that the fields have been set appropriately in the item management system to ensure that the item is ready for field-testing.

7 Item Quality
Each item goes through an item publishing quality review where NWEA Item Publishing Specialists perform:
· A thorough copy edit
· A review to ensure the item will properly display in all supported browsers
· A formatting and style review to ensure item consistency
· An accessibility review to add alternative language text to item elements

TECH REVIEW

8 Copy Edit
The copyeditor checks each item's syntax, grammar, usage, spelling, and punctuation to ensure item quality.

9 Metadata
Item Publishing Specialist make sure the item metadata is correct so that test filters work correctly.

10 Accessibility
Item Publishing specialists perform an accessibility review to create image descriptions when necessary to ensure that NWEA items are accessible to all students. Image description may allow students who use refreshable braille and/or screen readers to answer questions that would otherwise be inaccessible.

11 Browser Validation
Item Publishing associates ensure that items appear correctly in all NWEA-supported browsers.

12 Field Testing
Next, we embed items in the MAP system for field-testing. Our item quality review process provides a consistent system for monitoring the validity, reliability, and relevance of items in the MAP item bank.

Successfully calibrated items are added to operational item banks

Figure 29: Item Development and Review Process. NWEA content experts employ a comprehensive review cycle for all test content.

Feedback from NDE is critical in the development process, as it will allow us to continue to hone the quality of the material we develop. NDE will have opportunities to review items and provide feedback to NWEA regarding any refinements that need to be made prior to testing.

An exhaustive review by our Editorial team is a critical part in our ability to provide quality items for the Nebraska assessment. Our editors review all material for clarity as well as to make sure the items contain appropriate and accurate language for the grade level. Our editors will use checklists to review items, and they will consult with NWEA content specialists to resolve any queries they may have about the material. Once our editors complete their review, the assigned content specialists will review and revise the items based on the editorial feedback.

In addition to editorial review, NWEA will require that research librarians review items for which such a review is appropriate (i.e., items involving fact-based material, historical references, scientific data, etc.). We believe it is of the utmost importance to provide material for the Nebraska assessment that is accurate, verifiable, and defensible; our research librarian review is critical to help us do this. While our content specialists are experts in their particular subject areas, we rely upon research librarians to verify and confirm sources provided by our content team.

While the expertise of Nebraska teachers will help us potentially avoid many bias, sensitivity, and fairness issues in newly developed items, we will still have all items reviewed in order to make sure the items are appropriate for all test-takers. Our internal review for bias, sensitivity, and fairness will utilize a checklist of topics that need to be avoided for Nebraska's assessments, as well as rely upon best practices knowledge from our team.

All items will also be reviewed for adherence to principles of Universal Design. While we will guide teacher item writers as much as possible about Universal Design, we still apply a review internally to make sure the items are suitable. For the delivery of online material, this includes a check for adherence to accessibility requirements. These protocols include (but are not limited to) verifying that items are accessible for the widest range of students possible, avoid potential bias, and are good candidates for accommodations such as Braille and large-print.

It is most likely clear, due to the numerous "eyes" that will be on all Nebraska material, that NWEA believes all material for Nebraska's assessments must be reviewed many times, and by individuals with different areas of expertise. It is critical to our core beliefs that we do our utmost to deliver material to Nebraska that is of the highest quality possible, and material that is accessible to the widest range of students.

Item Writing for Alternate Assessments

Assuming Nebraska joins the DLM consortium, Nebraska educators would be invited to serve as item writers. All item writing costs are covered by the consortium and no additional costs would be required for NDE.

We recognize that the successful integration of any external data and content to an existing system is key. Items that are Question and Test Interoperability (QTI) 2.1 compliant can be integrated into our systems. However, we also know that even fully compliant items vary in their ease and completion of the conversion. For example, we may consider items by technology type and address each batch in a manner that will best accomplish our goals. Our approach will take all of our experience in this area into account when we finalize our process for Nebraska. We will work with NDE to ensure that the integration of content from external item banks results in seamless item curation, test delivery, presentation of items to students, including quality assurance on how items are rendered as well as valid response capture and scoring. Costs for this effort have been included in our separate Cost Proposal.

Alternate Assessment Item Conversion

Although DLM assessments are treated as an off-the-shelf test for this proposal, there are several ways in which Nebraska educators may join those from other consortium states to contribute to the ongoing development of the system. Educators from consortium states are often invited to participate in item writing, item review, and operational studies, and asked to provide feedback on new ideas. Nebraska educators would also be eligible to serve as panelists for future alignment studies on behalf of the DLM consortium.

m. If the proposal is designed for Nebraska educators to write items, the proposal budget should include a minimum of ten (10) reading passages per grade each year supplied by the Contractor for use on the ELA assessment. NDE will select and pay only for passages used. The proposal must include the cost per passage as well as the total cost. The proposal must identify if passages are purchased or original (Contractor developed). The Contractor is responsible for securing all permissions and copyrights for the passages.

The foundation of a meaningful English language arts test relies heavily upon the mindful development of Reading passages. To that end, NWEA will develop or acquire passages across genres that reflect a range of text complexity. A passage's appropriateness will be measured by both quantitative and qualitative analyses. NWEA will work closely with NDE to make sure the appropriate specifications documents are in place to guide and inform passage development.

During passage development and acquisition, special consideration will be given to topics that are of particular interest and relevance to NDE, or, conversely, topics to avoid due to potential sensitivity issues. Another critical issue to consider during passage development is the reading load for the test takers.

Our goal at NWEA is to find passages with a range of lengths that can be distributed across test forms in a way that does not put an undue burden on the student. Additionally, a wide range of texts that demonstrate varying degrees of complexity will allow students to engage with texts, particularly the use and analysis of textual evidence, in a manner that better demonstrates college and career readiness.

Criteria for passage use and appropriateness include (but are not limited to):
- The content is engaging, or worthy of reading and careful study.

- The content of the stimulus supports the development of items that allow for a range of cognitive complexity to drive student engagement and deep understanding.
- The content of the stimulus will allow students to use evidence to support analyses of their answer.
- The content of the stimulus will support the development of items that assess analytical and technical reading.

To best meet the passage needs of the Nebraska assessment, we recommend a combination of public domain and commissioned passages. We propose 40 percent Public Domain and 60 percent commissioned passages. While public domain passages are likely to be more authentic in terms of what is presented in Nebraska's classrooms and most reflective of college and career material, the use of commissioned passages will allow us to create logical passage pairings and also to create items across the full spectrum of standards and complexity levels. In addition, using commissioned passages in our solution allows us to maintain appropriate readability levels for the lower grades, which is not always possible with public domain passages. Another benefit is that commissioned passages will allow us to create passages about topics requested specifically by NDE.

For the public domain passages, NWEA will search for texts that are not heavily exposed or cliché for Nebraska. Many of the passages presented to NDE will undergo fact-checking at NWEA. Obvious exceptions include fictional passages with no reference to historical events (for example) and most poems. For commissioned passages, the authors will be required to provide source material to NWEA that will then be verified by our internal team. Commissioned passages will also undergo a plagiarism check in order to make sure all material is truly original and unique for Nebraska's assessment. NWEA will transfer ownership of commissioned passages to Nebraska through a contractual arrangement.

With each passage we provide for NDE's consideration, we will include readability information that is both quantitative and qualitative in nature. For quantitative analysis, we will provide the Lexile® rating of the passage in question, along with any other quantitative measure specifically requested by NDE. For qualitative analysis, we will complete the NWEA Text Complexity Qualitative Rubric for each passage. Some of the aspects of a passage measured by the NWEA Text Complexity Qualitative Rubric include:

- Text Structure
- Language Features
- Meaning and Purpose
- Knowledge Demands
- Potential Bias and Sensitivity Concerns

To meet the proposed design of the Nebraska assessments, NWEA proposes the following passage development in Year One of the contract in Table 28:

Table 28: Year One Passage Development

Grade Level	Passages to be developed
3	30
4	30
5	30
6	30
7	30
8	30

Overage is set a little higher for Year One as our staff learn Nebraska's specific preferences. It is planned for a minimum of twenty passages to survive the development and both the content and bias review processes in order to have items developed.

In each of the four remaining development cycles, NWEA proposes developing the following number of passages, shown in Table 29.

Table 29: Years 2 – 4 Passage Development

Grade Level	Passages to be developed
3	24
4	24
5	24
6	24
7	24
8	24

n. The proposal budget shall include costs for providing Spanish versions of online and paper/pencil tests for general assessments in mathematics and science and Spanish directions for online and paper/pencil general assessments in English Language Arts. It shall include an auditory version of the translated Spanish paper/pencil tests.

NWEA will work with a translator to provide Spanish versions of online and paper/pencil tests for the general mathematics and science assessments, and the directions for the general English language arts assessment. Items will be sent to our translation subcontractor, Responsive Translation, for translation to Spanish. Not every item will receive a literal translation but rather may receive a transadaptation, which combines translation with adaptations, to fully capture the meaning of each assessment item in Spanish. NWEA will provide an auditory version (CDs) of the translated Spanish paper/pencil tests. We have provided costs for Spanish versions of the assessments in our Cost Proposal.

Spanish Translations of Alternate Assessment

Students with the most significant cognitive disabilities who are also English learners are a very small and diverse population, whose language acquisition may be complicated by limited expressive communication. DLM assessments do not have Spanish translated forms. However, test administrators may provide language translation support during the assessment. Guidance on this process is provided in the Test Administration Manual and on Testlet Information Pages. There are no additional costs.

o. Items to be field tested are to be embedded in the annual assessments for both general and alternate assessments. NDE is open to an innovative approach to field-test items with Nebraska students for increased efficiency and decreased test time. Or the proposal must include the methodology of field-testing that shows field-testing of items is accomplished with a student group representative of Nebraska students.

Field testing of assessment items for use in future assessments to determine what a child knows and can do is an important part of assessment development. In an effort to field test as many items as possible with the operational assessment, we propose embedding and adaptively administering field test items for the online test only in Year One. Starting in Year Two, we will field test items in both online and paper/pencil assessments, as appropriate. Specifically, we will incorporate field test item needs as part of the adaptive engine's constraints to ensure ample field test exposure for successful calibration into the operational item bank. It is imperative that educators review all items for content alignment and to ensure items are free from bias/sensitivity ahead of exposure on student assessments. These content and bias meetings will occur ahead of test construction to ensure Nebraska educators and the NDE have opportunities to verify the appropriateness of the item content.

Following administration, both classical and item response theory indices will be calculated for each item. In Section G.3.a., we will detail the data analyses conducted on all field test items. Items that do not meet certain statistical parameters, as agreed upon by NWEA and the NDE, will be flagged for educator review during data review meetings to be held ahead of the following year's test construction preparation. Following reconciliation between NWEA and NDE, items will be incorporated into the operational item bank for future administrations.

Alternate Assessment Field Testing

Field tests are embedded each year in the instructionally embedded window and the spring window according to plans developed in consultation with the consortium governance board. Nebraska may decide on a year-by-year basis to opt into field testing in the spring window in which students take an additional testlet in one or more subjects. Field tests are administered to evaluate item quality for Essential Elements assessed at each grade level for English language arts, mathematics, and science. Testlets are made available at the different linkage levels for each Essential Element. An annual report on each year's field testing includes demographic characteristics of students who participate.

p. The system must provide a practice test for each subject and grade level. Practice tests should be available online through the online test engine and in paper/pencil format. Paper/pencil practice tests should be made available via a website or download procedure. The proposal should describe the process for meeting these requirements. Practice tests should be available in accommodated forms, such as Braille and large print.

NWEA will work closely with NDE to develop appropriate stimuli and items for the practice tests. NWEA believes that material developed for practice tests must match operational material as closely as

possible in terms of covering a range of standards at varying levels of complexity across the representative item types.

NWEA proposes that the practice tests for English language arts, mathematics, and science are separated by content and by grade. Each practice test will consist of twenty items that draw upon a range of standards and complexity levels as appropriate for the grade and content area in question. Practice tests will be delivered through the online test engine. Making the practice tests available through the online test engine provides students yet another opportunity to engage with and develop greater comfort with the online testing platform, including interacting with accessibility and accommodation tools as needed, prior to the operational testing. NWEA will work with the NDE and finalize the approach to how these practice tests can be made available to students and educators, aligned to the NDE's needs and testing policies.

Print-ready PDF versions of the practice tests in English will be produced and provided to NDE for posting for users to print. Print-ready PDF versions of the practice tests in Spanish for mathematics and science, plus Spanish translated instructions for English language arts will be produced and provided to NDE for posting for users to print. Braille and large-print practice tests will be available for ordering and shipping.

The format and layout of the paper/pencil test booklets will meet the requirements of the style guide developed and agreed upon by NDE and NWEA. Once all of the design elements are incorporated into test materials templates, reviewed, and approved by NDE, the templates will be used to efficiently create multiple similar documents for each grade level. Each grade level will be distinguished by different color-coded covers and spine markers.

Practice tests at all subjects and grade levels also will be provided in Braille format by using a professional Braille service. Printed hardcopy Braille documents will be prepared and inventoried by EDS, and will be shipped to districts upon request.

Practice tests will also be provided in large-print format. Large-print documents will be provided as both hard copy printed documents and as PDF files. PDF documents can be downloaded by districts and used either on-screen to enlarge to very large-sized fonts, or printed locally by districts onto large format paper. Printed hard copy large-print documents will be shipped to districts upon request. Additional instructions and answer documents will be provided with both Braille and large-print document versions.

All documents will be quality checked by content staff and document editors using carefully developed QC checklists. Multiple staff will review each document against the checklist, as well as read it for style, grammar, content, and clarity prior to providing a draft for formal review and approval by NDE.

In addition, the documents will undergo a "three-way" check, where staff will take the exam at each grade level to verify that the Administrator manuals, test booklets, and scannable answer documents all correspond. Once these quality checks are complete, all draft documents will undergo one more formal review before final approval.

Alternate Assessment Practice Test

Practice activities are provided for teachers and students to allow them to become familiar with the test delivery environment, item types and navigation. Released testlets are available for each grade or grade band in each subject, for a variety of Essential Elements and linkage levels.

The KITE client includes a practice area that is separate from the section where tests are delivered. The DLM consortium provides demo student logins in the Test Administration Manual. These logins allow a student access to practice activities so that they may become familiar with the technology prior to assessment. The practice activities are tutorials on how to navigate the system, use the available features, record and change their answers, revisit previously answered items, and finish a test. Along with released DLM testlets available in the same practice area, the practice activities also provide opportunities for students to try out various accessibility supports. Each demo student account has different PNP (Access) profile options selected. The Accessibility Manual also encourages use of these demo accounts to evaluate accessibility supports prior to testing.

q. The proposal is to include samples or access to samples of test items for English Language Arts, mathematics, and science that demonstrate the high quality of items the Contractor is able to provide.

Please see Appendix Q, *Sample Items,* in our Confidential and Proprietary Volume for samples of test items for the general assessment in English language arts, mathematics, and science.

Sample DLM testlets in English language arts, mathematics, and science are provided in Appendix R.

2. Item Bank For General And Alternate Assessments if Contractor is not Proposing a 100% Off-the-Shelf Product

a. The Contractor will accept, from NDE, items and tasks for the item bank. The Contractor's system must be able to accept the items from the current item bank. The proposal must identify the format for accepting test items and tasks. The proposal must describe a process to ensure that all assessments generated from the item bank are field tested, equated, and validated either individually or as part of a single test.

We recognize that the successful integration of any external data and content to an existing system is key. Items that are Question and Test Interoperability (QTI) 2.1 compliant can be integrated into our systems. However, we also know that even fully compliant items vary in their ease and completion of the conversion. For example, we may consider items by technology type and address each batch in a manner that will best accomplish our goals. Our approach will take all of our experience in this area into account when we finalize our process for Nebraska. We will work with NDE to ensure that the integration of content from external item banks results in seamless item curation, test delivery, presentation of items to students, including quality assurance on how items are rendered as well as valid response capture and scoring. Costs for this effort have been included in our Cost Proposal.

b. The system must provide NDE electronic access to each item (text and graphics) as well as pertinent information for each item, including history (placement, item statistics for all administrations of the item, editing, and context). The proposal should describe the process for meeting these requirements.

Details of our NWEA Item Management system are provided in our Confidential and Proprietary Volume. Figures 30, 31, 32, and 33, are included in the Confidential and Proprietary Volume.

3. Paper/Pencil Assessments for General Education and Alternate Assessments

Paper/pencil assessments for the general English Language Arts, Mathematics, and Science will be provided only for students with accommodations as English Language Learners or as identified on an Individual Education Plan (IEP) or 504 plan. All Alternate English Language Arts, Mathematics, and Science assessments are currently paper booklets. NDE is open to an innovative technology approach to assessing students with the most significant cognitive disabilities. If proposing online solution for alternate assessments, requirements of paper/pencil below may not apply.

a. The format and layout of the paper/pencil test booklets will meet the requirements of a style guide agreed to by the NDE and the Contractor. The proposal budget should include costs to support a one-day style guide meeting at NDE if Nebraska educators are writing items. A central component of the style guide will be the application of "universal design" principles and procedures in areas such as the design and layout of the booklet, use of graphics, and format of directions to ensure access by the broadest possible population of students. The proposal must address methods and procedures used to inform test booklet design. Costs in the budget should be provided for all black/white printed tests and instructions with color-coded covers. Use of colors within the assessments may be included as an optional cost.

The NDE and Nebraska educators are committed to providing students with IEPs or 504 plans with a fair assessment experience. NWEA content experts and researchers have extensive experience with accommodations and universal design, and will work with the NDE to meet these commitments. NWEA content specialists will work with the NDE to document style guidelines for the paper and pencil test forms. We will review any existing Nebraska style guides and base our first draft on that guide and add to it as necessary to meet the needs of Nebraska. We will document all of the agreed upon styles in a style guide that will contain both online and paper requirements. Each style entry will refer to paper only, online only, or both forms. Once baselined, this style guide will be reviewed at the beginning of each year's development cycle for revisions.

The format and layout of the paper/pencil test booklets will meet the requirements of the style guide developed and agreed upon by the NDE and NWEA. Additionally, NWEA will adhere to UDL requirements as discussed in Section A.6.b for all aspects of the development of the paper and pencil forms. These requirements will be incorporated into the style guide to ensure compliance in the development of paper and pencil forms.

Other than Braille and large-print booklets, paper/pencil test booklets will be printed on 11 x 17-inch paper, folded and saddle-stitched to form an 8.5-by-11-inch test booklet. Printing will be in black ink, and booklet covers and instruction documents will be color coded to clearly distinguish each grade level.

All documents will be quality checked by content staff and document editors using established and proven QC checklists. Multiple staff will review each document against the checklist, as well as read it for style, grammar, content, and clarity prior to providing a draft for formal review and approval by NDE.

In addition, the documents will undergo a "three-way" check, where staff will take the exam at each grade level to verify that the Administrator manuals, test booklets, and scannable answer documents all correspond. Once these quality checks are complete, all draft documents will undergo one more formal review before final approval.

Alternate Assessments Based on Universal Design

DLM alternate assessments were designed based on principles of Universal Design for Learning, and intentionally created to be accessible without requiring a paper form. Students taking computer-administered testlets may use a variety of accessibility supports provided inside and outside the KITE system to facilitate their engagement with the content. Students also have the flexibility to use their available response modes to indicate their responses to items, even if they do not use a standard mouse and keyboard. Teacher-administered testlets involve interaction between the teacher and student and answer options are often objects or response cards. Accessibility supports and options for flexible administration are routinely evaluated for their effectiveness in serving the diverse group of students who take DLM assessments.

4. Content of Test Forms for General and Alternate Assessments

a. If Contractor proposes an assessment system developed with educator support, the Contractor will support meetings at NDE of the NDE management team and the Contractor to select items to be included on test forms for both the general and alternate assessments in English Language Arts, Mathematics, and Science. The proposal budget should include costs to support meetings in NDE for each subject area for general and alternate assessments.

We are proposing an assessment system developed with the support of Nebraska educators. We will support meetings at NDE of the NDE management team and the NWEA project team as described in this requirement. Please see our response to Section A.1. for further details on these meetings, and see our Cost Proposal for costs.

b. The budget should include costs to develop an operational form per year per subject per grade. NDE agrees to use of a previous year's test instead of developing a breach form or if off-the-shelf propose a contingency plan.

NWEA is committed to creating a computer adaptive system which will create a new operational administration per year per subject per grade for each student test taker, and where a field test plan ensures increasing depth of the item pool each year. Because each student will see the pool of items adapted individually for them, it will limit exposure of the full item bank and the impact of any security breach. We will be using the previous year's paper and pencil test as the breach form. NWEA has assumed use of the spring 2017 operational forms as the breach form for Year One. Costs to cover this work have been included in the Cost Proposal, with the exception of a Braille breach form, which has not been budgeted due to the low counts, high cost to Braille, and the heavy teacher involvement in the administration.

Paper/Pencil Breach Form

To prepare for the possibility of a breach in the operational form of the test, NWEA will publish test booklet covers for the breach forms at each grade level. Breach form covers will include updated dates and other details related to the current edition, and correspond to the look-and-feel of the operational test forms (e.g., titles, markings, colors). Breach test forms will contain separate and unique security barcodes from the operational test forms in order to distinguish them and to enable EDS to account for these test materials upon their return.

NWEA will use the existing breach forms in their current file format to publish forms with new covers and to reflect any other design elements needed to update them for the current edition (e.g., headers and footers, security barcodes, etc.).

All documents will be quality checked by content staff and document editors using carefully developed QC checklists. Multiple staff will review each document against the checklist, as well as read it for style, grammar, content, and clarity prior to providing a draft for formal review and approval by NDE.

In addition, the documents will undergo a "three-way" check, where staff will take the exam at each grade level to verify that the Administrator manuals, test booklets, and scannable answer documents all correspond. Once these quality checks are complete, all draft documents will undergo one more formal review before final approval.

NWEA will retain these updated breach test forms on file for use in the event a breach form is needed. If needed, the breach paper/pencil test booklets will be printed on 11-by-17-inch paper, folded and saddle-stitched to form an 8.5-by-11-inch test booklet. Printing will be in black ink, and booklet covers and instruction documents will be color coded to clearly distinguish each grade level.

Alternate Assessments Breach Form

The DLM alternate assessment system does not have fixed forms. Each student takes a variety of testlets across instructionally embedded and spring windows, which means each student's test form is unique. The DLM consortium funds ongoing test development to deepen and replenish pools of available testlets across the Essential Elements and linkage levels. The instructionally embedded and spring windows also have separate testlet pools. Priorities for test development are proposed by DLM psychometricians and reviewed annually by the DLM TAC and DLM governance board.

c. The selection and ordering of items on the test forms, whether Nebraska educator developed or off-the-shelf will be based on appropriate psychometric procedures, must measure Nebraska State Standards, and meet the coverage requirements of USDE peer review. The proposal must include a description of the proposed process for item selection. The NDE will have final approval of the selection of items and test forms.

NWEA is proposing that the Nebraska assessments be adaptive to the extent possible. Hence, the algorithm for item selection will be developed in collaboration with the NDE to meet test specifications that take into account appropriate measure of the Nebraska State Standards, and provide evidence necessary for USDE peer review.

In adaptive testing, the algorithm programmed into the delivery engine is the key component. It is this algorithm that takes into account a variety of constraints, both statistical and non-statistical, when delivering the next item to the student. Examples of statistical constraints are target item information, whereas examples of non-statistical constraints are content specifications and blueprints, item format, and depth of knowledge. As it is imperative that test forms meet the same constraints across individual examinees, the selection of an item in a computer adaptive test needs to be done in a way to combine the objective of maximizing information with a strategy that can impose the same set of non-statistical specifications on the items selected for administration.

To that end, NWEA plans to use a more flexible form of the shadow test approach (STA) described in van der Linden and Reese (1998)[11]. STA is a mathematical programming method. It employs a constrained sequential optimization approach that treats test specifications as constraints that must be imposed on item selection. Unlike other item selection methods, the STA can guarantee perfect adherence to test specifications while providing accurate ability estimates. By leveraging a mathematical programming method which treats test specifications as constraints, along with desired guidelines, that are imposed on item selection during administration.

We will work with the NDE to review the item pools and selection constraints. We understand the need for NDE to approve these prior to administration.

Alternate Assessment Testlets

The DLM alternate assessment system does not have fixed forms. Each student takes a variety of testlets across instructionally embedded and spring windows, which means each student's test form is unique. Blueprint coverage analyses and the spring adaptive algorithm are designed to ensure all students meet coverage requirements. Psychometric evidence of the appropriateness of this design is ongoing. Examples of previous studies include the impact of initial linkage level assignment on outcomes and patterns of adaptation between testlets. Studies underway in 2016-2017 include analysis of teacher choice within the integrated model blueprint and fidelity of implementation of use of the instructionally embedded assessment system. All analyses are designed with input from the DLM Technical Advisory Committee and results shared with the consortium governance board. While DLM assessments are proposed as an off-the-shelf alternate assessment solution and NDE will not be able to approve individual items or forms, NDE would join other consortium member states in guiding future analysis and development to ensure the assessment system meets peer review requirements. Consortium-level peer review notes from the 2014-2015 assessment administration indicate that the DLM assessment system has met expectations for content coverage.

d. The proposal must describe an efficient procedure for cycles of item and test form review.

Passage and item reviews provide another opportunity in which to engage the expertise of Nebraska educators. NWEA proposes that committees of Nebraska educators and stakeholders participate in onsite meetings to review material for the assessments.

Nebraska educators will gather together to review passages selected and proposed by NWEA for the English language arts assessments. For the Public Domain passages, edits must be kept to a minimum to preserve the integrity of the material, but educators will be asked whether the material is appropriate for the proposed grade level in terms of readability and topic. For commissioned passages, educators will be allowed to make suggestions for edits that may create greater coherence or opportunities for items that will engage students. Passage review meetings also provide an important opportunity for NWEA content specialists to improve our understanding of topics that are of interest and relevance to Nebraska educators and students, as this is an expertise they can share with us. We will also use these

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[11] van der Linden, W. J., & Reese, L. M. (1998). A model for optimal constrained adaptive testing. Applied Psychological Measurement, 22, 259-270

meetings to learn more about the student population, topics that are considered boring or overused, and topics that may be well-received for future development cycles. After passages are reviewed by the educator committees, the results will be shared with NDE. NDE will review suggestions and provide their feedback to NWEA. Following NDE approval, NWEA will incorporate all approved edits. Passage review will be held each year for which NWEA is granted either the contract or contract extension(s) and new passages are developed.

As described in Section B.1.h, Nebraska educators will write the items for the assessments. Once the items are written and moved through our internal review processes (see Section B.1.k), items will be brought before committees of Nebraska educators and stakeholders. While Nebraska educators will have served as the originators of the items, NWEA believes educator involvement in item review will provide yet another opportunity to make sure that the material is appropriate for Nebraska's assessments, as well as a chance for further professional development for participants. Item review is also a stage at which we will engage community members who can help advise as to whether the items are as free as possible of potential bias, sensitivity, and fairness issues for Nebraska's students. Once committee members review all items, proposed edits will be shared with NDE for approval. Following NDE approval, NWEA will incorporate all approved edits. Item review will be held each year for which NWEA is granted either the contract or contract extension(s) and new items are developed.

For all review meetings with educators, NWEA will lead and provide materials for a training session to help inform participants. We will also provide checklists for participants to refer to during the reviews. Our experienced facilitators will answer questions from participants during the workshops and help to make sure that the reviews remain productive and engaging for all attendees.

Given that our proposal relies heavily on the use of teacher-written items, we will conform to the requirement to hold test construction meetings for each content area on-site with NDE. A detailed discussion of this process can be found in Section B.1.a. of this response.

Alternate Assessment Review Cycles

Each year more than 250 new testlets are developed in English language arts and mathematics. In 2016-2017 more than 100 new testlets are being developed in science. Every testlet goes through multiple rounds of review by DLM staff, internal content and accessibility specialists, editors, and educators in DLM states who served as external reviewers. The entire test development cycle, and steps within the cycle, have been refined over the years and reflect efficient, flexible procedures that support an annual development cycle. Once field tested, testlets are reviewed before being approved for operational use. Once testlets are operational, item stats are reviewed at the end of each school year. Testlets may be retired due to evidence about item functioning, the availability of additional high-quality testlets for that EE and linkage level, or due to exposure.

Because DLM's integrated assessment system has a flexible blueprint and a spring model in which testlet assignment is adaptive, test forms per se are not reviewed. However, DLM staff annually analyze students' blueprint coverage during the instructionally embedded window and monitor spring testlet delivery to ensure the adaptive algorithm is working as intended. Results are reported in annual technical documentation updates and to the consortium governance board.

5. Test Schedule for All Assessments

The proposal shall propose a schedule for conducting the general and alternate assessments in English Language Arts, Mathematics, and Science. Final approval of the schedule will be determined by NDE in cooperation with the Contractor.

The NWEA management team and staff will prepare a detailed project plan, a component of which is a project schedule, for NDE review and approval within two weeks of the execution of the contract. This document will likely serve as the basis for a significant portion of the kick-off meeting discussed in Section A.1.i. The project plan is intended to be a living document, subject to approved modification throughout the life of the program.

Alternate Assessments Timeline

The Dynamic Learning Maps Consortium provides two long testing windows. Each state has flexibility in setting its own window within the consortium window. Specific consortium-wide dates are set annually with input from the consortium governance board. The instructionally embedded window typically runs September through late February, although the instructionally embedded assessment management system in Educator Portal, called the Instructional Tools Interface, is typically closed during the December holiday. The consortium's spring window runs mid-March through early June. When states set their own spring window, testlets are not delivered until the state's own window opens and are unavailable as soon as the window closes.

Depending on NDE's decision about the testing schedule for general assessments, DLM may recommend an identical window for the spring summative assessment or a slightly longer window. Most states have a 4-6 week spring window that allows sufficient time for teachers to administer testlets 1:1 and to complete a student's testing over days or weeks.

Draft Timeline

Below in Table 30 is a draft timeline for the general and alternate assessments in English language arts, mathematics, science and alternate assessments for Year One of the contract. NWEA will work collaboratively with NDE to finalize milestone dates and build a detailed project plan for the assessments.

Table 30: Major Tasks for 2017-2018

Task	Proposed Date for General Assessments	Proposed Date for Alternate Assessments, if applicable
Contract Awarded	May 2017	May 2017
Contract Start Date	July 1, 2017	July 1, 2017
Kick-Off Meeting	July 2017	July 2017
Program Plan to NDE	July 2017	
Passage Writing	July 2017	
Passage Content and Bias Review Meeting (1st development cycle)	August 2017	

Table 30: Major Tasks for 2017-2018

Task	Proposed Date for General Assessments	Proposed Date for Alternate Assessments, if applicable
Item Writing Workshop (1st development cycle)	August 2017	
Import Items from NDE Item Bank	August 2017	
Create Ancillary Material	August 2017	
Fall Workshops – annual update to school and district personnel (face-to-face)	August/September 2017	September 2017
Interim System Training (recorded online training)	August/September 2017	
Interim - MAP Fall Testing	September 2017	
Pull Paper/Pencil Fixed Forms	September 2017	
Item Content Review Meeting (1st development cycle)	September 2017	Ongoing (Recruit Nebraska educators as early as September 2017)
Item Bias Review Meeting (1st development cycle)	September 2017	Ongoing (Recruit Nebraska educators as early as September 2017)
Test Construction Finalization for Spring 2018 (adaptive assessment)	November 2017	
Enrollment Training (recorded online training)	November 2017	August/September 2017 (includes fall workshops and consortium webinars).
Districts Order Paper/Pencil Test Materials	January 2018	
Ancillaries Available for Districts	January 2018	September 2017
Districts/Schools Complete Student Management Activities for Online Testing	January 2018	September 15, 2017 for instructionally embedded testing January 2018 for spring testing
Test Administration Workshop Training (live virtual training)	February 2018	September 2017
Practice Tests Available for Students (through Online Test Engine and PDF format)	February 2018	September 2017
Passage Content and Bias Review Meeting (2nd development cycle)	February 2018	
Paper/Pencil Materials Delivered to Schools	February 2018	

Table 30: Major Tasks for 2017-2018

Task	Proposed Date for General Assessments	Proposed Date for Alternate Assessments, if applicable
Item Writing Workshop (2nd development cycle)	March 2018	
Test Administration Window	March-May 2018	March – May 2018
Districts Return Paper/Pencil Material	May 2018	
Score Report Training (recorded online training)	June 2018	May 2018
Annual Debrief/Planning Meeting	June 2018	
Standard Setting Meeting	July 2018	June/July 2018
Data Review	July/August 2018	
Standard Setting Report to NDE	August/September 2018	July/August 2018
Spring 2018 Score Reports and Interpretive Guide Posted for Districts	August/September 2018	Customized Interpretive Guides June 2018 Score reports to be determined, depending on standard setting, August/September 2018
Technical Report to NDE	No later than 3 months following release of results	The DLM Consortium technical manual will be released approximately October 2018.

C. Delivery of Assessments

1. Preparation

a. NDE will provide the contact information for a District Assessment Coordinator (DAC) for each district. NDE will provide an updated database of districts, schools, and grade level counts. The proposal should identify the roles and responsibilities for district staff needed for implementing both paper/pencil and online assessments. These might include test coordinator, test administrator, technology coordinator, etc.

Our assessment system defines several static user roles, each with specific permissions that control levels of access to implementation, configuration, data management, testing, and reporting tasks. Each user has a unique user name to which one or multiple roles can be assigned. Table 31 summarizes available system roles. User roles for the alternate assessment are provided in Appendix KK.

Table 31: Nebraska User Roles

System Role	Typical Role	Permissions & Responsibilities
State Administrator	State-level administrator; anyone trusted to create and manage top-ranking roles at NDE, who interfaces with assessment vendor and makes decisions	- Super user access to all data, at both district and school level - Import district and school data, including enrollment data - Import student level data - Determine permissions and create user profiles, if needed - Manage test session information, viewing testing status - View and download reports
System Administrator	District-level administrator; anyone trusted to create and manage top-ranking roles, including assessment coordinator and data administrator	- Plan and oversee testing - Assign and communicate with team members - Determine permissions and create user profiles - Determine district-specific settings and configure the system - View and download reports
District Assessment Coordinator	District-level leader for assessments across Nebraska schools (for example, director of student assessment)	- Import student, instructor, and programs information from the student information system into the system - Modify incorrect student and instructor information and add missing information - Create user profiles - Modify incorrect test event data - Place orders for paper/pencil material
Data Administrator	District-level expert in student information system (for example, chief technology officer)	- Create test sessions in advance - Prepare computers before test sessions - Prepare students for tests - Start and supervise tests - Resolve technical difficulties during tests
Proctor	School staff member or volunteer	- View system reports at school, class, and student levels - Guide staff in using data effectively
Administrator	- Principals - Educators - School-Level Staff	- View system reports at class and student levels - Adjust instruction based on test results - Use instructional resources to adapt instruction to the level of individual students
Instructor	Teachers	- View reports at class and student levels - Adjust instruction based on test results - Use instructional resources to adapt instruction to the level of individual students

2. Student Identification and Tracking

a. The NDE will provide the Contractor with data files containing the NDE Student ID, demographic, grade level, school and program information prior to the assessments on a date agreed to by both the parties.

i. For paper/pencil tests, the Contractor will use this information to link assessments to the appropriate student information via the NDE Student ID (e.g. labels) and identify any costs.

ii. For online assessments, the Contractor will use this information to ensure appropriate student access and tracking of student results. The proposal should discuss methods that will be used to link online assessments to the appropriate student information via the NDE Student ID and identify any costs.

NWEA rostering systems are designed to identify and accept student enrollment data with the NDE student ID, which will be configured in our systems as the key match-ID for all subsequent test and reporting actions related to student data.

NWEA currently supports several options to roster student data, the details of which are further elaborated in the rostering process and serve to clarify how assessments are linked to appropriate student information. Nebraska schools already using NWEA assessments have processes in place for submitting student enrollment data into our current assessment system. Most Nebraska partners import a roster file for each testing term at the district level, and NWEA will be able to configure this import process to make NDE Student ID as a mandatory required field during rostering import. Similar business rules can be implemented with the state rostering import process as well.

For paper/pencil tests, the roster data uploaded with NDE Student ID will be used to generate student labels, and this NDE Student ID will be associated with the student data in all of the paper/pencil scanning and data integration processes.

Our scoring and reporting systems can be configured to meet the needs of states form merging online and paper-pencil tests, prior to generating score reports. NWEA will configure systems to use the unique State Student ID as the primary key and match/merge student responses from online and paper-pencil tests as needed, and create one master data source file (i.e., for scoring and assigning scale scores), prior to generating score reports.

Alternate Assessments Student Information and Tracking

DLM student enrollment records, including state student identifier, demographic information, grade level, school, and assessment program, are maintained in the Educator Portal. Nebraska students would be identified by their NDE Student ID as the unique identifier. All subsequent assessment management, administration, and score reporting is based on the unique student record. DLM will accept one file per year from NDE for the purpose of populating student records for the school year, prior to the start of testing in the fall. Educator Portal offers capability for district and school staff to manage changes in student enrollment data after the initial data load.

Print Report Data Files

NWEA will receive and prepare a District Assessment Coordinator (DAC) data file, which will include districts, schools, and grade level counts. NWEA will also receive and prepare a student demographics

data file. NWEA will provide both files to EDS, and EDS will load the information into its secure database to prepare the paper/pencil student pre-identification data. EDS will use the database of entities and student demographics to prepare a pre-identification data file.

The file will contain one record per student and include the district, school, and student demographic data to be used for pre-printing onto the scannable answer documents and for complete and accurate merging after scanning. Pre-identification data is used to link assessments to the appropriate student information via the NDE student ID.

Student demographic records will be sorted to ensure printed documents can easily be distributed to schools and classrooms (e.g., by district, school, grade, classroom, period, student last name). School, district, and student information will be printed in the appropriate fields on the scannable documents and then packaged by grade and school for inclusion in the school materials shipments. To quality check the printed student documents, EDS will prepare a summary listing of the number of student records within each school and district and compare that listing to the numbers of documents printed. EDS staff will also periodically review printed documents during the printing runs to look for accuracy in placement of text and bubbles and printing quality.

EDS will use the database to pre-print scannable school and classroom header sheets. The header sheets will be provided to schools in their materials shipments. Schools will use bubble grids on the header sheets to capture the counts of student answer documents being returned for scanning. EDS will use this information to reconcile school counts with processed counts. If there are differences in counts (i.e., number of documents schools indicate are included in the shipment and the number processed by EDS), EDS will recount the processed counts and report any discrepancies to NWEA for further follow up with the school.

Prior to using the file, EDS will provide quality checks on the entities file by reviewing a summary of the districts and schools and comparing it to a known list (e.g., from the NDE website). EDS will also provide the summary to NWEA for review and approval.

3. Paper/Pencil Tests

a. The proposal will describe a system for schools to order special test materials (e.g., large-print, Braille) and counts of paper/pencil needs prior to testing.

To collect and validate paper/pencil test materials order quantities, NWEA will implement EDS's proprietary internet-based software application called CORE (Custom Orders, Retrieval, Editing system). EDS has successfully implemented the CORE system for multiple large-scale assessments. Please refer to Appendix F, *Subcontractor Summary of Corporate Experience,* for additional details regarding EDS experience and customer base. CORE resides on EDS' secure, password-protected, encrypted (Secure Socket Layer certificate, or SSL) web server. Districts will access CORE's functionality by using a single sign-on through the NWEA portal. EDS and NWEA will ensure a seamless and accurate secure login for districts, so that user credentials customize access to data the system.

In preparation steps prior to implementation, EDS will customize the CORE modules with project-specific relevant data. EDS will:

■ Preload the Nebraska entities master file (i.e., file of district and school names, counts, etc.) provided by the NWEA/NDE and will check the file to be sure it is up to date and complete.

- Preload the specific list of test materials and ancillary materials to be ordered and shipped to districts and schools for both initial ordering and additional ordering.

- Program a custom ordering webpage to collect counts of students and test materials from districts.

- Prepare packing lists and materials lists based on orders from districts.

- Make any other modifications to accommodate the program requirements.

General assessment, large-print, and Braille document counts will all be ordered through the same interface. In the example below, districts enter the numbers of answer books and test books for each grade that will be testing. If enrollment counts or previous year's testing counts are available, EDS will pre-load the form to include those numbers so districts will only need to update them for the current testing population. This screen will be customized to collect the information needed for placing orders for the paper/pencil assessments as shown in Figure 34.

EDUCATIONAL DATA SYSTEMS
The student success company.

District Portal > Order Management > Initial Order Summary Matrix Form

Initial Order Summary Matrix Form

This Initial Order form is pre-populated with the number of students tested during the 2015–16 Edition Annual Assessment (AA) Window. Verify that the number in each cell reflects the approximate number of students to be tested during the 2016–17 Edition AA Window. If not, edit the quantities by typing over the numbers in the cells and/or entering quantities in empty cells. Enter the number of students to be tested; do not include the overage. The overage will be automatically calculated and provided in the shipment.

Gr = "Grade," AB = "Answer Books," and TB = "Test Books."

Regular Materials

School	Gr K AB	Gr 1 AB	Gr 2 AB	Gr 3 AB	Gr 3 TB	Gr 4 AB	Gr 4 TB	Gr 5 AB	Gr 5 TB	Gr 6 AB	Gr 6 TB	Gr 7 AB	Gr 7 TB	Gr 8 AB	Gr 8 TB	Gr 9 AB	Gr 9 TB	Gr 10 AB	Gr 10 TB	Gr 11 AB	Gr 11 TB	Gr 12 AB	Gr 12 TB
Amber Jr. High	5	5	5	10	10	8	8	15	15														
Azure High	11	1	1	1	1	1	1	1	1														
Lilac Elementary	5	5	5	5	5	5	5	5	5														
Persimmon High	8	7	6	5	4	3	3	2	2														

Large print and braille materials are available as single packages only and are not pre-populated. You must enter these as needed each year.

Large Print Materials [Hide Large Print Order Form]

School	Gr K	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8	Gr 9	Gr 10	Gr 11	Gr 12
Amber Jr. High				1									
Azure High					2								
Lilac Elementary	1		1		4								
Persimmon High				1									

Braille Materials [Hide Braille Order Form]

School	Gr K	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8	Gr 9	Gr 10	Gr 11	Gr 12
Amber Jr. High	1												
Azure High		1											
Lilac Elementary			1										
Persimmon High							1						

Totals

Gr K AB	Gr 1 AB	Gr 2 AB	Gr 3 AB	Gr 3 TB	Gr 4 AB	Gr 4 TB	Gr 5 AB	Gr 5 TB	Gr 6 AB	Gr 6 TB	Gr 7 AB	Gr 7 TB	Gr 8 AB	Gr 8 TB	Gr 9 AB	Gr 9 TB	Gr 10 AB	Gr 10 TB	Gr 11 AB	Gr 11 TB	Gr 12 AB	Gr 12 TB
31	19	19	23	20	19	17	27	23	1	0	0	0	0	0	0	0	0	0	0	0	0	0

Save Order	Cancel Edits & Return to Order Mgmt.	Submit Order
This option will save any changes made during this session. The Initial Order may be edited and saved as many times as needed throughout the Initial Ordering Window.	This option will cancel any edits made during this session, revert to the previous quantities, and return you to the Order Management main menu.	This option will submit this order for processing. This action cannot be undone. All orders must be submitted by the end of the Initial Ordering Window.

Figure 34: Initial Order Summary Matrix Form. The form is populated with enrollment information, which can be updated as needed.

To prevent excessive orders, CORE will include a warning message if users enter numbers beyond established thresholds. Additionally, EDS staff will review all orders for reasonableness and question any figures that seem excessive to prevent materials inventory issues.

Once test materials quantities are entered by the district, the system will present the user a summary of the numbers for review and verification. This report is provided in a form that can be printed and shared by administrative staff, as necessary, as shown in Figure 35.

2016–17 Edition Initial Order Confirmation

District: State Unified
District Code: 88-88888

Generated on:
Jan 16, 2017 1:10 AM

Regular Materials

School Name	School Code	Gr K AB	Gr 1 AB	Gr 2 AB	Gr 3 AB	Gr 3 TB	Gr 4 AB	Gr 4 TB	Gr 5 AB	Gr 5 TB	Gr 6 AB	Gr 6 TB	Gr 7 AB	Gr 7 TB	Gr 8 AB	Gr 8 TB	Gr 9 AB	Gr 9 TB	Gr 10 AB	Gr 10 TB	Gr 11 AB	Gr 11 TB	Gr 12 AB	Gr 12 TB
Amber Jr. High	9900005	5	5	5	10	10	8	8	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Azure High	9900003	11	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lilac Elementary	9900004	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Persimmon High	9900006	8	7	6	5	4	3	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Large Print Materials

School Name	School Code	Gr K	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8	Gr 9	Gr 10	Gr 11	Gr 12
Amber Jr. High	9900005	0	0	0	1	0	0	0	0	0	0	0	0	0
Azure High	9900003	0	0	0	0	2	0	0	0	0	0	0	0	0
Lilac Elementary	9900004	1	0	1	0	0	4	0	0	0	0	0	0	0
Persimmon High	9900006	0	0	0	1	0	0	0	0	0	0	0	0	0

Braille Materials

School Name	School Code	Gr K	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8	Gr 9	Gr 10	Gr 11	Gr 12
Amber Jr. High	9900005	1	0	0	0	0	0	0	0	0	0	0	0	0
Azure High	9900003	0	1	0	0	0	0	0	0	0	0	0	0	0
Lilac Elementary	9900004	0	0	1	0	0	0	0	0	0	0	0	0	0
Persimmon High	9900006	0	0	0	0	0	0	1	0	0	0	0	0	0

Figure 35: Initial Order Confirmation. Users can use this summary to review and verify numbers. It can then be printed as a form to share with others.

For all orders placed by districts (original and additional orders), CORE presents an order history, shown in Figure 36, which provides a unique order number, the type of order, the date the order was placed and the status. It offers a link to the order screen for editing (up to the point it is in process), and once the order is processed, it provides a link to download the detailed packing list that will be used to pack and ship the order.

Order History

Order #	Type	Date Created	Last Modified	Status	Action
137850	Additional	January 16, 2017	January 16, 2017	Processing	[View Packing List]
137849	Initial	January 16, 2017	January 16, 2017	Submitted	[View Order]

Figure 36: Order History Screen. This screen shows the unique order number, type of order, date, and status. Users can also download the packing list through CORE.

Using the order information collected from districts, EDS will prepare test materials packing lists that will provide a complete list of materials and quantities to be packed and shipped for each school. The CORE system will use formulas (e.g., one administrator manual for every classroom, one test coordinator manual for every school, one manipulative for every student, etc.) for inclusion of an adequate number of ancillary and support materials in every shipment.

All components of CORE go through extensive coding and quality assurance checks prior to the release to users. The EDS application team uses an established and proven application development process that begins with a detailed written specifications document. To create the customized CORE specifications, the EDS application team will document the requirements of the applications, methodologies to implement the desired functionality, the timeline, and supporting documentation such as the user training guide.

Once the specifications document is approved, an application-specific checklist is created. The application developer and quality control specialist work both independently and together in reviewing application requirements and ensuring functionality is as expected.

For all software applications and programs, EDS will develop and use a test deck of quality control data that has known values to read through the systems. Once the known values are verified to be correct within the application, it is deemed ready. The application is not released until all requirements are met.

b. The Contractor will produce large-print versions of test booklets and related test materials (one test form per grade level). The proposal should comment on the research and best practice for providing accommodations for visually impaired students, particularly the issue of multiple sizes of large-print versions. The proposal should budget for the production of large-print materials using the counts provided in the Introduction to this Technical Approach.

We will produce large-print versions, following American Printing House for the Blind's best practices for printed documents[12]. The following are best practices and guidelines for large print documents:

- In general, font size is usually 15- to 18-point (usually 16-point), bold, sans serif, mono or fixed space font.
- Typical sans serif fonts include Verdana, Helvetica, Tahoma, Arial, and Typography's Gotham Rounded fonts. (Gotham is the NWEA brand guideline font)
- Large-print documents, with a line spacing (leading) of at least 1.5 to help reduce eye strain and have good readability.
- Large-print documents are typically printed on 11.5-by-15-inch paper.
- Large-print usually consists of two or three pages for every one page of 11-point font original print.
- Titles and headings should be larger than the text of the document and contain both upper and lower case letters. Titles and headings should be aligned left where possible.

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[12] Kitchel, J. Elaine, "APH Guidelines for Print Document Design," *American Printing House for the Blind,* Louisville, Kentucky: American Printing House for the Blind, Inc., accessed January 26, 2017, http://www.aph.org/research/design-guidelines/

- Large-print documents that display the text in blocked paragraphs which are aligned left are preferable. Double spacing between paragraphs is necessary for readability.

- Bulleted text should be identified by large solid dark bullets, with double spacing between items.

- Eliminate "widows" and "orphans" when continuing text from one page to the next.

- Page numbers should be the same font style and of at least the same font size as the document text.

- In single-sided, unbound documents, the page number should be positioned in the top right corner. In book formatted documents, the page number should be located in either the upper or lower outer corner of each page. In either case, a margin of at least 0.75 inches is needed to accommodate the page number.

- The paper used in large-print documents should have a non-glossy, matte or dull finish to reduce glare. An off-white color minimizes eye strain.

- Paper used in large-print documents should avoid bleed-through when printing on both sides.

- Emphasis is best achieved by the use of asterisks, dashes, double bolding, or by simply underlining an individual word. The use of color or italics is not acceptable for low vision readers.

- Horizontally connect two columns of information with leader dots, as in a table of contents. When a table appears in a large-print document, it should be kept on one page. Horizontal and vertical lines between rows and columns will facilitate tracking in tables with multiple columns.

- Binding large-print documents that are up to approximately 20 sheets of paper can be saddle stapled. Thicker documents must be bound with an appropriate spiral or wire-o binding to facilitate flattening for ease of reading. An ample margin is needed to accommodate the binding.

- Charts, graphs and pictures or miscellaneous items that are not straight text, will require some modification. They may be enlarged and included on a separate page; information in tables, columns, and charts may need to be arranged so that it can easily be read. Column formatting may be removed. Data in tables and charts should be explained in the text.

- Large-print documents produced with a high degree of contrast is best when possible. Bold the entire document so that the print will be dark enough to offer an additional level of contrast between the print and the paper.

Enlarging on a copier does not produce large-print documents. Copiers may create fuzzy text or create smudges or dirty copies not acceptable for a low vision reader.

Alternate Assessments Support Visually Impaired Students

DLM alternate assessments are administered online, with a variety of accessibility supports for students with visual impairments. The available accessibility supports were developed based on research regarding instruction and assessment for students with significant cognitive disabilities, and from input of educators with expertise in students who are deafblind and also have significant cognitive disabilities.

Options include on-screen magnification, the option to use an interactive whiteboard or projector, or a magnification device that works with the computer screen to enlarge the assessment to the needed size. For other students who are blind or have visual impairments there are several strategies used for ensuring access to assessment content. Synthetic and human read aloud supports are also available. Depending on the content being assessed, there are some alternate testlet forms that use concrete objects or tactile materials instead of on-screen presentation.

Computer-delivered testlets for students who are blind or have visual impairments begin with an instruction screen for the test administrator, then continue with content intended for the student to access. These testlets may require materials that the educator uses to represent the onscreen content directly to the student. Needed materials are listed on the Testlet Information Page (TIP) and substitutions are allowed as directed.

c. The Contractor will produce UEB Braille, with Nemeth for mathematics, versions of test booklets and related test materials (one test form per grade level). The proposal should budget for the production of UEB Braille materials using the counts provided in the Introduction to this Technical Approach.

Nebraska is a UEB state and 2016 was its implementation year. APH will be using UEB for Nebraska's Braille format. Please see Appendix S, *Nebraska UEB Implementation Plan,* for more information. We have budgeted for the production of UEB Braille materials based on the counts provided in the introduction to the Technical Approach.

Alternate Assessments

For students who read Braille, educators make a selection in the Access profile that leads the system to deliver Braille forms. A Braille form includes the same onscreen presentation as a general form, and a downloadable BRF file so that the testlet can be printed in Braille locally. Not all testlets at every level on the blueprint have a Braille equivalent. When Braille forms are not provided, test administrators will use other approaches to deliver assessments to students who are blind or have visual impairments. Braille forms are available for grades three through five at the Target and Successor linkage levels and in grades six through high school at the Proximal Precursor, Target, and Successor levels in English language arts and mathematics. For science, Braille forms are available at the Target linkage level.

Current Braille forms use uncontracted English Braille, American Edition (EBAE). Plans are being developed to begin offering UEB forms in addition to EBAE forms beginning in 2018. Mathematics testlets use Nemeth code rather than technical symbols or words for operations. Braille forms are transcribed to be as similar as possible to online testlets, but will have some minor changes to help the student best access the information. Page numbers are included on all testlets to help with organization. Answer choices are lettered to help the student let the teacher know which answer choice they have chosen so the teacher can input the answer choice into the KITE Client. English language arts text is double spaced to help students whose Braille tracking skills are not strong yet.

d. All student answer document images, student answer documents, and actual student booklets shall be disposed of during the first two weeks of January of the year following the testing. The budget should reflect any costs associated with storage and disposal of documents.

After processing of the tests for each annual assessment is complete, EDS will securely store all test materials, including scannable documents, using a long-term storage process and database system. This system includes packing storage boxes with electronic documentation of the materials included in each box. EDS uses the security barcodes on the test documents and storage box barcodes on the outside of the boxes to link the information in the database. EDS staff load boxes onto labeled pallets and then enter the information into the database. If there is a need to find a stored document, EDS staff can easily and quickly find and pull a document out of long-term storage.

EDS will manage the secure destruction of assessment materials during the first two weeks of January of the year following the testing. Using the long-term storage database, EDS will retrieve the documents

and systematically destroy them through a secure shredding process. The long-term storage database will be updated to reflect that documents are destroyed.

EDS uses a mobile secure shredding vendor that provides services on site at the EDS warehouse to securely destroy materials. The shredding company uses a high-capacity mobile Ultra Shred Paper Predator on-site document destruction vehicle that provides the most advanced document destruction technology in the industry. The shred trucks, equipped with a twenty-inch monitor so EDS staff may monitor the documents going into and being expelled in a pulverized state, provide the quickest, most complete, and most confidential destruction of sensitive documents and CDs.

Trucks that perform the secure shredding will be parked behind locked security fences at EDS's warehouse facility throughout the shredding process. Personnel from the shredding company and EDS monitor the trucks and the materials as they are destroyed. Every sensitive document is pulverized using a *hammermill* process which creates the smallest pieces in the document destruction industry. Technicians are bonded and insured and are the only personnel that handle the secure materials. Additionally, the shredding company does employee background checks, screens output to provide consistent small shred size, has two technicians at every destruction, and shreds up to 7,000 pounds per hour.

After the test materials destruction process is complete, the shredding company provides a certificate of destruction that will remain on file at EDS.

EDS will store electronic images and image clips of scanned answer documents on internal data servers and backup servers or media. EDS data processing staff will document the file locations and file names that are archived for each edition of the test.

During the first two weeks of January of the year following the testing, EDS will delete the answer document images from the server hard drive and all backup drives. The deletion process will securely erase the data to ensure that the images cannot be retrieved through data restorative means. EDS data processing staff will work with the project manager to ensure the correct files are scheduled for deletion. Only after approval will the files be deleted. An EDS data processing supervisor and the project manager will work together and observe the deletion to ensure the correct files are deleted. EDS will provide the NDE with archives of all data files prior to deletion, upon request.

Alternate Assessments Document Disposal

Since DLM is an online assessment, there are no answer documents. The only exception is for writing testlets. Many students who take DLM writing assessments do not produce their writing on paper, so there is no systematic expectation for the distribution, collection, shipping, and destruction of materials. Instructions are provided in training materials for test administrators to destroy any printed materials used as part of the assessment locally after testing is complete, unless otherwise instructed (e.g., for an interrater reliability study). DLM will dispose of materials as specified in this requirement during the first two weeks of January of the year following the testing.

4. Ancillary Materials

a. The following ancillary materials will be produced for all online and paper/pencil statewide assessments. The proposal should discuss the type of information included in manuals, the type and use of shipping labels and control forms, etc. Web- based versions of all ancillary materials should be available for posting on the NDE websites. The following materials are needed:

NWEA understands the importance of having easy-to-understand, comprehensive test coordinator and test administrator manuals available to Nebraska district and school personnel. NWEA will work closely with NDE to develop manuals for all online and paper/pencil statewide assessments that communicate a clear message to the readers. NWEA will also collaborate with the NDE to develop the ancillary materials.

i. A Principal/Test Coordinator manual for each test administration. A common manual will be produced for all grades. A single printed manual will be shipped to each district and school and copies of the manual will be distributed at the administration workshops. The manual should also be accessible online.

Two Principal/Test Coordinator Manuals (TCMs) will be produced, one for summative assessments, and one for alternate assessments. Because MAP is being offered as an off-the-shelf product, there is no custom development of any materials planned for interim. However, NWEA currently provides a robust set of user materials, at all levels to support set-up and administration.

To support end users, manuals will be produced with a unique color scheme to help differentiate the test. NWEA will ship a copy of each manual to all districts and schools. For Interim, users will access the materials from the NWEA web-site, or we can post these to the portal – we have not budgeted for any printing of any materials associated with the Interim MAP assessment. NWEA will also provide a digital copy of the Summative TCM for posting on the NDE website.

At a minimum, the Summative TCM will include:
- Overview of the assessment
- Roles and responsibilities of individuals
- Important dates
- Test security protocols to promote best practices in online and paper and pencil administration
- Technology preparation information
- Paper and pencil ordering information
- Directions and information regarding managing users and student information including accessibility information and student mobility
- General test information including expected testing durations and recommendations for establishing test schedules
- Checklist of activities for the test coordinator
- General troubleshooting tips
- Help desk contact information

Working with NWEA, EDS will contribute content for the manual related to processes for receiving, inventorying, and distributing test materials at the school sites, and for packing, checking, and shipping

materials back to EDS for processing. EDS will work with NWEA to ensure the content of the manual is appropriate for all paper/pencil processes. A common manual will be produced for all grades.

The manual will contain information (e.g., step-by-step instructions, informational diagrams, roles and responsibilities, schedules and deadlines, contact information for questions, etc.) to assist school and district coordinators to successfully prepare for the assessment and for returning shipments for processing. EDS will ensure the manual follows NDE regulations and program requirements related to test coordination. The layout and design of the manual will be professional looking, clear, and organized.

A PDF of the Principal/Test Coordinator manual will be posted on the NDE websites. Additionally, the manual will be printed on 11-by-17-inch paper, folded, and saddle-stitched to form an 8.5-by-11-inch booklet. Printing will be in black ink on white paper. Sufficient quantities of the manual will be printed to ship one per district and school and to distribute at the administration workshops.

Assessment Coordinator Manual for Alternate Assessments

The Assessment Coordinator Manual supports the assessment/test coordinator in preparing schools for testing. This resource provides information for assessment coordinators to oversee the assessment process, and to support the roles of data managers, technology personnel, and test administrators (educators, examiners, proctors, or teachers). The manual delivers an overview of the DLM alternate assessment system and includes a checklist of key duties. Additionally, it addresses planning needs and resources.

The Assessment Coordinator Manual (ACM), which has identical content across all grade levels, will be made available to all districts on Nebraska's webpage. A copy of the Assessment Coordinator Manual is provided in Appendix T.

A Data Management Manual and Technology Specifications Manual are also available to support the individuals assigned to these duties at the local level. The Data Management Manual covers procedures for managing information in Educator Portal, while the Technology Specifications Manual addresses topics such as software requirements and installation. A copy of the Data Management Manual is provided in Appendix O and the Technology Specifications Manual is provided in Appendix U.

ii. A unique Test Administrator manual for each grade level test.

Test Administrator Manuals (TAMs) will be produced for each grade level: one manual for the summative assessment and one manual for the alternate assessment. To support end users, each grade level TAM will be produced with a unique color scheme to help differentiate the grade level. Each TAM will be provided to NDE at a mutually agreed upon date in an electronic format.

Because MAP is being offered as an off-the-shelf product, there is no custom development of any materials planned for Interim. However, NWEA currently provides a robust set of user materials, at all levels to support set-up and administration.

At a minimum, each TAM will include:
- Important dates
- Test security protocols to promote best practices in online and paper and pencil administration

- General test administration information including typical testing durations, testing rules (pause, inactivity, etc.), and establishing and monitoring testing sessions
- Grade level specific information about embedded tools and supports
- Grade level specific scripts for standardized administration
- Instructions for returning paper and pencil materials
- Checklist of activities for the test administrator
- General troubleshooting tips
- Help desk contact information

Per the NDE requirement we have budgeted for one manual per grade, however our experience shows that the administration across grades does not vary significantly. As a best practice we would like to propose additional discussion about providing one manual for each assessment, calling out specific grade level information when necessary. We believe a single manual will assist district and school level users in the management of test administration materials and provide a cost savings to NDE. We welcome this discussion during contract negotiations.

NWEA will develop accurate and appropriate Test Administration manual content related to paper/pencil test processes. In addition, the documents will undergo a "three-way" check, where EDS staff will take the exam at each grade level to verify that the Administrator manuals, test booklets, and scannable answer documents all correspond. Once this is done, EDS will provide draft documents to NWEA for review and approval, incorporate necessary changes, and repeat this process. EDS anticipates two rounds of edits through a formal review and approval cycle.

Test Administration Manual for Alternate Assessments

The Test Administration Manual (TAM) supports the test administrator in preparing themselves and students for testing. The TAM includes specific procedures for test administrators and is organized into four sets of tasks for different parts of the school year: (1) before beginning assessments, (2) instructionally embedded assessment, (3) spring window assessment, and (4) preparing for next year. The contents of the TAM are identical across all grade levels, because procedures do not differ by grade. (Specific guidance is delivered through the Testlet Information Page for each testlet, in each grade and subject, as it is assigned to the student.)

The TAM will be made available to all districts online on the State's DLM webpage. States are able to add state specific content to the manual's appendices. A copy of the Test Administration Manual is provided in Appendix V.

iii. All forms and labels necessary for the efficient and secure shipment and receipt of printed materials.

EDS will develop forms and labels necessary for the efficient and secure shipment and receipt of test materials.

To prepare for test materials shipments to schools, EDS will prepare detailed packing lists based on orders provided by the schools. The packing lists will clearly identify the school name, school ID, contact person, shipping address, and telephone number. Each item and the quantity to be packed will be listed along with a spaces for control marks for packers and quality checkers.

Along with the packing list, EDS will provide pre-printed school and class headers (see our response to the next requirement, iv., for a description of these documents), and a pre-printed scannable School/Group list, an example of which is seen in Figure 37. The School/Group lists will contain the school and district name, the unique district and school IDs, and spaces to fill in the counts of each group of documents being included in the package for the school.

Figure 37: School/Group List. This example is of a pre-printed School/Group List form showing all of the unique identifying school information, as well as the information that is collected as schools prepare to pack and ship their completed tests back to EDS for processing.

Upon arrival of the test materials at the schools, coordinators will be instructed to review the packing list and inventory the materials inside the box(es) against the packing lists, and to report any issues with their shipment. In the case of an error, EDS will work with customer service to provide additional shipments of materials, as necessary.

EDS will supply return packing materials, including return box labels. Instructions for preparing and packing return shipments will be included in the Principal/Test Coordinator Manual. Schools will be instructed to retain the heavy-duty shipping boxes that their materials arrived in so they can be reused

for returning materials back to EDS. (If districts or schools need additional boxes, they may order them through the CORE order management site.)

EDS will supply pre-printed return address labels (see Figure 38 for an example) for schools to place on their return shipment boxes. Schools will be instructed to place these labels on the outside of their boxes, in addition to the pre-paid UPS shipping label that is supplied by the UPS driver.

Figure 38: Pre-Printed Return Address Labels. This example pre-printed label provides the program name, school name, "ship to" address, a space for filling in the box number and total number of boxes, and the barcode of the school (to facilitate receipt of boxes upon arrival at EDS's warehouse).

EDS will use heavy duty boxes that are sized so that school personnel can safely lift and move materials. The boxes hold up well for shipping to and from school locations. The outside of the boxes will contain color-coded information and program branding to adequately identify the boxes and distinguish them from any other program or shipping box. They will also contain a toll-free telephone number printed on the outside to use if any box is misplaced or inadvertently shipped to the wrong address. This will offer a way for the unintended recipient to contact EDS and arrange for the box's return.

iv. All control/processing forms necessary for the administration of the tests.

In addition to the School/Group Lists that provide a summary of the number of student documents returned for processing, EDS will provide pre-printed school and class header sheets as control processing forms. The school and class header sheets will be packaged and shipped to districts and schools with their test materials. Instructions will be included for filling out and using the forms for packaging test materials for return.

EDS will use the DAC master entity file to pre-print the district and school names, IDs, grade levels, and other pertinent information for identifying the groups. Class headers will be pre-printed with district and school names, IDs, and other pertinent information. Instructions for filling in the form with classroom teacher information and document counts will be provided. Figure 39 shows an example of a group identification sheet.

Figure 39: Sample Identification Header. EDS will provide pre-printed school and class header sheets as control processing forms. This example shows a sample identification header.

Key Procedures to Administer Alternate Assessments

Since DLM assessments are delivered online, there are no control/processing forms necessary for test administration. However, the test administrator must complete some key procedures before being able to administer an assessment:

- **a.** Successfully complete required test administrator training via Moodle.
- **b.** Complete security agreement in Educator Portal.
- **c.** Complete Access Profile and First Contact survey in Educator Portal for each student.
- **d.** Access student username and password in Educator Portal.
- **e.** Access Testlet Information Page for specific testlet in Educator Portal.

Items a, b, and c are necessary to prepare the teacher and the student record. These must be complete before a student is assigned to a testlet. Items d and e are complete after a student is assigned a testlet.

EDS has experience with producing Test Security Agreement/Affidavit documents for large-scale assessments, as described in Appendix F, *Subcontractor Summary of Corporate Experience.* EDS will work with NWEA to provide test security forms that include all required security information and assurances, and that conform to the style guide for the NDE assessments. (See sample security affidavits in Figures 40 and 41.)

I acknowledge by my signature on this form that the CELDT is a secure test and agree to each of the following conditions to ensure test security.

1. I will take all necessary precautions to safeguard all tests and test materials by limiting access to persons within the school district with a responsible, professional interest in the test's security.

2. I will keep on file the names of persons having access to tests and test materials. I will require all persons having access to the materials to sign the Test Security Affidavit that will be kept on file in the school district office.

3. I will keep the tests and test materials in a secure, locked location, limiting access to only those persons responsible for test security, except on actual testing dates.

By signing my name to this document, I am assuring that I will abide by the above conditions.

_____

Signature

_____

Print Name

_____

Title

_____

District Name

_____-_____-_____

County-District-Charter Code

_____

Date

Figure 40: Sample Security Affidavit. EDS will work with NWEA to provide security forms that include all required information and conform to the NDE style guide. This figure and Figure 40 are examples of security affidavits.

I acknowledge that I will have access to the test for the purpose of administering the test. I understand that these materials are highly secure, and it is my professional responsibility to protect their security as follows:

1) I will not divulge the contents of the test to any other person through verbal, written, or any other means of communication.

2) I will not copy any part of the test or test materials unless necessary to administer the test.

3) I will keep the test secure until the test is actually distributed to pupils.

4) I will limit access to the test and test materials by examinees to the actual testing periods when they are taking the tests.

5) I will collect and account for all materials following each period of testing and will not permit pupils to remove test materials from the room where testing takes place.

6) I will not disclose the contents of, or the scoring keys to, the test instrument.

7) I will not review any test questions, passages, or other test items with pupils before or after testing.

8) I will administer the test(s) in accordance with the directions for test administration set forth in the contractor's manual for test administration.

9) I will return all test materials to the designated California English Language Development Test site coordinator upon completion of the test.

10) I will not interfere with the independent work of any pupil taking the test, and I will not compromise the security of the test by means including but not limited to:

A) Providing pupils with access to test questions prior to testing.

B) Copying, reproducing, transmitting, distributing, or using in any manner inconsistent with test security all or any portion of any secure California English Language Development Test booklet or document.

C) Coaching pupils during testing or altering or interfering with the pupil's responses in any way.

D) Making answer keys available to pupils.

E) Failing to follow security rules for distribution and return of secure tests as directed, or failing to account for all secure test materials before, during, and after testing.

F) Failing to follow test administration directions specified in test administration manuals.

G) Participating in, directing, aiding, counseling, assisting in, or encouraging any of the acts prohibited in this section.

I have been trained to administer the test.

Signature: _____

Print Name: _____

Title: _____

School Name: _____

Date: _____

Figure 41: Sample Security Affidavit. EDS will work with NWEA to provide security forms that include all required information and conform to the NDE style guide. This figure and Figure 40 are examples of security affidavits.

Security Agreement for Alternate Assessments

Since DLM assessments are delivered online, there are no sign-off forms for materials. Users will complete the security agreement after logging into Educator Portal the first time. The security agreement must be completed annually. By accepting the security agreement, the user agrees to follow DLM's security standards, including not storing or saving assessments to a computer, not printing electronic assessment materials used during assessment administration, and not sharing their personal login with another person.

b. Each year the Contractor will provide up to and including three reports related to the tests on issues such as test design, administration, interpretation/use of results, scoring, and validity/reliability. The intended audience for these reports will be educators or the general public. The NDE will determine the topics for each report. These reports will be delivered according to a mutually agreed upon date, and will be provided to NDE in electronic format for posting online.

i. In addition, the Contractor is expected to provide a solution for not only reporting on data forensics, but supporting NDE in its use of the report and follow up on issues of concern indicated in data forensics report.

ii. In addition, the Contractor is expected to provide a report of the online accommodations/tools used by students with IEPs, 504 plans, or for students who are English Language Learners in order to conduct research on the effect on final student scores.

NWEA will provide up to three reports to NDE each year on mutually agreed upon topics. Upon agreement of the report topics, a mutually agreed upon timeline for delivery will be determined. Each report will be provided in an electronic format and given that the report audience is the general public and educators will generally not exceed ten pages and be written to a lay audience. When topics such as test design, administration, scoring are those that appear in a technical report, subsets of the technical report will be the starting point of the report to ensure information is consistently presented.

Data forensics

NWEA will supply NDE data forensic reports on answer choice changes each year. Such reports are evidence of a testing anomaly and can be one indicator that test security was compromised. We will support NDE by providing guidance on testing sites that may need additional auditing and responding to NDE questions and concerns in regard to its use of the report. See our responses in Section G.8 for further information on data forensics.

Online Accommodations/Tools Report

In addition to these three reports, NWEA will provide a report on the online accommodation and tools assigned to students with individualized education plans (IEPs), students with 504 plans, and student who are English language learners. As an uncosted option, it likely is an important consideration to survey students on their perceptions regarding the effectiveness of the accessibility tools to better understand when and how students are using the tools.

Additional Reports for Alternate Assessments

DLM develops and makes available on the DLM website brief reports on topics related to assessment and instruction for students with significant cognitive disabilities. Two different briefs, "Individual Education Programs Based on the DLM Essential Elements" and "Instructionally Embedded Assessments," are included as Appendix W, *DLM Project Briefs,* and are available online at http://dynamiclearningmaps.org/about/research/publications. Additional briefs will be made available in 2017. DLM will collaborate with NWEA to provide additional reports as requested by NDE if a brief is not already available on the desired topic.

Forensic analyses are conducted using procedures described in Section G.8. DLM and their Technical Advisory Committee routinely discuss forensic analysis methods and findings at the consortium level, and data files are made available to individual states along with recommendations for their use.

NDE may generate an extract from Educator Portal that lists all enrolled students and the accessibility options selected on their Personal Needs and Preferences (PNP, or Access) Profile. This extract is available on-demand, and NDE may use the student identifiers to link this file to student results. While the number of students taking alternate assessments in Nebraska is too small for robust analyses of the effects of accessibility feature use on final results, NDE would benefit from ongoing, consortium-level analyses related to accessibility. Those studies are planned with input from the DLM Technical Advisory Committee and the DLM Governance Board.

D. Test Administration for All Statewide Assessments

1. Online Administration

The proposal should identify the process or method(s) used to:

a. Authorize and authenticate users including students, teachers, test administrators, and test coordinators at a minimum plus any other designated district personnel proposed by the Contractor. This includes participation in the statewide SAML single sign on framework and application launch portal.

NWEA will provide an integration solution for general assessments for authorizing and authenticating users that is compliant with Security Assertion Markup Language (SAML) 2.0. Our SAML 2.0 solution will integrate with any other SAML 2.0-compliant authentication mechanism.

Alternate Assessments

For DLM assessments, Nebraska educators and students will use the KITE system, which includes: Educator Portal (EP), used to manage student records, assessments, and results; and KITE Client, which is used to deliver assessments to students. Both systems require a username and password to log in. Authorization to be assigned a role in Educator Portal comes from the state education agency or a district representative that has the appropriate role in EP.

b. Ensure student confidentiality during assessment.

NWEA takes steps to protect student information, including assuring student confidentiality during assessments. No personally identifiable information is displayed on the screen, and student testing passwords will not include Social Security Numbers, birthdates, or other confidential information.

As an organization that seeks to aid in the improvement of educational outcomes for all children, NWEA is dedicated to the privacy and appropriate use of student information and recognizes the importance of its protection. In support of this, we have policies in place to protect personally identifiable information (PII) derived from student information. Policies include an explanation of privacy and security responsibilities to new employees, and an annual review that requires staff to certify understanding and compliance with all privacy and security policies. NWEA maintains student information in accordance with Family Educational Rights and Privacy Act (FERPA), and will employ commercially reasonable efforts to comply with other state and federal laws as they apply to these data.

Access to personally identifiable student information is limited to our employees and appropriate subcontractors with a legitimate educational interest in maintaining, organizing, or analyzing such data to perform services for our partners. Contractors engaged for the sole purpose of maintaining, supporting, and troubleshooting NWEA systems that contain personally identifiable student information may have limited and restricted access to our protected databases for that purpose, after executing appropriate confidentiality agreements. We also require our service providers and other contractors to provide similar protection appropriate to the nature of the personally identifiable student data handled by the providers.

NWEA maintains policies and controls to protect personally identifiable student information, specifically to protect such information from unauthorized disclosure, use, modification, or destruction. An example of this is the memoranda of understanding we have with our Nebraska partners to transfer MAP data to NDE for the Adviser Data Dashboard.

In addition to current policies and practices, NWEA is vigilant in protecting student confidentiality as the needs change with new threats and new technologies.

Alternate Assessments

Student login information, specifically the student's username and password, are available only on the test ticket available through Educator Portal to the test administrator. Test administrators are responsible for shredding student login information or deleting information saved electronically. There are no other materials used during the assessment that are offline or involve printed materials with student identifiers. Student responses are recorded directly in the KITE system by the teacher or student.

c. Use bandwidth efficiently so as not to over burden district capacity.

We have designed our online assessment to use bandwidth efficiently. Approximately 95 percent of Nebraska districts are comfortable using our system to administer MAP. This will help ensure a smooth transition to the use of our system for the statewide assessments.

Please refer to Section A.5.b for additional information related to NWEA bandwidth usage and district capacity.

Alternate Assessments

The KITE Client uses responsive design principles that leverage HTML5 and CSS3, enabling it to deliver assessments to students on multiple devices ranging from desktops to tablets. The KITE Client Bandwidth Requirements (in Appendix X) provides information to guide technology personnel in making

decisions regarding local bandwidth. With relatively few students per school taking DLM alternate assessments, and most testlets being administered with one-on-one support from the test administrator, bandwidth is not typically a concern for districts administering DLM assessments.

d. Limit the time available for online testing should the department choose this option, and to include the options to display test time remaining or hide it.

A benefit of our adaptive assessment design is student skill level is more quickly identified, thus resulting in shorter testing times.

Students receive items within their individual range of ability and have as much time as needed to work, so the assessments become part of their learning process rather than simply a test event. While they are untimed, our adaptive test engine delivers tests as efficiently as possible, typically no more than one class period per content area.

In addition, we have a proctor dashboard that provides testing progress and testing time information to the proctor without distracting the students. We are happy to work with the NDE to be certain stated testing times are honored.

Alternate Assessments

DLM assessments are not timed, nor is there a tool built into the interface that displays test time. DLM assessments are administered via a special user interface designed specifically for students with the most significant cognitive disabilities. The user interface minimizes on-screen tools to make maximum use of space for item content and to minimize the complexity of on-screen information.

The DLM Alternate Assessment is designed to limit the time a student engages in online testing, by breaking down each session into individual testlets. These testlets are short, instructionally relevant measures of student skills and understandings and contain an engagement activity that includes a stimulus related to the assessment designed to help the student focus on the task at hand followed by three to nine items. ELA reading testlets also contain a story or informational text. There is one testlet per Essential Element (EE) and linkage level. Students take a series of testlets to achieve blueprint coverage. There is no time limit for a DLM testlet, though most are completed by students in five to ten minutes.

Each state sets its own testing window within the consortium spring window that runs from mid-March through early June each year. NDE may limit the total time available for online testing by selecting a short spring testing window.

e. Allow for online tests to be segmented by hard stops and re-opened for students with special needs as part of test engine, without compromising the security of the test or burdening districts or NDE with manual reactivations.

The general assessments can be paused at any time and resumed within a designated period of time – determined collaboratively with NDE – without impacting the test event. Given the nature of adaptive test design, the tests are not compromised by students having to stop and restart the test.

Alternate Assessments

Each DLM testlet is created as a separate test in the KITE system and each testlet typically takes less than ten minutes to complete. Once a testlet is submitted, it is no longer available. Test administrators are encouraged to administer very few testlets consecutively and to take breaks between testlets.

Test administrators are also encouraged to allow students to take breaks during a testlet in the case of fatigue, disengagement, or behavioral problems that are likely to interfere with a valid assessment of what students know and can do. The KITE system allows for up to ninety minutes of inactivity without timing out to allow teachers and students to pause for breaks during testlet administration. When administration begins but the student is unable to engage and respond for any reason and a short break is not sufficient, the "EXIT DO NOT SAVE" button is available on every screen and may be used to exit the testlet, allowing the teacher and student to return to it at another time. If this option is used, the testlet begins at the beginning the next time it is selected from the list of available testlets. No manual reset is required.

f. Provide tools to all students.

The NWEA philosophy on accessibility starts with all students from a universal design for learning perspective. It underscores ease of use for everyone and individualization for both our student and adult users with diverse needs. Our philosophy builds upon accessibility, with test aids, item aids and accommodations for NWEA assessments.

Figure 42 illustrates our philosophy that all students will be provided with an assessment that includes elements of universal design for learning and for assessments, as well as attention to ease of user experiences. And, where tools, such as item aids, are commensurate with the construct being assessed, those will be determined through item and test specifications.
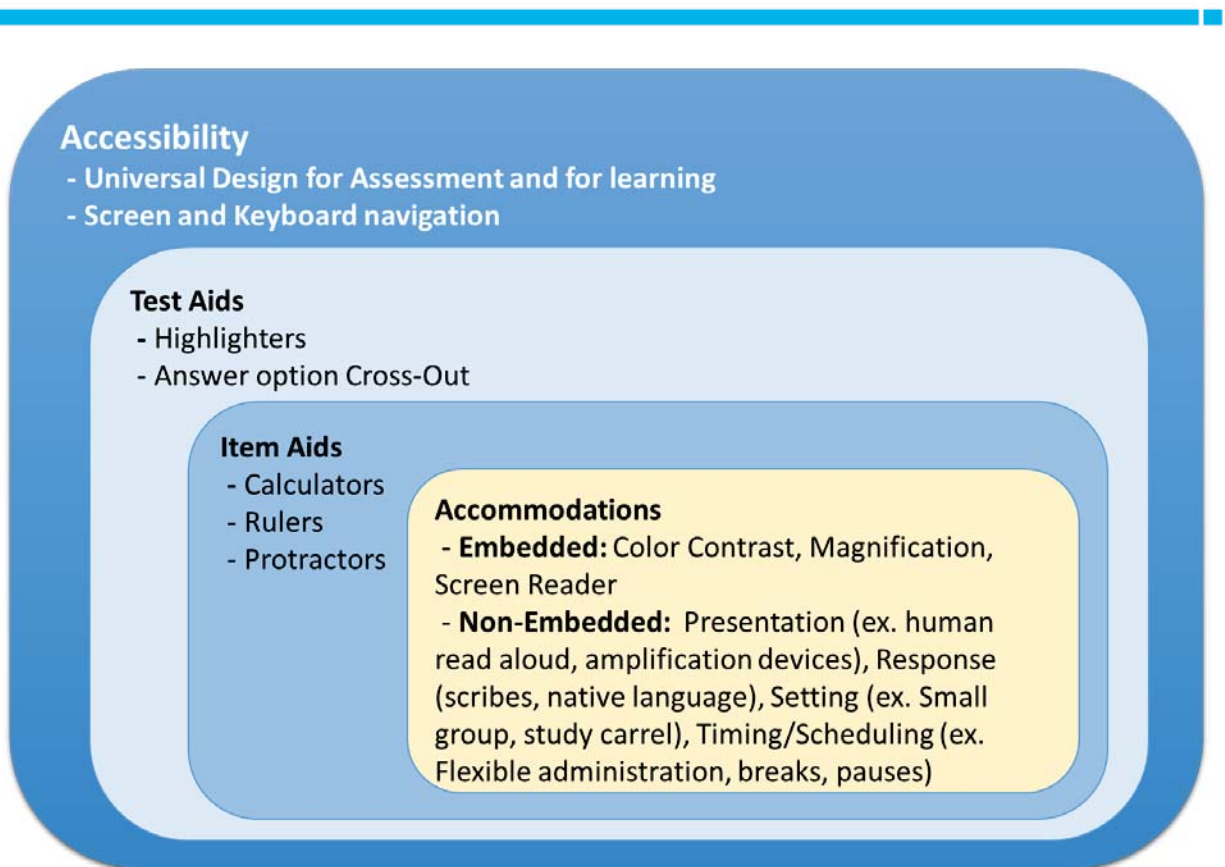
Figure 42: NWEA Accessibility and Accommodations Model. Our philosophy incorporates accessibility in all aspects and stages in order to include all students.

Please see Table 32 for our currently embedded accommodations and tools. In addition to the below, please be aware that we will make available for the Nebraska Statewide Assessments Text-to-Speech, line guides, and rulers.

Table 32: NWEA Accessibility and Accommodations

Tool or Function	Purpose
Accessibility: Web accessibility allows equal access to online content and services for all people - including those with disabilities	
Keyboard Navigation	Make all functionality available from a keyboard
Test Aids Are available for all NWEA test takers. Students can access the embedded technological aids as part of the NWEA testing platform and used at their own discretion.	
Highlighter	An on-screen digital tool is available for students to highlight desired text, questions and answers
Cross-out: Specific technological aids are provided on screen depending on the nature of the test question	The student electronically crosses out an answer option, as needed. When enabled, answers will be crossed out. The student will uncover answer options when ready.
Item Aids Specific technological aids are provided on screen depending on the nature of the test question	

Table 32: NWEA Accessibility and Accommodations

Tool or Function	Purpose
Calculator	An electronic embedded device for the performance of mathematical computations and will be needed to answer specific NWEA test questions
Ruler	An electronic embedded measuring device marked with units used for measuring items and will be needed to answer specific NWEA test questions
Protractor	An electronic embedded instrument used for measuring angles and will be needed to answer specific NWEA test questions
Accommodations: Accommodations are changes in materials or actions that enable students to participate in assessments in a way that assesses abilities rather than disabilities.	
Color Contrast	The student has several color contrast options that can be changed from item to item throughout the entire test.
Magnification	Students can enlarge text and graphics onscreen via a magnification tool (while preserving clarity, contrast, and color)
Screen Reader	Text is read aloud to a student via a text-to-speech device. The student is able to control the speed as well as raise or lower the volume of the voice via a volume control

Alternate Assessment Tools

The DLM Alternate Assessment System includes a range of accessibility supports that are available to all students by design, rather than as accommodations by exception. Within the range of available accessibility supports are tools incorporated into the KITE system. Since all students taking an alternate assessment based on alternate academic achievement standards are students with disabilities, accessibility supports are universally available. The emphasis is on selecting the appropriate accessibility supports for each individual student. The test administrator records the choices of all accessibility supports on the student's Personal Needs and Preferences (PNP), or Access Profile, in Educator Portal.

Accessibility supports are provided in Table 33 (see Appendix Y, *DLM Accessibility Manual,* for a full description of each support and its appropriate use). Supports are grouped into three categories: those provided through the KITE Client, those requiring additional tools or materials, and those provided outside the system. Changes may be made to the Access profile throughout the year, and the Accessibility Manual describes a process for making decisions about which supports to selected. Changes made to the first category of supports take effect the next time the student logs in to the KITE Client.

Table 33: Accessibility Supports in the DLM Assessment System

Category 1 Supports Provided in KITE Client	Category 2 Supports Requiring Additional Tools/Materials	Category 3 Supports Provided Outside the System
- Magnification - Invert Color Choice - Color Contrast - Overlay Color - Spoken Audio	- Uncontracted Braille - Alternate Form-Visual Impairment - Single-switch System/Access Profile Enabled - Two-switch System - Individualized Manipulatives - Calculator	- Human Read Aloud - Sign Interpretation of Text - Language Translation of Text - Test Administrator Entering of Responses for Student - Partner-Assisted Scanning (PAS)

g. Other accommodations/tools in online engine to include:

-Text-to-speech

-Speech-to-text, if open ended items are to be included

Embedded text-to-speech technology will be available to students during summative administration. The student is able to control the speed and volume, and stop the audio at any time while the text is being read. This allows for students needing this accommodation to also experience an adaptive test administration.

The Nebraska Statewide Assessments will not currently have open-ended items that require text entry and, therefore there is no need for speech to text at this time. However, should such item types be desired in the future, NWEA will work with NDE for supporting this need.

Alternate Assessments

Text-to-speech is an accessibility support available in KITE Client, labeled as "Spoken Audio".

Open ended items are not included in the DLM Alternate Assessment, thus speech-to-text accessibility support is unnecessary.

h. The online technology must track student use of accommodations/tools provided for students with IEPs, 504 plans, or for students who are English Language Learners in order to research results based on use of accommodations/tools.

Our system for general assessments tracks the assignments of accommodations/tools.

Alternate Assessments

Two data extracts are available from Educator Portal with information to track accessibility features selected for student use. The Accessibility Profile extract is a comma-separated values (.csv) file that lists the Personal Needs Profile (PNP), or accessibility (Access Profile) settings for the students enrolled in a

particular district or school. Only students who have Access Profile settings are included in the file. The file contains a column for every possible Access Profile setting and indicates if that setting has been chosen for a student.

The file indicates whether or not a feature or support has been selected for a student, and, if a feature or support has multiple settings, the details of those settings are listed. For example, the overlay color can be set to one of several predetermined colors. The file lists the hexadecimal value of the color selected (e.g., #87cffd) as well as the description of the color (e.g., Light Sky Blue). The file also indicates the date and time that the Access Profile was last modified and the user who made the modification.

The Accessibility Profile Counts extract is a .csv file that lists the total number of students who have a particular setting on their Access Profile. Depending on the level of access, a user may retrieve summary data in several configurations (e.g., counts at the building or district level).

i. Limit access to other online sites during test administration.

Students will test using our lockdown browser, which locks out opening other browser sessions while the student is testing.

Alternate Assessments

KITE Client is the portal that allows students to log in and complete assigned testlets, and prevents them from accessing other sites. KITE Client is a customized version of Firefox, which launches in kiosk mode and prevents students from accessing other online sites or desktop content or software while taking secure, high-stakes assessments. The interface is supported on desktops and laptops running Windows or Mac OS X, on Chromebook, and on iPad.

j. Allow districts to edit student identification, school location, student demographics (date of birth, gender, race/ethnicity, LEP/ELL eligible, special education/IEP), not tested codes, alternate assessment, Spanish assessment, accommodations – IEP/504, and linguistic support- ELL during test administration.

Authorized district users are able to edit and change student information through the system or through a roster upload.

Alternate Assessments

State and district personnel may be granted permissions to edit student identification, school location, demographics, and alternate assessment program information before and during test administration. Educators also record the accessibility supports for each student in Educator Portal via the Access (PNP) profile. Test administrators and other local staff may also record a Special Circumstances code, including reasons a student did not test, for any testlet.

k. Permit test administrators to easily monitor test progress for students.

We provide a dashboard within our online test administration system for general assessments, where proctors and administrators can monitor test progress for students.

Figure 43 shows our proctor dashboard that provides real-time status of students' testing progress, and allows proctors to manage students' testing activities such as confirming to start, suspending, and/or

restarting after pause/hard-stop. This dashboard also provides critical testing information for each student, including the number of items to which he or she has responded.

Figure 43: Proctor Dashboard. This dashboard provides the current status of each student's testing progress.

Alternate Assessments

Test administrators and other Educator Portal users with appropriate permissions may use the DLM Test Administration Monitoring Extract to monitor test progress. The extract is helpful to track when a student is finished with spring assessments. This extract includes the number of testlets confirmed, in progress, and completed by a student. Testlet counts are included for each subject, so a student may appear on more than one line in the extract. During the instructionally embedded assessment window, local educators may also generate on demand a blueprint coverage report or a blueprint coverage summary report, showing student progress toward completion of minimum blueprint requirements for individual students or groups of students.

l. NDE is open to other online accommodations suggested by respondent.

We are involved in pioneering accessibility research and standards and keep abreast of online accommodations in the industry through our relationships with organizations devoted to this cause, including:

- The Center for Applied Special Technologies (CAST)
- Gallaudet University
- Arizona School for the Deaf and Blind
- Governor Morehead School for the Blind in North Carolina
- National Center for Accessible Media
- University of Kentucky College of Education Program in Visual Impairments

- Freedom Scientific (creator of Job Access with Speech, or JAWS, screen reader).

Please see our responses to A.6. for more information and details on our online accommodations. NWEA and DLM will work with NDE through the life of the proposed contract to ensure that new and/or updated accommodations are appropriately incorporated into this program.

2. Issue and Resolution Log

The Contractor shall keep an ongoing log of complaints and issues, how they were resolved, and an indication of customer satisfaction. The proposal should include a solution for clear, timely communication of customer service contacts and their outcome with NDE.

NWEA will track service data in our customer relationship management (CRM) system and provide a log to NDE on a mutually agreed upon basis, which will include resolution information where applicable. If there is a particular complaint or concern that we are hearing with high-frequency, we will share that with NDE during weekly status calls to determine an appropriate response.

NWEA sends satisfaction surveys after each case is closed. This survey measures support quality and experience, satisfaction with the support representative, and resolution perspective.

Results of those surveys will be reported to NDE. Table 34 is an example of how we will report customer survey results to NDE and an example of the distributed survey.

Table 34: Satisfaction Survey Results (Example)

Action	Phone	Email	Chat	Combined
Invitations Sent Out	XX	XX	XX	XX
Responses	X.X	X.X	X.X	X.X
Response Rate	XX%	XX%	XX%	XX%
Customer Satisfaction Index	X.X	X.X	X.X	X.X
Distributed Survey Questions				

Question	Response Options
How would you rate the overall quality of support you received from NWEA on this particular issue?	Terrible - Excellent
How would you rate your recent experience with NWEA Support?	Very dissatisfied – Very satisfied
Thinking about the support representative that worked with you on your issue, please rate your support experience.	Terrible - Excellent
Which of the following best describes how your issue was resolved?	▪ With one contact to NWEA Support ▪ After two or more contacts to NWEA Support ▪ I found my own solution ▪ My issue was not resolved

Alternate Assessments

DLM delivers online annual customer feedback surveys to school and district personnel involved in the administration and delivery of the DLM Alternate Assessment. Because DLM assessments are delivered online through KITE and do not involve shipped materials, the surveys primarily focus on satisfaction with the KITE system, resources to support assessment administration, and customer service. All surveys are delivered via online survey tools.

In addition to annual feedback surveys, educators interacting with the DLM Service Desk staff may be randomly selected to receive surveys regarding their satisfaction with a specific interaction. Annual survey results are compiled and shared annually with the consortium partner states, including NDE. Results are used to ensure that the customer support interactions meet the immediate needs of educators and are also used to ensure and improve the quality of support.

The DLM customer support team uses a ticket tracking system to maintain customer contact history and contribute to the team's continuous improvement processes. Inbound calls and emails are logged within this system, including contact name; contact email; district; school; date and time of event; and all subsequent communication related to the incident, summary, and resolution time. Each incident is categorized according to a set of predefined topics and subtopics aligned with defined support categories. These categories are continuously refined to ensure that both metrics and the resulting questions are classified to provide valuable information when constructing future training and documentation.

DLM customer support communications retained in the ticket system feed into monthly reports showing aggregate communication trends. A detailed report including individual contacts will be extracted from the ticket system each month and provided to NDE to show the individual communications as logged by the customer support team. Tickets for all DLM states are also evaluated at the consortium level to identify areas for future training or improved documentation. Common topics are shared with state partners during periodic partner calls.

3. Shipping Requirements for all paper/pencil assessments

a. The proposal must describe the shipping method, shipping agent, and process that will be used. The method must:

The NWEA subcontractor for this program, EDS, will use UPS ground and two-day shipping services to send materials to and receive materials from districts and/or schools. The system interfaces with the in-house UPS shipping system, thus making certain that deliveries are made to accurate and correct addresses. The system runs an address verification algorithm against the UPS database of known addresses before shipping, giving EDS shippers an opportunity to verify discrepancies.

To ensure correct deliveries to all sites, all boxes belonging to a school or district will be numbered and labeled with unique barcode numbers that are loaded into the system. The labels will also include the name of the site coordinator, the site name, and the shipping address.

Because DLM assessments are delivered online through KITE and do not involve shipped materials this requirement is not applicable to the proposed Alternate Assessment solution.

i. Allow districts to designate date of arrival of shipments to assure district has staff available to receive shipments. Ship test materials directly to schools and notify the District Assessment Contact (DAC) of the shipment. Test materials must arrive in districts in a two-day window 10-15 working days before the first day of testing.

Districts will use the system to designate a materials arrival window that conforms to the requirement that materials arrive in a two-day window 10-15 working days prior to the start of testing.

The system will allow materials to be shipped directly to schools. EDS will pre-load the school addresses and contact person names into CORE for printing on packing lists and into the UPS system for producing out-bound shipping labels. EDS will time the shipping of materials based on the dates designated by each district for receiving shipments. EDS will ship materials two days before the first day of the arrival window, and will use a two-day shipping method to ensure documents arrive within that window.

ii. Have a process for communicating with the schools regarding shipping/receiving. Schools should be able to track shipments online.

Once materials have been shipped, EDS will enter the electronic UPS shipping records into the system and tracking numbers will be available via the Materials Tracking component. Districts, and schools may login to see shipping information (date shipped, order number, tracking number, etc.). will also send an automatic email notifying the District Assessment Coordinator (DAC) and school coordinators that boxes have shipped and providing a link to the appropriate tracking numbers. The DAC will be able to view all tracking numbers and school coordinators will be able to see the school's tracking numbers. NWEA will provide a customer service phone number for resolving any shipping questions from school or district personnel.

Figure 44 shows a sample materials tracking webpage that provides shipment and tracking information for shipments arriving at the district/school (e.g., test materials and reports) and for shipments sent from the district/school arriving at EDS (e.g., returned test materials for processing).

Figure 44: Sample Materials Tracking Information. This site provides districts and schools with quick access to the status of shipments.

The Materials Tracking component will allow EDS and the district and school assessment coordinators to track the shipment and view who signed for the shipment upon arrival.

To detect and remedy shipping errors quickly, 100 percent of shipments containing test documents will be tracked to and from sites. Should the UPS tracking system show that a box is still in transit or otherwise marked as an exception, the Project Manager will inform customer support immediately who will place a call to the district/school for a verbal confirmation that all materials have been received. If a box is missing, EDS will place a tracer on the box. UPS will institute its standard "tracer" procedure to look for the box in its *Overgoods/unlabeled box* center, as well as the transit hubs the box traveled through. EDS will continue to follow up on the missing materials until the case is resolved.

iii. The NDE must be notified of shipment/delivery of all materials and provided updates on the status of undelivered materials.

As part of the planning and setup, the Materials Tracking component will be customized to produce a report for the NDE that will include notifications of shipment and delivery for all materials, as well as the status of undelivered materials. The report will be updated daily throughout the shipping period and will

reconcile all shipments (i.e., identify all boxes shipped, boxes delivered, date delivered, signature of receiving party, boxes not delivered, and final resolution).

Additionally, through its secure login credentials, NDE will have access to the administrative portal of the Materials Tracking component and may login and review the status of materials shipments for all districts and schools at any time.

iv. The proposal must include a description of procedures to deliver additional materials in a manner that does not delay test administration to schools that receive incomplete shipments or do not receive shipments.

If districts or schools need additional testing materials, ancillaries, or supplies at any time before or during testing, they can place an additional order through the Order Management system. Orders will be processed daily and will be packed and shipped within 48 hours after receipt using a two-day delivery service.

While the UPS tracer procedure is in progress for lost or delayed materials, EDS will fulfill the shortage of materials to avoid any testing delays.

To ensure prompt deliveries of materials, EDS will review reports of delivered materials at all schools and if a school does not receive its shipments within the two-day window and the tracking information indicates the shipment will be delayed or has been incorrectly shipped, within one day EDS will pack and ship a replacement order for materials. EDS will ship any replacement orders so that they arrive at schools so as to not delay test administration.

Figures 45 and 46 show examples of the additional orders webpages. This system will be configured for use with the Nebraska Statewide Assessments.

Figure 45: Additional Order Entry Form. Districts and schools can easily order additional materials through the CORE Order Management system.

A listing of NDE assessment materials will be loaded into the system and available as a dropdown menu in the additional ordering component. Once a user enters an additional order, the system will present an order summary screen for review and verification. When the order is submitted, the user can see the packing list and see the order status.

Figure 46: Additional Order Summary. Users can quickly see the packing list and summary of an order.

Every order will be accompanied by a detailed packing list and tracked through the Materials Tracking system. When the additional order is shipped, the electronic record will be fed into the system and the tracking number of the shipment will be available in the Materials Tracking component.

b. The Contractor will pay for the return shipment of testing materials from the schools. Schools will ship all secure materials directly to the Contractor following testing. Schools will be able to track shipments online. The proposal must describe the proposed method of shipping.

For the return shipment of test materials, EDS will provide districts and schools with an online system for requesting a pickup from UPS through the Request-a-Pickup (RPU) component of CORE. District or school coordinators will login to the system and provide the number of boxes in the shipment. If the shipment has thirty-five or more boxes, schools will have the option of creating a pallet and specifying a pallet pickup.

Upon a request by a district or school, the system will generate an electronic request for UPS to provide pre-printed and pre-paid shipping labels, and to pick up the materials at the requested location. A UPS driver will arrive at the location within three days, provide the pre-paid shipping labels, and take the boxes.

After the boxes are picked up by UPS, school site and district assessment coordinators, as well as EDS are able to track the shipments through the Materials Tracking component. A single drop location is provided for the EDS warehouse. All materials will be shipped to the EDS warehouse.

The Test Coordinator's Manual will provide instructions for packing and labeling all boxes for shipping and provide instructions for how to use the application.

Figure 47 presents an example of a webpage used by districts and schools to enter information needed for UPS to pick up the materials.

Figure 47: Request a Pickup. Districts and schools can request UPS pick-up through the CORE RPU application.

c. The Contractor must account for the return of all secure testing materials. The proposal must include a description of methods and procedures used to track shipments from schools and follow-up with schools that have not returned materials.

Accounting for and tracking of materials has been covered in the above response. However, our quality process does not end with the boxes arrive at our warehouse.

As boxes arrive at the secure EDS warehouse, the EDS receiving system assigns a unique box ID to every box. Barcode labels are generated and placed onto each box. This allows the database to assign the box to the correct project and unique entity codes. The box identifiers are used throughout the system to account for every box received and to ensure that every box gets processed.

EDS will process all secure testing materials returned for scanning and/or storage using the following secure procedures:

- Upon receipt of secure test materials at the EDS warehouse, all materials will be accounted for as they are removed from the shipping truck.
- Boxes are checked into the receiving system and are given a unique identifying barcode label that begins the tracking audit within EDS's operations warehouse tracking and inventory system database called OPSYS.
- Box barcode labels are scanned into OPSYS as the boxes move through the check-in process and again when they are disassembled for long-term storage of the materials. (The last scan of the disassembled box label completes the audit of the box through EDS's processing system.)

- To account for all test materials, EDS trained document handlers will open all boxes from a school and retrieve the scannable School/Group List, and scan it into the database. This provides a control count of the number of test documents shipped by the school.
- All box barcode numbers for the school will be reconciled prior to completing the check-in process to be sure everything for the school is processed together.
- Scannable answer documents will be removed from the shipping boxes or envelopes, checked against the School Header sheets and School/Group List data.
- EDS will verify that all groups are included in the shipment. Missing groups are marked in OPSYS and researched by the project management team, or through customer service and the school.
- For each school the scannable answer documents are placed into a labeled "scan box." All scan boxes are accounted for by a unique sequence number that is recorded in the OPSYS database and linked to the school name and CD code. Once a scan box is full, it is labeled and scanned into OPSYS, and then moved to the scanning area for further processing. All documents in the scan boxes are documented as belonging to that scan box.

d. The Contractor must notify NDE of the status of the return of all secure test materials. The proposal must include a description of the procedures used to gather information and anticipated timeline for providing the information. The proposal must describe the procedures that will be followed when materials are not returned.

As described above in our responses to a, b, and c, the NDE will remain informed regarding the status of materials at they are distributed and collected from districts and schools.

EDS will notify NWEA of the shipping status of all secure test materials. For non-scannable test materials, EDS document handlers will unpack all documents and count the test booklets and Administrator Manuals returned by the school. The counts will be entered into the system, which will be used to compile a listing of the number of documents received as compared to the number shipped.

Once the scannable answer documents are scanned, barcodes and counts by school will be compared to the number of tests shipped, and all materials will either be accounted for or listed on a report as missing.

On a daily basis throughout the period, EDS will track materials that are to arrive and follow up to ensure all shipments are received. EDS will report missing shipments and any missing materials to customer support who will contact schools and attempt to reconcile and retrieve them. Schools may use the RPU system to return additional items throughout the process. Any missing materials that cannot be retrieved from schools will be reported to NDE.

E. Scanning/Imaging for Paper/Pencil Assessments

1. Efficient, accurate scanning

1. The Contractor is responsible for the efficient, accurate, and reliable scanning and/or imaging of all student responses and any student demographic information provided by the student and/or school principal for paper/pencil assessments. In addition, the Contractor is responsible for scanning or imaging all ancillary materials, as appropriate. The proposal must provide details regarding the accuracy and reliability of the scanning technology system including descriptions of:

EDS will be responsible for the efficient, accurate and reliable scanning and/or imaging of all student responses, and for capturing student demographic information provided on the paper/pencil assessments. EDS will also scan or image any ancillary materials as needed. Figure 48 shows the flow of papers from arrival through scanning.
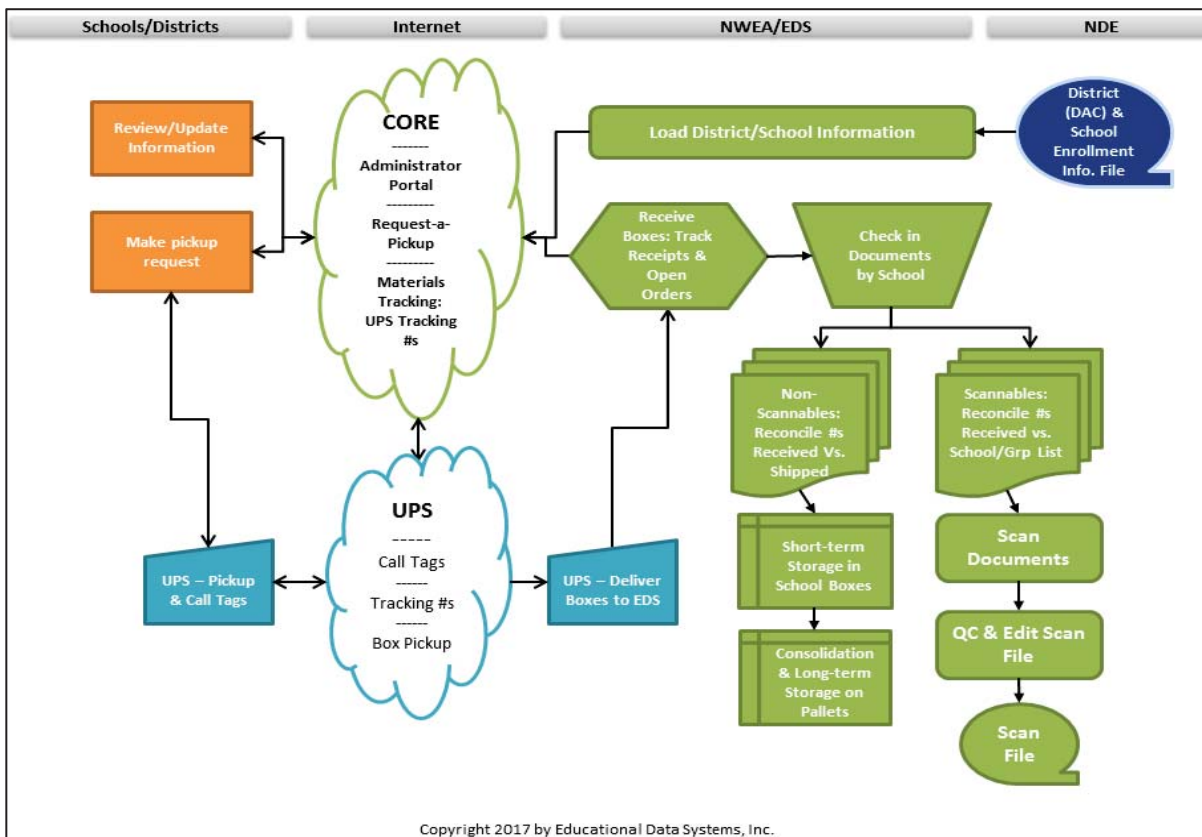

Figure 48: Documents from Arrival to Scanning. Documents move efficiently through the scanning process.

Upon receipt in the EDS warehouse, scannable documents will be placed in labeled and marked scan boxes, and moved into the scanning area. As a quality control check, operations personnel will track the number of documents received and checked in then fill in the number on a scannable header sheet that is placed on the top of the forms in the scan box. This number will be scanned and included as a control number in the electronic scan file, and used to verify the final number of electronic records scanned and the number checked in.

EDS will scan the scannable test documents using NCS 5000i scanners. These scanners are extremely reliable and provide high-speed optical mark reading (OMR) and image scanning with the following features to provide efficient and accurate scanning:

- Automatic feed and dynamic de-skewing of sheets
- Two wait stations for improved scanning control
- Sensors to detect multiple sheets, thickness errors, and jammed documents
- System messages displayed on the system monitor in text and graphics
- Dot matrix transport printer that prints a serial number directly on the edge of every document

- Barcode readers that contain two high-powered red LEDs and a single photo diode (sensor)
- Software to create custom form applications that control the scan method (OMR or image), scanner mark threshold, scanner mark discrimination, grid locations, and number of responses per grid

EDS operations leads perform regular maintenance on the scanners to ensure accurate scanned results. Additionally, EDS contracts with a professional maintenance company for routine preventative maintenance on the equipment, including monthly scanner checks that verify proper functioning of the belts, read heads, transport bed, transport printer, computer system, and electronic boards. This service also includes periodic major maintenance checks after 10 million scans. EDS adheres to strict maintenance schedules for all scanning equipment.

EDS operators routinely run calibration and read verification checks on the scanners. Calibrations are done at the beginning and end of every shift (or more often if errors are detected). Read verification checks are done every several thousand sheets. The read verification check involves scanning a control sheet that provides accuracy values. Read verification determines if the sheet is being skewed, if the dark and light marks are correctly read, etc. The operator reviews those values and determines if they are correct. If they are, scanning can proceed. If the values are not correct, the operator will clean and recalibrate the machine and rerun the read verification test. If needed, the scanners will undergo more major review and repair until the marks are accurately being read.

a. Programs have been prepared to accurately scan and image all test materials.

The NCS5000i scanners are completely programmable, and an EDS scanner programmer will write custom software programs to capture the data and responses to all items on the scannable test documents. EDS will test the accuracy of scanning by preparing and scanning a comprehensive "test deck" of control data. Any discrepancies between the scanned results and the known test deck data will be resolved prior to using the scanner programs with operational test documents.

Scanners will scan both sides of each sheet at the same time and accurately capture the marked bubble grids. The scanning process will capture the NDE student ID to use for linking the scanned response data with existing demographic data. In the event that the documents are not pre-coded, the scanners will collect student demographic data that is filled in on the bubble grids.

In order to provide metadata related to the scanned record, while programming the scanner, threshold and mark discrimination values are set for the application. The threshold determines how dark a mark must be on a form before the scanner detects it. The discrimination determines the degree of difference in the darkness that is permitted for valid marks.

When a mark is read, if it meets or exceeds the threshold value, the scanner returns the mark as a valid response. If there are multiple marks within a grid that requires one valid response, the scanner will perform mark discrimination between two valid marks, compare the marks' intensity levels, and if the scanner is successful in discriminating between the two marks, it will choose the darkest mark. If it not successful (i.e., the two marks are of the same intensity), the scanner will return a multiple mark code (generally an "*").

The scanner program will tally the number of valid marks, including the number of times the scanner had to discriminate between marks, the number of light marks, and the number of multiple marks for each response grid. This will provide data that can be analyzed further in the data forensics analysis.

b. Scanning database is error-free and contains valid responses in all fields.

EDS follows a strict set of procedures to ensure all responses are captured accurately and the scanning database is free of errors. EDS will write custom editing programs for the test document scanning based on the design of the scannable response documents and the validity requirements for all data fields. The scanner program is set up to take small snippets of images of editable fields while the sheet is being scanned. These fields are tested for valid data and if they do not pass the test, the snippet is passed to an editing station for review. The editing screen shows the image of the write-in grid and the scanned data (for example, a multiple mark, missing data, or erroneous data), allowing an editor to correct the data on the screen. Editors can move very quickly through the edits without having to review the actual paper documents.

To further ensure validity of the scanning, EDS data processors will create a scanner control header and trailer sheet that will be read at the beginning and end of every scanned batch. The control sheets will server to test the scanner quality using known values and marks. During editing and quality checking steps, data processors will analyze all of the scanned control records to verify that they pass the quality checks (e.g., all marks were picked up and had the correct mark discrimination values, multiple mark values, etc.). If a record does not pass the quality checks, data processors will review the scanned records in the batch to check them all for accuracy. If needed, the batch will be rescanned so that the scanned data is verified as accurate.

Just after scanning, EDS will perform a variety of detailed data checks on all scanned data files. EDS will verify the number of electronic records against the number filled in by operations staff during check in, and check the quality of the scanning to be sure the scanner was properly calibrated and picked up responses accurately. If there are any concerns or abnormalities in these checks, data processors will review the scanned results against the actual scannable document and hand verify the scanning. Additionally, EDS will check the quality of the editing programs with a test deck of known values, and then analyze this for expected results. The source of any discrepancy will be corrected prior to scanning and editing of operational test documents.

After scanning, a final reconciliation of the scanned student records, the scanned number from the School and Class headers, and the School/Group List records will be performed to ascertain that all documents checked in are contained in the scan file.

c. Reports describing any materials that could not be scanned due to damage caused by the school, Contractor or other reasons.

EDS will produce a report for each batch of scanned test documents that will include counts of documents that could not be scanned. The report will also contain a summary breakdown of reasons the documents could not be scanned, for example they were damaged at the school, or they were damaged during shipping or receiving. However, if EDS scanner operators encounter issues with the scannable documents, they will attempt to correct them. For example, they will repair a small tear with clear tape, remove stick-on notes or other foreign objects or paper clips, or remove folds or other issues with the sheet. If a sheet is not scannable for some reason, it will be flagged and provided to a data processing lead who will hand enter the data (and an additional resource with verify the data entry a second time) from the sheet. These measures will allow all student documents to be scanned or otherwise entered into the computer for scoring.

The final edited and verified scanned data will be provided to NWEA in a pre-determined layout for scoring and analysis. Each student record will be identified by the NDE student ID to ensure that the assessment responses are matched with the correct individuals.

F. Scoring for All Assessments

1. General education and alternate assessments

a. The proposal must include a description of the methods used to ensure and verify that the tests have been properly scored.

Ensuring the accuracy of the scoring starts with item development and reviews. Both after field testing and post-operationally, all items will go through a statistical analysis. Items will be flagged according to psychometric criteria to ensure that items are keyed (multiple-choice) accurately and that scoring rules are applied accurately. The flagging criteria are provided in detail in Section G At the test level, we will run analyses annually to ensure that the overall scores, subscores, and impact data by achievement level are consistent with expectations (i.e., range, distributions, item to subscore, raw score to scale score and cut score). A summary of all item flags and test analyses will be included in the technical report and to guide future item review and development. (Please see Section G for details.)

For printed tests, the processes and procedures are in place to validate scoring and verify that scores are accurate. For instance, scoring keys are applied during scanning of the test/answer documents and are subsequently re-checked and rescored downstream prior to generating reports. For items that are not multiple-choice, it is additionally important to test and verify that the scoring rubric and algorithm for machine scoring is consistent with previous scoring rules for operational items, and reflects desired scoring for new items. This score validation at different stages and by different systems further enhances the accuracy of scoring and reporting.

Additionally, NWEA will work with NDE to create a test deck that will be used as a tool to verify and validate end to end testing of all systems, which includes online and paper/pencil tests. The design of these test cases will ensure checking of test keys and points obtained (scored by our engine), as well as validating the corresponding scale score and proficiency level in the final reporting phase. This end-to-end User Acceptance Testing (UAT) process will be a tool to allow for the NDE to be part of the validation of the various systems and applications configured by us to meet the NDE's scoring and reporting business rules. This UAT process will also be a pre-cursor to the final production release to districts and schools. NWEA has found this activity very valuable, in both demonstrating and providing confidence to the NDE with regards to the accuracy of scoring students' tests.

Additional information about how EDS verifies the accuracy of the scoring system is provided in Section E.1.

Alternate Assessment Scoring Methods

The DLM alternate assessments are administered via a computer based platform and all responses are entered in the computer. There is no hand scoring available for any DLM items. Most items are automatically scored in the KITE platform. For the small number of technology-enhanced items not automatically scored in KITE, scripts written in the R programming language, and carefully checked for quality control, are used to translate item responses to scores for the item. The complete set of item responses is used for calibration and scoring of the assessment.

b. The proposal must include a description of the methods used to merge online and paper/pencil assessment results.

The same scale will be used to score online and paper/pencil versions of the Nebraska Statewide Assessments for the general assessments.

The EDS scoring and reporting systems are customized and configured to meet different states' need of merging online and paper-pencil tests, prior to generating score reports. As stated in the requirements of this RFP, NWEA will configure our processes and systems to use the unique State Student ID as the primary key to identify and match/merge student responses from online and paper-pencil tests, and create one master data source file for scoring and assigning scale score, etc. prior to generating reports. The practice of using unique a student key is already in place and more details about this have been described in the rostering process.

We will run checks with quality control data files in advance of scoring to ensure the merge is planned and carried out successfully.

All DLM assessments will be administered online.

c. The Contractor will provide a report documenting irregular responses such as blank answer documents, excessive item non-response, and excessive multiple marks at the district and school levels. The NDE and Contractor will determine levels of excessive non-response and multiple marks, and other indicators of irregular response. The proposal must describe how this requirement will be met.

NWEA will work directly with NDE to determine the rules for excessive non-response, multiple marks, or other irregular responses. Section E.1. describes the full process that EDS employs to program the NCS 5000i scanners as well as the operational and quality control procedures implemented to capture the raw student response data. Some of the data that we be captured includes darkest marks, intensity levels of all marks, erasures, and blanks. After analyzing this information, we will be able to determine which students displayed irregularities based the predetermined rules.

It will be important for NDE to be able to make decisions about individual students using this data, especially for students who may not have attempted the test (mostly or completely blank) or students who were disengaged (excessive marks). NWEA will provide a report detailing our findings for any student that meets the predetermined criteria at the district and school level

Alternate Assessment Irregularity Reporting

The DLM alternate assessments are delivered via a computer based assessment platform. There are no paper forms. Analysis of potential response irregularities is based on the design of the system. Teachers choose Essential Element and linkage level during the instructionally embedded component, and the system assigns testlets during the spring component. As such, assessments are delivered at a level appropriate to the student which decreases the instances of non-response or blank answers. Testlets at the lowest linkage level include an answer option that allows test administrators to indicate if the student was unable to respond to the item. Furthermore, the KITE platform prohibits multiple marks from being submitted in the system.

Testing irregularities are also identified by evaluating testing time based on start and end date and time stamps collected for each testlet. Additional analyses of testing irregularities are evaluated throughout the window and informed by feedback from NDE.

The online Educator Portal platform also allows the state department to determine if special circumstance codes should be made available to describe reasons for students not participating in the assessment. If the state chooses to make such codes available, and specifies which specific codes test administrators can input, a supplemental file is provided to the state accompanying delivery of the full student data return file to indicate which students were not assessed due to special circumstances (e.g., chronic absences)

d. The proposal must include a solution for real time and end-of-testing support of NDE in data forensics, including irregular responses. The Contractor is expected to provide a solution for not only reporting on data forensics, but supporting NDE in its use of the report and follow up on issues of concern indicated in data forensics report.

We are offering NDE a comprehensive, innovative, and technically sound data forensics plan through our partner, Caveon. This system will ensure that tests are fair and valid for all students. The details of this plan are provided in G.8. Data Forensics.

Alternate Assessment Data Forensics Support

There are a large number of possible forensic analyses available for investigating test data for possible security breaches, all of which require the collection of specific types of data. Over time, testing programs develop and refine their data collection architecture and mechanisms for the purpose of doing more sophisticated and useful data forensics. During this process, feedback is solicited from NDE and the Technical Advisory Committee to inform subsequent analyses.

The DLM alternate assessments currently collects date and time stamps for the start and end of each testlet. These time stamps can be used to identify unexpected values for when students are testing, for example if times are outside normal school hours or on weekends. Additionally, functionality is being built for the 2017-2018 academic year to collect "click history" within the system, which captures a date and time stamp for every selection the student makes while completing the assessment. This extensive click history can be used to detect answer changing behavior, including wrong-to-right answer changes, as well as detect aberrant response time when responding to items.

Additional forensic analyses may include analysis of the relationship of First Contact complexity band and the linkage level of the student's last testlet, and identification of students who began the assessment at a lower linkage level and continually routed up a linkage level until reaching the successor level. Furthermore, methods will include evaluation of aberrant patterns at teacher, school, and district levels within the State, and methods for evaluating items and testlets for over-exposure. All findings will be delivered to State partners for their use in evaluating the fidelity of implementation.

G. Analysis for Statewide Assessments

1. Calibration and Scaling

a. The Contractor will calibrate test items using an appropriate item-response theory (IRT) model(s). The proposal must include a discussion of the benefits of the proposed IRT model, its appropriateness for the tests, and indicate which software will be used.

The most beneficial assessment system to educators, parents, and students is one whose components provide connected, interpretable data. Where a learning continuum and achievement level descriptors tie content and expectations together, the statistical connection for comparable scores across assessments is the calibration of items across the system.

We understand that the NDE's current item bank was calibrated using the Rasch item response theory (IRT) model for dichotomous items. We propose using and extending this model to incorporate polytomously scored items with the corresponding generalization of the Rasch model, the partial credit model [13]

Continuing to use the Rasch model to complete this work will also support a more seamless transition to a comparable interim scale – such as on our MAP assessments, already in use in the majority of Nebraska schools – enhancing information on student progress *throughout* the year.

The Rasch model is familiar to the NDE. It is used on the current Nebraska State Accountability (NeSA) assessments in which all items are dichotomously scored, as shown in Formula 1.

$$\pi_{ni} = \frac{\exp(\beta_n - \delta_i)}{1 + \exp(\beta_n - \delta_i)}$$

[Formula 1]

where π_{ni} is the probability of person *n* answering item *i* correctly, β_n is the ability estimate of person *n*, δ_i is difficulty of item *i*.

With the addition of TEIs to the Nebraska assessments, it is important to use a calibration model that uses all information provided by a student's response to each item. These item types are optimally scored with the partial credit model. The partial credit model generalizes the dichotomous Rasch model to take into account multiple score points between the score 0 and the maximum points possible for the item. A multiple-choice item, scored either right (1) or wrong (0), can be scored as a partial credit item with 1 point, as Formula 2 shows.

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[13] Masters, G.N., "A Rasch Model for Partial Credit Scoring," *Psychometrika*, 47 (1982): 149-174.

$$\frac{\pi_{1ni}}{\pi_{0ni} + \pi_{1ni}} = \frac{\exp(\beta_n - \delta_{i1})}{1 + \exp(\beta_n - \delta_{i1})}$$

[Formula 2]

where π_{ni} is the probability that person earning a point on item i given only two outcomes can occur (0,1), and what was in formula 1 δ_i is now δ_{i1} to show this represents the first point of item i [14].

Formula 3 shows the full partial credit model when more than one score point is used:

$$\pi_{nix} = \frac{\exp \sum_{j=0}^{x}(\beta_n - \delta_{ij})}{\sum_{k=0}^{m_i} \exp \sum_{j=0}^{k}(\beta_n - \delta_{ij})} \qquad x = 0, 1, \ldots m_i$$

[Formula 3]

where π_{nix} is the probability of person n scoring point x on the rubric to item i, β_n is the ability estimate of person n, δ_{ij} is the measure for the score point category, and m_i is the maximum number of score point for item i. It is based on a defined constraint shown in Formula 4.

$$\sum_{j=0}^{0}(\beta_n - \delta_{ij}) \equiv 0$$

[Formula 4]

Appropriateness for Nebraska Statewide Assessments

The Rasch model is appropriate for use on the Nebraska Statewide Assessments because it has a long precedent of use in the state. It is the optimal model with which to maintain the test scale, and because of its use stakeholders are likely familiar with one of its most advantageous properties: it is a sufficient statistic for estimating student ability.

For the Rasch and partial credit models, item difficulty and student ability are estimated on the same continuum. That is, the number of correct responses to a given set of items is a sufficient statistic for estimating student ability. As a result, each student with the same raw score will be assigned the same estimated ability. George Rasch reasoned that one-person parameter (ability) and one-item parameter (difficulty) must govern the interaction between the person and the item. If the person has a higher ability than the item's difficulty, the person has a greater likelihood of getting the item right. If the

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[14] Ibid.

person has a lower ability than the item difficulty, the person has a greater likelihood of getting the item wrong.

The above line of reasoning led to the simple logistic model, along with several closely related properties:

- Mathematical separability of the model parameters
- Sufficient statistics that do not involve the parameters
- Specific objectivity in the measurement

Specific objectivity means, mathematically, that the estimation equations for ability do not involve the difficulty parameters, and the equations for difficulty do not involve the ability parameters. In practical terms, this means that students can be ordered along the measurement continuum by their number correct scores and that items can be ordered along the continuum by difficulty. It is specific objectivity that is the cornerstone of Rasch methodology.

Software to Be Used

The unconditional, joint maximum likelihood estimation of items using Rasch and the partial credit model will be accomplished using Winsteps [15]. This calibration software is commercially available, widely used in the testing industry, and currently used on the NeSA. The extensive capabilities of the Winsteps program will be utilized to assess unidimensionality, item interdependence, and other deviations from the model. The program has many options for the exploration of person-item residual matrix [16].

Calibration and Scaling the Alternate Assessments

The basis of the DLM alternate assessment system is a learning map model of interconnected skills, called nodes. Nodes are measuring by testlets that consist of multiple items. Testlets measure one or more nodes in the learning map, and are available at different levels of complexity, called linkage levels. In English language arts and mathematics there are five linkage levels: Initial Precursor, Distal Precursor, Proximal Precursor, Target, and Successor. In science there are three linkage levels: Initial, Precursor, and Target.

Because of the underlying map structure and the desire to provide more-fine grained information beyond a single raw or scale score value when reporting student results, the assessment system provides a profile of mastered skills to summarize student performance. This profile is created using a form of diagnostic classification modeling, which draws upon on a well-established research base in cognition and learning theory but only recently applied in operational assessment programs to provide

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[15] Linacre, J. M., *Winsteps® Rasch Measurement Computer Program*, Beaverton, Oregon (2016), www.winsteps.com.
[16] Mead, R.J., "Analysis of Residuals with the Rasch Model," unpublished dissertation, Chicago: University of Chicago (1976); Smith, R.N., "Fit Analysis in Latent Trait Models," *Journal of Applied Measurement,* 1 (2000): 199-218; and Ludlow, L.H., "Graphical Analysis of Item Response Theory Residuals," *Applied Psychological Measurement,* 10 (1986): 217-219.

feedback about student progress and learning acquisition. Diagnostic classification models [17], also known as cognitive diagnosis models[18], or multiple classification latent class models[19], are confirmatory latent class models that characterize the relationship of observed responses to a set of categorical latent variables.

To create a profile of mastery, each student is classified as either a master or a non-master of each linkage level within an Essential Element based on their response to all items measuring the linkage level for the Essential Element. Mastery can be demonstrated via a posterior probability from the model ≥.80 or by providing correct responses to all items measuring a linkage level ≥80%. Additionally, mastery at lower linkage levels can be inferred by performance on testlets administered at higher linkage levels.

Latent class analysis[20] is the statistical procedure used to obtain the posterior probabilities of mastery, or the likelihood a student has mastered the skill being measured. As such, it does not provide scaled score values, but rather a probability on a scale of 0 to 1 representing the certainty of estimation. A latent class analysis is conducted for each linkage level for each Essential Element in each content area.

The calibration of the model and final scoring procedure make use of an Expectation-Maximization algorithm to iterate over possible values, gradually improving estimates, until the maximum likelihood estimates are obtained. During this process the Expectation step (or E-step) estimates the probability of a student's membership for each latent class (i.e. master or non-master). It is expressed with Formula 5:

[Formula 5]

$$h(j|\boldsymbol{X}_h) = \frac{\eta_j \prod_{i=1}^{I} \pi_{ij}^{x_{ih}} \left(1 - \pi_{ij}\right)^{1-x_{ih}}}{f(\boldsymbol{X}_h)}$$

where $h(j|\boldsymbol{X}\_h)$ represents the probability of a person's class membership given their responses, the numerator is the person's probability of item responses for a given class, $\prod_{i=1}^{I} \pi_{ij}^{x_{ih}} \left(1 - \pi_{ij}\right)^{1-x_{ih}}$, times their probability of membership in that given class, η_j, and the denominator $f(\boldsymbol{X}_h)$ is the probability of that person's item responses, or the full likelihood.

The Maximization step estimates model parameters, including the item parameter, π_{ij} for each item *I* and class *j*, and the proportion of people in a given class, η_j.

[17] Rupp, A. and Templin, J., *Unique Characteristics of Diagnostic Models: A Review of the Current State-of-the-Art. Measurement,* 6 (2008): 219-262; and Rupp, A., Templin, J., and Henson, R., *Diagnostic Measurement: Theory, Methods, and Applications,* New York: Guilford Press (2010).

[18] Leighton, J. P. and Gierl, M. J., editors, *Cognitive Diagnostic Assessment for Education: Theory and Practices,* New York, New York: Cambridge University Press (2007).

[19] Maris, E., "Estimating Multiple Classification Latent Class Models," *Psychometrika*, 64 (1999): 197- 212.

[20] Macready, G. B., & Dayton, C. M. (1977). The use of probabilistic models in the assessment of mastery. Journal of Educational Statistics, 2(2), 99-120.

The item parameter is determined by Formula 6:

$$\pi_{ij} = \frac{\sum_{h=1}^{N} x_{ih} h(j|\boldsymbol{X}_h)}{N\eta_j}$$

[Formula 6]

where $h(j|\boldsymbol{X}_h)$ represents the probability of a person's class membership given their responses, which was estimated during the E-step, the numerator is the sum of those probabilities across all respondents, weighted by the posterior probability of each respondent actually being in that class, x_{ih}, and the denominator is the number of respondents, N, times the proportion of people estimated to be in the class j. Because the assessment system uses a fungible item model, all items measuring a linkage level have the same parameter for each class.

The parameter η_j is determined by the following formula:

$$\eta_j = \frac{\sum_{h=1}^{N} h(j|\boldsymbol{X}_h)}{N}$$

where $h(j|\boldsymbol{X}_h)$ represents the probability of a person's class membership given their responses, which was estimated during the E-step, the numerator is the sum of those probabilities across all respondents, and the denominator N is the number of respondents.

Model calibration occurs on an annual cycle, prior to the spring window, using all operational data from prior years. The model is calibrated using the Expectation-Maximization algorithm until the convergence criteria, change in log-likelihood to < 0.00001, is met. During the calibration process, initial values of 0.9 and 0.1 are provided for each class, masters and non-masters respectively, to prevent their definitions from switching during estimation.

After the close of the spring testing window, the final calibrated model parameters from the Maximization step described above are used to run the Expectation step a final time. This results in the final student posterior probabilities for each linkage level, which are used for scoring rather than a raw or scale score value.

For every Essential Element, the latent class results are combined to determine the highest linkage level mastered for each Essential Element. The number of linkage levels mastered is summed across all Essential Elements to determine the total number of linkage levels mastered for each content area. The total linkage levels mastered are used to distinguish between performance levels. The consortium currently makes use of four performance levels (see Section I for more information on NDE specification of performance levels):

- The student demonstrates **emerging** understanding of and ability to apply content knowledge and skills represented by the Essential Elements.
- The student's understanding of and ability to apply targeted content knowledge and skills represented by the Essential Elements is **approaching the target.**
- The student's understanding of and ability to apply content knowledge and skills represented by the Essential Elements is **at target.**
- **The student demonstrates** advanced understanding of and ability to apply targeted content knowledge and skills represented by the Essential Elements.

Performance levels are differentiated by panels of expert educators during a standard setting event that determines the minimum number of linkage levels required to reach a performance level.

b. The Contractor will translate student composite or total scores to a reporting scale developed for each subject area and grade level test. The proposal must discuss methods for creating a reporting score scale consistent with the reporting requirements.

Creating Nebraska-specific scales will be a collaborative process between NWEA, the NDE, and preferably the Nebraska TAC. Total scores as scaled scores are useful in that they are created to be a more meaningful interpretation of student achievement across test administrations across years and across grades. We propose leveraging and adaptively administering NDE's item bank, followed by concurrent calibrations. For both English language arts and mathematics, items will be concurrently calibrated across grades so that all items are on the same underlying scale. Due to the adaptive nature of the assessments, and the NDE's desire to show growth across grades, we propose a concurrent calibration with items above and below adjacent grades in order to develop a vertically articulated scale, described below.

NDE has the option of leveraging the flexibility in ESSA for off-grade item administration. Beyond scaling, NWEA is ready to support NDE in adapting items operationally specific to a given grade level and to allow for off-grade administration, should off-grade item administration be desired. This can be addressed by adapting the assessments based on grade-level requirements and constraints, and including less prioritized constraints to adapt above and/or below grade for increased precision and instructionally useful information. The resulting scale scores may reflect the grade-level expectations and items only, reflect the ability estimated by items administered above/below grades. The latter provides increased precision and stability in vertical scale score interpretations, which can be difficult in the extreme scores with grade-specific administrations.

c. The proposal will include a plan for strong measurement of growth through vertical scaling or other method.

Measuring student growth from grade to grade and within a grade, is an important part of the educational process. For educators, this data helps determine instructional needs for each student. For the student and the student's parents, this data shows progress over time in such a way that compliments the reported student achievement level. In establishing the numerical scale to be an outgrowth of the underlying concurrent scale, the vertically articulated scale is defined statistically in both English language arts and mathematics. We currently provide a growth index that is a statistical calculation utilizing two test administrations, the student's performance in scale score metric, and standard errors of measurement. While there are multiple methods of calculating growth, it will be important for NDE and NWEA to agree upon the most useful and interpretable calculation. We are happy to apply our existing growth index with the content specific scales, a simple scale score difference in light of conditional standard errors, and/or a value-added type model.

As achievement levels will be vertically moderated across grades to reflect both skill expectations and content expectations from grade to grade, changes in achievement across administrations provide an additional indicator of growth. Educator involvement in defining these content expectations is a key component to consider when the work to establish the scale is mostly statistical. It is this content information that is of utmost importance when interpreting student progress for educators, the student, and the student's parents.

d. The system must provide a method to report subscore results at the concept level at the school, district, and state levels. The proposal must include a description of the proposed method and a rationale for its use and provide information in addition to an overall score (e.g., sub-scores) in each content area to the degree possible within the purpose of the assessment

The NWEA Tradition in Measuring Growth

The NWEA Measures of Academic Progress are used across the nation to track student growth throughout the year. Our thirty-plus Research and Development staff including psychometricians, researchers, and data analysts, conduct analyses to ensure growth measurements are accurate and that data provided are valid and reliable. Subscores are often used to understand where in a content area students have particular strengths and weaknesses. Unlike total scores, ability estimates at the subscore level are difficult to estimate reliably without substantial test items and samples, most summative tests in the US provide raw and percent correct subscores. Valuable instructional and content standards information can be attributed to a subscore, such as the particular standards a concept's subscores represent. These are guided by the established blueprints within grade/content area. Even with raw or percent correct subscores, reliability is still a concern. NWEA will collaborate with NDE to ensure that the established blueprints include enough items, preferably much greater than 5 items measuring each concept to reliably report the desired subscores. We can provide raw scores, percent correct scores, and relevant confidence intervals to ensure the interpretations of student performance at the concept level are reliable and valid.

2. Equating

a. The Contractor will design and conduct analyses required to equate the tests from year to year at each grade level for each subject area: English Language Arts, Mathematics, and Science. The proposal must describe the proposed method for equating the tests and provide a rationale for the proposed method. If measuring the content and standards currently assessed, the proposal is to include an equating method between assessments.

We are recommending a pre-equated assessment design with adaptive administrations. That means that, in order for the test to be adaptive, operationally scored items will need to have associating parameters. (Note that field test items will be calibrated and equated to the item bank after each administration.)

In Year One we will employ a common item anchor design to ensure ample items in common across spring 2017 and spring 2018 for calibration and scaling for all grades and content areas. Embedding these core items into the assessments through prioritizations in the adaptive engine constraints ensures comparable scores across students within an administration and across administrations.

One of the first steps in test construction will be to determine the set of items that will be utilized as the anchor set. This set of items will be representative of the blueprint and of varying item difficulty across the continuum. As the item pool is cultivated in preparation for administration, the test characteristic curve established with this anchor set at the core will inform the engine so that all assessment outcomes are comparable.

It is important to verify the stability of the anchor set before using this set of items for the purposes of anchoring the item calibration. We propose using the robust Z methodology as has been used in many

large-scale assessment programs[21] as the method for confirming anchor stability. In this method, the robust Z statistic is calculated for each item in the anchor set. If the anchor set meets specific criteria, then all items are deemed stable. If both criteria are not met, then the worst offending item is removed and the criteria are calculated for the remaining item set. As items are removed, note that NWEA psychometricians and content experts will review the remaining item set to ensure that the anchor set continues to adequately reflect the content being assessed.

In Year Two, all operational items will necessarily be pre-equated in support of an adaptive administration.

After each administration, NWEA will conduct various analyses to evaluate the comparability of scores from year to year. For example, we will evaluate raw score to scale score tables, reliability coefficients, standard errors of measure by scale score, testing time, in addition to randomly equivalent samples for validation of the engine constraints on student administrations. Through the latter, we can apply more traditional analyses for "form" comparability, such as with test characteristic curves and equating evaluations. Figures 49 and 50 illustrate the comparison of two computer adaptive "forms" in terms of test characteristic curves and total test information functions, respectively.

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[21] Kim, D.H. and Huynh, H., "Comparability of Computer and Paper-and-Pencil Versions of Algebra and Biology Assessments," *Journal of Technology, Learning, and Assessment,* 6(4) (2007), retrieved April 2009 from http://www.jtla.org.
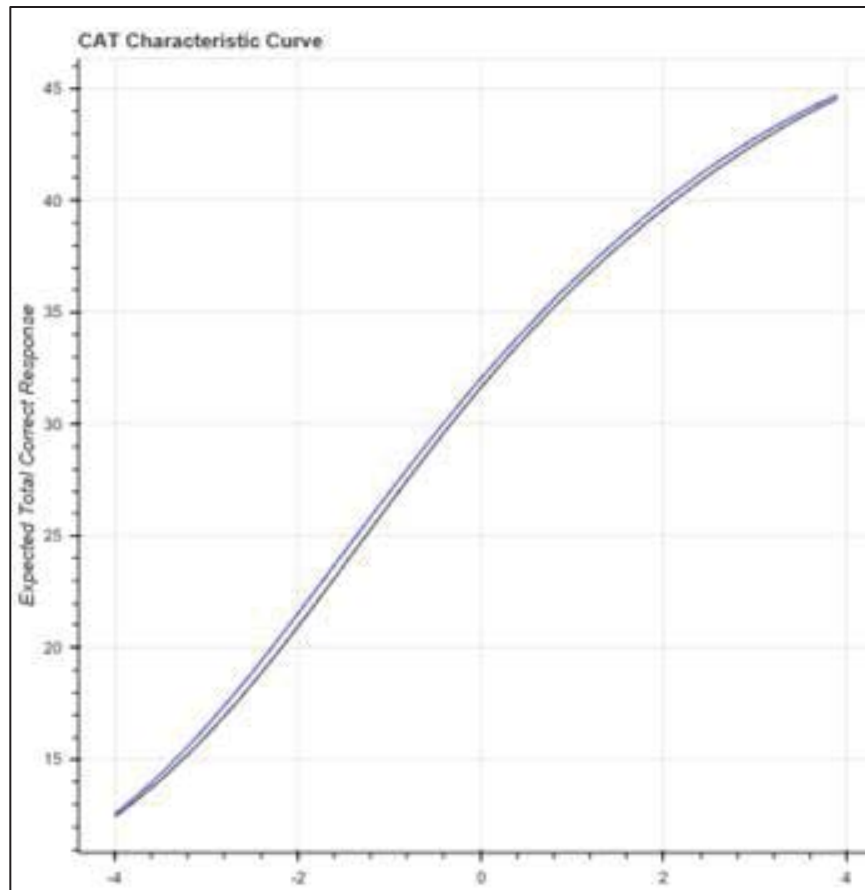
Figure 49: Comparison of Two Computer Adaptive 'Forms.' This figure shows test characteristic curves across two "Forms" for year-to-year scale evaluation.
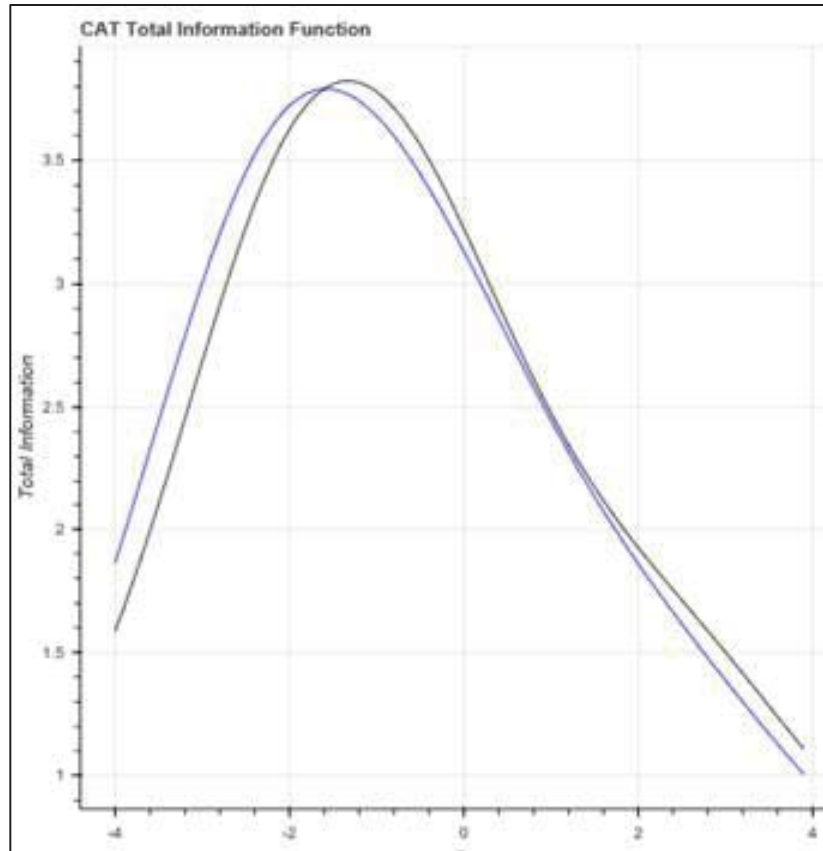
Figure 50: Comparison of Two Computer Adaptive 'Forms.' This image shows total test information functions across two "forms" for year-to-year scale evaluation

Equating the Alternate Assessments

In traditional, score-based psychometrics, equating adjusts scores on a continuous scale to put them on a common metric. For DLM alternate assessments there is no continuous scale. Instead there are dichotomous mastery decisions for each linkage level of each Essential Element. For DLM alternate assessments, we define each item measuring a linkage level to have a common difficulty for masters and for non-masters. All items measuring that linkage level then are fungible, meaning they are interchangeable because each provides about the same amount of information. This process of item selection eliminates the need for equating as the properties of the items are kept similar across the assessment. Such methods are currently in place in assessment programs such as the Lexile framework by MetaMetrics®[22] .

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[22] Stenner, A. J., Smith, M., & Burdick, D. S. (1983). Toward a theory of construct definition. *Journal of Educational Measurement*, 20, 305–315.

b. The Contractor will design and conduct analyses required to calibrate and equate test items across test forms within a single year. The proposal must demonstrate an understanding of the test design and describe the method proposed for accomplishing this task.

Since NWEA is suggesting an adaptive approach for all subjects, there will not be unique test forms in the traditional, fixed-form sense. As indicated in the previous section, we will conduct concurrent calibrations of the items administered, along with equating analyses via constraints applied as common anchor administrations. We will evaluate the calibration and equating results to ensure tests are comparable from year-to-year. Once the item pool is calibrated and equated, it is considered a pre-equated pool, which is required for adaptive testing. No post-equating will be conducted in subsequent years, supporting an adaptive design and pre-equating method. Field test items will be calibrated with the operational pool following each administration in common-item (operational items as anchors) post-equating design.

3. Item Evaluation for General and Alternate Assessments

a. The Contractor will produce item statistics for all field test items. The proposal must include a description of the item statistics that should be generated to assist in the evaluation of field test items including a discussion of the appropriate statistics if proposing a state-developed solution. If off-the-shelf solution, provide a description for assuring item quality of field-tested items, including statistical criteria.

NWEA proposes a robust data analysis plan for both field test and operational items. For field tested items, this data analysis plan is intended to provide detailed information on each item for review by content experts and psychometricians at NWEA, staff at the NDE, and Nebraska educators during data review meetings in consideration of whether an item should join the operational pool or not. For operational items, given the volume of items used adaptively, we propose providing any operational items with statistical flags for a round of review, as well. Similarly, statistical flags will be applied to field test items and provided during the data reviews. Our data analysis plan will be provided for NDE review during the planning phase in Year One, and will include suggested flagging criteria to be finalized with the NDE prior to conducting the analyses. Our proposed flagging criteria and item statistics are detailed next.

As is industry standard, NWEA uses the *Standards for Educational and Psychological Testing* and best practices in high-stakes testing to guide our analysis plans. Data analysis, in general, breaks into three categories that can then be disaggregated into type of analysis that can be summarized, as shown in Table 35 and described in detail following the table. Upon contract award, we will work with the NDE to confirm that our data analysis plans meet the needs of the state.

Table 35: Data Analysis Disaggregation

Analysis Category	Subcategory	Some of the statistics produced
Item Level	▪ Classical True Score ▪ IRT ▪ DIF	▪ p-value (dichotomous) ▪ Item frequency distribution by option and score point ▪ Item, mean and adjusted item mean (polytomous) ▪ Item-total correlation ▪ Point-biserial by score point and option ▪ Logit difficulty ▪ Step values (polytomous) ▪ Item fit indices ▪ DIF analyses, such as Mantel-Haenszel (MH) and standardized mean difference (SMD) ▪ Stability indices (for anchor items)
Test Level	▪ Reliability and Standard Errors of Measurement (SEM) ▪ Summary Statistics (e.g., demographic) ▪ Scaled score distributions ▪ Intercorrelations, reliabilities, and SEM for subscores ▪ Conditional standard error of measurement (CSEM)	▪ Sub-group performance (e.g., gender, race/ethnicity) ▪ Reliability estimates ▪ Raw and scale score distribution by full population and appropriate sub-groups
Achievement Levels	▪ Classification Consistency ▪ Proportion passing of student in each achievement level by full population and subgroups	▪ Decision consistency and reliability statistics ▪ Performance distribution

Data Analyses

An assessment system is only as robust as the items it contains. The multiple levels of analysis outlined in the table are purposefully conducted to maintain a high quality assessment system for the state of Nebraska and your students. The results of these analyses will be reported in the annual technical report. For field test items, the item level analyses will be used to inform what items will be reviewed in more detail through data review meetings before marking as operational.

It is standard industry practice to complete both classical true score and item response theory (IRT) analyses at the item and test level. We believe that educator review committees benefit from seeing both classical and IRT indices. Further, both types of analyses are useful when reviewing items to be a part of the operational anchor set when preparing for pre-equating of the item pool.

In Classical True Score Analyses, there are two item statistics of interest: item difficulty and item discrimination. Item difficulty, the p-value, is represented as the proportion of examinees answering the

item correctly for dichotomous items and the adjusted item mean for polytomous items. The item p-value ranges from 0 to 1 so that an item with a p-value of 0.30 means that 30 percent of students responded correctly. For polytomous items, that is, items worth more than 1 point, the adjusted item mean is calculated to allow for a similar interpretation. Consider an item worth 4 points, and the item mean is 3, the adjusted item mean is calculated by dividing the item mean by the maximum number of points available on that item. In this example, the p-value would be ¾=0.75.

The second statistic to consider is item discrimination. This is a correlation coefficient that shows how well an item discriminates between the total test score and a correct response on the item. This index ranges from -1 to +1, with large positive correlations indicating that those who responded correctly to the item tended to perform well on the assessment. Discrimination of multiple-choice items use a different method than would be applied to constructed-response items. The biserial correlation is defined as the correlation between two continuous variables with bivariate normal distributions when one of the variables can be measured only in terms of two categories (correct/incorrect). The polyserial correlation is a generalized form of the biserial correlation that accommodates items that are scored in terms of more than two categories. The criterion score for these correlations is the total operational score on the respective test.

The Rasch and partial credit models, as described in Section G.1, provide additional information to consider when reviewing item performance. Item characteristic curves (ICCs) describe the relationship between the probability of a correct response and the ability of the student. The ideal situation is that as the ability of a student increases (the x-axis), the probability of that student (y-axis) answering the item correctly also increases. The ICC provides a visual representation of item functioning across all students. For example, we can show ICCs by item or across items for a variety of item comparisons, such as shown in the plot of multiple ICCs in Figure 51.
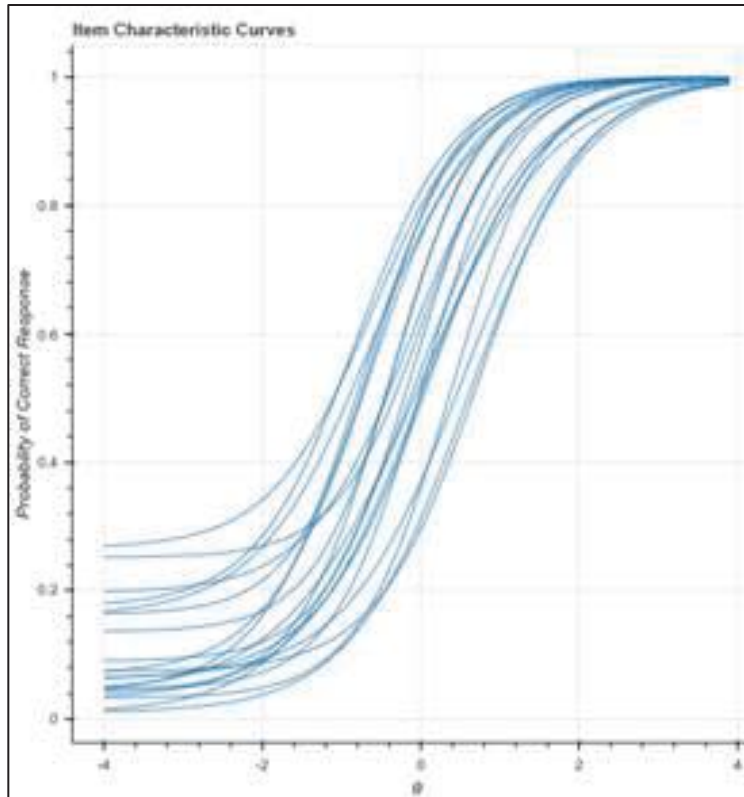
Figure 51: Item Characteristic Curves. We can show ICCs by item or across items for a variety of item comparisons, as shown here.

We will also include analyses of item information, as the amount of item and test information is directly related to the standard error of measurement. As example, we can look at the information at the item level (Figure 52), and across all items at the test level (Figure 53) with item information functions, along with overall standard error curves across the ability distribution (Figure 54). Note that these curves represent a specific sample from a much larger item pool as illustration, and as such standard error curves tend to be much lower at the tails in an adaptive administration, as the engine looks for lower error given the ability estimated for each examinee.
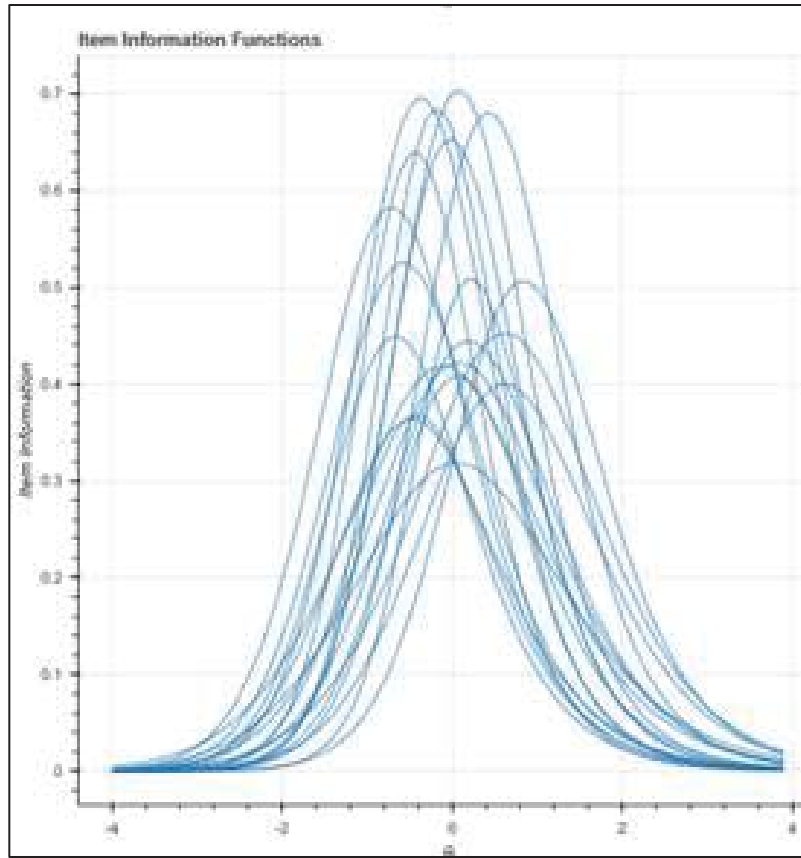
Figure 52: Item Information Functions. We will include analyses of item information, such as at the item level, as seen here.
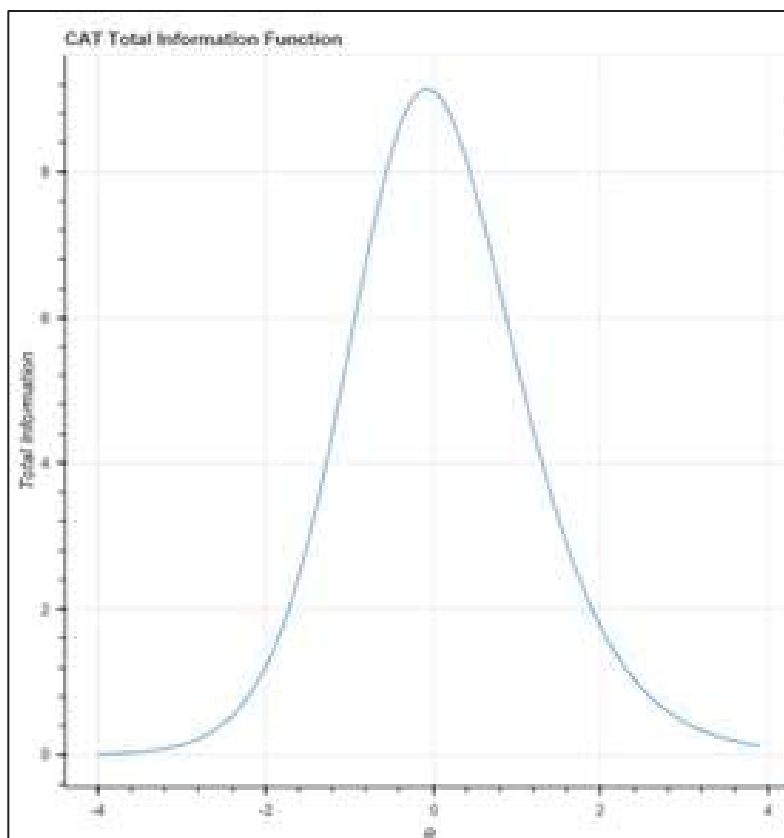
Figure 53: Total Test Information Function. We will also include analyses of item information across all items at the test level, as seen here.
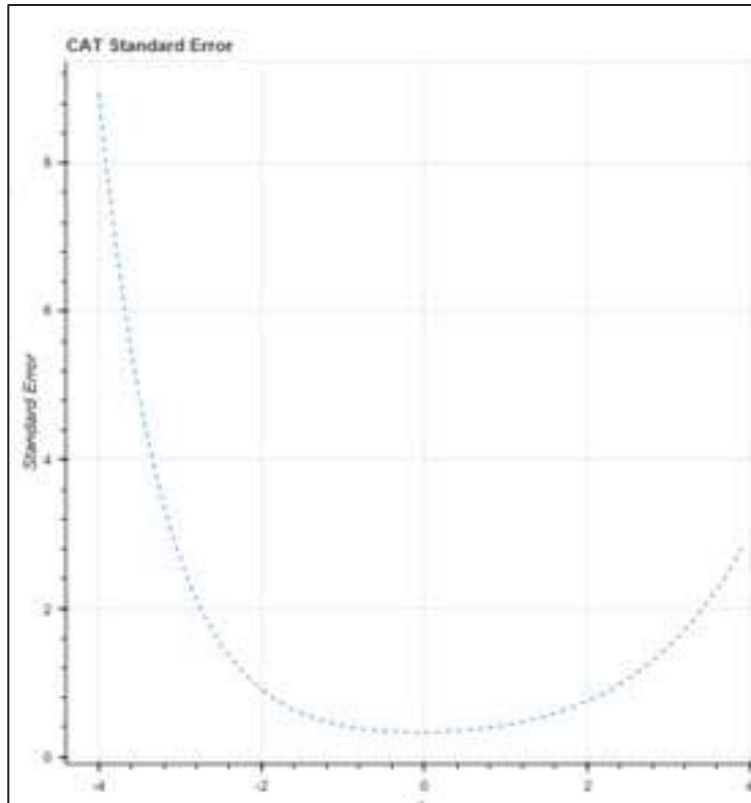
Figure 54: Total Test Standard Error. We will also include overall standard error curves across the ability distribution, as seen here.

DIF Analysis

Differential item functioning (DIF) is a statistical procedure used to review items for potential bias by comparing specific sub-group performance. The underlying assumption is that students who have similar knowledge should perform in similar ways on test items, regardless of gender, race, or ethnicity. All field test items will be analyzed for DIF and flagged items will be reviewed by our content and psychometric experts as well as educators during data review meetings.

NWEA will use the Mantel-Haenszel (MH) DIF statistic for dichotomous items due to ease of use and stability of the results[23], and the standardized mean difference (SMD) procedure for polytomous items.

The MH procedure for DIF detection stratifies the reference and focal groups after matching on the measured trait. Typically, the subgroup with the largest sample size is assigned as the reference group,

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[23] Holland, P. W. and Thayer, D. T., *An Alternative Definition of the ETS Delta Scale of Item Difficulty, (*ETS Research Report No. RR-85-43), Princeton, New Jersey: Educational Testing Service (1985).

and the subgroup with the smaller sample size is assigned as the focal group to evaluate DIF. The results typically include an index of the magnitude of DIF, along with a probability of obtaining the DIF index.

For polytomously scored items, the standardized mean difference (SMD) statistic will be used. This statistic was developed as an extension to the MH procedure[24].

Once the SMD is determined, a statistic similar to effect size (ES) will then be obtained by dividing the SMD by the standard deviation (SD) for the combined group. A positive SMD or ES value will indicate that the focal group has a higher mean item score than the reference group conditional on the matching variable. A negative SMD or ES value will indicate that the focal group has a lower mean item score than the reference group conditional on the matching variable.

DIF results for both dichotomous and polytomous items will be categorized using the Educational Testing Services (ETS) classifications shown in Table 36, which have become commonplace and can be considered best practice for estimating the magnitude of DIF.

Table 36: DIF Results

DIF Category	Dichotomous Interpretation	Polytomous Interpretation
"A" = negligible DIF	MH D-DIF is not significantly different from zero or has an absolute value less than 1.0.	MH test is not statistically significantly different from 0 (based on probability = 0.05), or $|ES|$ <= 0.17.
"B" = slight to moderate DIF	MH D-DIF is significantly different from zero and is either (1) less than 1.5 or (2) not significantly different from 1.0.	MH test is statistically significantly different from 0 (probability < 0.05), and 0.17 < $|ES|$ <= 0.25.
"C" = moderate to severe DIF	MH D-DIF is significantly different from 1.0 and has an absolute value greater than or equal to 1.5.	MH test is statistically significantly different from 0 (probability < 0.05), and/or $|ES|$ > 0.25.

The DIF index can be influenced by small sample sizes. NWEA will follow the recommendation by Zwick[25] that the sample size requirement for DIF analysis be 200 for the focal group and 500 for both the focal and reference groups combined.

A note on IRT methods for detecting DIF: IRT methods for detecting DIF investigate group differences in item parameters based on latent ability instead of observed scores. That is, the item parameters for the

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[24] Dorans, N. J., and Schmitt, A. P., *Constructed Response and Differential Item Functioning: A Pragmatic Approach,* (ETS Research Report No. RR-91-47), Princeton, New Jersey: Educational Testing Service (1991); and Zwick, R., Donoghue, J. R., and Grima, A., "Assessment of Differential Item Functioning for Performance Tasks," *Journal of Educational Measurement,* 30(3), 233–251 (1993).

[25] Zwick, R., *A Review of ETS Differential Item Functioning Assessment Procedures: Flagging Rules, Minimum Sample Size Requirements, and Criterion Refinement,* (ETS Research Report RR-12-08), Princeton, New Jersey: Educational Testing Service (2012).

reference and focal groups are estimated and scaled to allow for comparison of the item characteristic curves. While this allows for investigation of the item difficulty in the single parameter Rasch case, the number of responses within both the focal and reference groups must be large. If requested, we will work with the NDE and your TAC to determine what subgroups might best be investigated with IRT DIF methods and what groups are better investigated using other methods in addition to Mantel-Haenszel.

Flagging Criteria for Field Tested and Operational Items

When planning field test analyses, it is common to use classical item analyses and differential item functioning to flag items for the following reasons: low p-value or mean item score, low discrimination, high ability group more often chooses a distractor over the correct answer choice (for multiple-choice items only), and high mean item score. A single item may be flagged for a number of reasons.

Rules used to flag field tested or operational items can vary by type of test, use of scores, and/or client requirements. We suggest flagging items with low average difficulty of 0.25 (i.e., items that only 25 percent of students are answering correctly) and items with low discrimination of 0.20 or lower (i.e., items that do not discriminate between students who know the material and those who do—high performing students get this item wrong and some low performing students may be getting it right). Additionally, the use of point biserial correlations will be used to flag items that have low correlation to overall student ability estimates (ex. high scoring students tent to provide incorrect response, indicating a possible mis-key). Point biserials will be calculated for the answer key as well as the distractors. Lastly, items that have high p-values or mean item score (e.g., 0.90) will be flagged. If you desire, we can set separate flags for multiple-choice items and constructed-response items (e.g., p-values/mean item scores less than 0.20 for multiple-choice and 0.30 for constructed-response items).

A flag for potential bias will occur when students from different demographic groups with the same overall ability have a different probability of giving a certain response to an item. It should be noted that DIF is not a synonym for "bias." The presence of DIF will not indicate the existence of bias—it can only be considered as evidence that bears further investigation. The DIF statistics, like all item statistics, point to issues for a specific item that need to be explored further before using the item operationally or assigning scores based on responses to that item.

However, items displaying significant DIF will not be recommended for use in the operational administrations except in rare instances and then only with proper documentation and rationale. Test developers typically avoid selecting items flagged as having shown moderate to significant DIF that disadvantages a focal group. We propose to continue this best practice of not including items with high degree of DIF. Note that our adaptive engine can also invoke constraints to avoid potentially biased items administered to relevant subgroups.

We will work with you and your TAC to determine the best rules of thumb for flagging newly develop and field-tested items.

Quality Assurance of Summative Analyses

Table 37 includes information on the QA methods used by our psychometricians during summative analyses.

Table 37: Summative Analyses Quality Assurance Methods

Process	Description
Item and Test Analyses	Our psychometric staff will develop technical specifications to guide all of the data handling, cleaning, and sampling; methods for item analyses and relevant flagging, calibration, scaling and equating, scoring accuracy checks at the item, subscore, total score, and achievement levels; as well as critical statistics such as reliability, internal structure, and decision consistency. These specifications will include details on data storage, redundancies for quality assurance, and documentation.
Documentation	Our psychometric staff will provide documentation to the NDE to communicate psychometric processes for technical reviews as well as a full technical report provided annually.

Item Evaluation in Alternate Assessments

All items measuring a linkage level are assumed to be fungible by the scoring model, meaning it should not be of consequence to the student which items are received, all perform equivalently well. This assumption is evaluated with item statistics, including item p-values to evaluate difficulty and standardized difference values to determine how much an item p-value differs from the weighted mean for the linkage level.

Flagging criteria are maintained for each statistic to facilitate test development team review of field test items following their administration. A *p*-value threshold of 0.3 is used to flag items for difficulty. This threshold is based on most testlets making use of three-option multiple-choice items. Items are also flagged for test development team review if the standardized difference value exceeds 1.96 standard deviations from the mean for the linkage level. All flagged items are reviewed by the test development team, taking the context of the item within the testlet into consideration prior to making a recommendation to accept, revise, or reject the item.

The annual DLM technical manual update provides item statistics for all field test items. Typical flagging rates are around 10-20 percent of field tested items requiring review by the test development teams for each content area. Of the flagged items, around 10 percent (less than 2 percent of the total pool) are rejected for operational use, with the remaining items accepted as is (e.g. five-option multiple-choice items where a lower *p*-value may be expected) or revised and re-field tested.

b. The Contractor will produce item statistics for all operational items. The proposal must include a description of the item statistics that should be generated to assist in the evaluation of these items.

NWEA researchers will collect and product item statistics for all operational items. Please see our response to the previous requirement, G.3.a. for item analysis.

Alternate Assessment Item Statistics

All items in the DLM operational item bank for the instructionally embedded and spring windows have been previously field tested by students taking the alternate assessment. The field test item statistics described in Section G.3.a. are also used to evaluate all operational items at the end of each school year. The annual technical manual update provides item statistics for all field tested and operational items.

Test development teams also review the operational item bank annually to determine which testlets, if any, should be retired from the pool based on the availability of new testlets following field testing. Any decisions about item retirement are also documented in the annual technical manual update.

4. Test Construction

The Contractor will conduct analyses to support the construction of technically sound test forms. The proposal must include a description of the types of analyses that will be conducted and how the results of those analyses will be disseminated and used by appropriate state and Contractor staff to assist in test construction. Testing errors caused by the Contractor shall be corrected by the Contractor at no extra cost to NDE.

NWEA psychometricians and content specialists will create test construction specifications that will contain the blueprint along with specific criteria that must be met by each assessment. This will include specifications for the anchor sets in Year One as well as adaptive algorithm constraints that will be programmed into the delivery engine to ensure that the assessment given to each student is comparable in terms of content and expectations. Typically, test specifications are translated to a set of content constraints that the adaptive algorithm needs to consider while selecting items that can always provide maximum information about a test-taker's ability.

Prior to review by the NDE, a series of quality assurance checks will be performed by NWEA content specialists and psychometricians assigned to the project. First, they will develop and verify the appropriate application of the constraints, per the test specifications. Second, test events from the adaptive algorithms programmed in the delivery engine will be subjected to a thorough and in-depth check before the constraints are used during administration. This is a critical step to ensure the pool will validly support the constraints specified. This check will examine several key components of the adaptive algorithm to also make sure that the codes to be used in production produce the results as intended. These components include the starting points of a test, item selection, content-balancing, item exposure control, and test termination. Third, once the previous step of check ensures that the adaptive algorithm functions as intended, simulation studies will be conducted.

Typically, a simulation study will use the operational item pool, mimic the adaptive tests NWEA proposes, and produce test events simulated for target examinees of varying ability levels. Those tests events will then be analyzed by NWEA psychometricians to provide such information as ability estimation accuracy and precision both at overall and subscore levels, and how well test specifications are met. In addition, those test events can also inform such information as test reliability, conditional standard error of measurement, and classification accuracy and consistency given the achievement level cut scores are known. That information can be shared with the NDE. We believe that information can help NDE and NWEA with future item development plans and improving the test design on an ongoing basis.

For paper based, fixed forms, NWEA uses an automated test assembly engine to create forms specific to test blueprints. We will use this engine to create the form that will then go through test construction for accommodated forms, including Braille, large-print, and Spanish. The initial selection of the fixed form will include overages or items as potential substitutes. This is necessary given that not all items can be transformed into accommodated versions, such as items for which the construct may substantially change when translated into Braille or Spanish.

NWEA will provide results of these analyses directly to the NDE and will be included in the technical report. Any additional analyses specific to testing errors will be provided in technical brief format and those errors will be correct by NWEA at no additional cost.

Alternate Assessment Analyses

As an online adaptive alternate assessment with some teacher flexibility in choice of content, the DLM alternate assessment system does not have pre-constructed test forms. All assessment items are administered in testlets consisting of three to five items and an engagement activity. During instructionally embedded testing, teachers choose which Essential Elements, and at which linkage levels, to administer to their students to meet blueprint requirements. During the spring window, the system administers five testlets to re-assess previously measured Essential Elements, with adaptive routing between testlets to optimize the match of student performance with testlet complexity. As such, the cumulative "test form" a student receives both within and across testing windows is expected to differ substantially from their peers, and does not resemble traditional fixed form assessments. Because test forms in the DLM context are the complete body of testlets administered during the year, and because the student's experience is directed by the teacher, annual reports are provided to NDE regarding blueprint coverage to be used for revised training and professional development opportunities within the state.

Evidence of item and testlet quality is disseminated on an annual basis in the technical manual update. This includes previously described item statistics (detailed in Section G.3.a), analyses of differential item functioning, and evaluation of alignment, among other operational studies supporting the validity of inferences that can be made from test results. Test development teams make use of each of these types of evidence to evaluate the operational item pool and inform subsequent item and testlet development.

During the spring adaptive testing window, it is conceivable that an error with the adaptive delivery engine could cause a problem with an individual student's completion of the full test. The adaptive delivery engine is configured to pause testing between testlets when an error occurs, in order to minimize the risk of further misadministration. In the past, these problems have been minimal and primarily due to local data management problems (e.g., changing a student's grade in the middle of testing). While the DLM system has been enhanced to prevent such errors in the future, DLM researchers use frequent queries and error logs to monitor administration for potential errors.

NWEA and our partners have put into place significant quality controls for the purpose of error free testing for all assessments However, in instances where a testing error is detected, corrections are immediately taken to correct the issue at no additional cost to the state. If a testing error has the potential to impact scoring (e.g. this issue impacts student routing to a subsequent testlet during the spring window), all students potentially impacted by the issue are provided back to the state in a supplementary file, called an Incident File, that is delivered with the full student data return file at the end of the year. State partners can use this file to make decisions regarding whether to invalidate students results due to the impact of the testing error.

5. Scoring

In addition to the analyses conducted during scoring (above) to monitor the scoring process, the Contractor will conduct additional analyses after scoring to verify the accuracy of scoring. The proposal must include a description of the types of analyses that will be conducted and how the results of those analyses will be disseminated and used.

NWEA is proposing that all items will be created in such a way that no human scoring will be required. Accuracy of the scoring of items, as well as the overall score, subscore, and achievement level is essential in supporting valid use and interpretations of the assessments. Starting with item development the item keys (multiple-choice) and scoring rubrics and algorithm rules will be designed and validated before, during, and after administrations. Before administrations, we will run scoring routines on simulated data. During and after administrations, we can run validation checks based on live data in process by utilizing the various data analyses and flagging criteria described above to ensure the accuracy of the scores. This method lends itself best to delivering an adaptive assessment. It also significantly reduces costs and increases the speed at which test data become available. We will monitor item statistics across time for all items, the analyses will be as described in Section G.3.a.

Alternate Assessments Scoring Analyses

In order to ensure the validity of inferences that can be made from test results, it is important to verify the accuracy of scoring prior to distributing data files or score reports to the state. The DLM Psychometric Team follows a series of quality control procedures that begin with initial data extracts and continue through the delivery of a final score file. These procedures are well documented and are periodically audited by DLM staff.

Quality control efforts begin with data queries of the database housing all student and test data. All SQL database queries are prepared by technology partners with expertise in SQL and evaluated by the psychometric team to ensure accuracy.

All data files distributed to state partners are prepared using scripts written in the *R* programming language. Following their creation, data files are checked for accuracy using a combination of separate *R* quality control programs and visual inspection by psychometric staff. All data fields are checked for reasonable and expected values, that results are provided for the correct Essential Elements, that performance levels are correctly calculated, and that the data file presents data in one row per student per subject. Additionally, performance level results are compared to prior year data files for the state.

Additional evidence of the technical adequacy of the assessment, including evidence in support of the validity argument, development of the model used to score assessments, and additional analyses to support operations (e.g. differential item functioning, data forensics, testlet exposure, etc.) is collected. These results are shared with NDE and the Technical Advisory Committee, and included in annual updates to the technical manual.

6. Reporting

The Contractor will design and conduct all analyses necessary to produce student, school, district, and state results and other information included in published reports of results. The proposal must include a description of the types of analyses that will be conducted and how the results of those analyses will be provided to NDE. The reports must be available on timely basis each year.

NWEA will design and conduct all the relevant analyses to be able to provide students, schools, districts, and the NDE with valid and accurate results.

- In Year One, students will receive raw scores immediately upon test completion. After item and test level analyses are completed, including the calibration and equating of the items and relevant NDE reviews, we will have an item bank with the necessary parameter estimates to generate student ability estimates in scale score metric. Once the standard setting is completed and the statistical review of impact data relative to existing cut scores for English language arts and mathematics, we will provide achievement level designations.

- In Year Two and beyond, because the scale and cut scores will be set, these data will be available once students have completed their testing.

NWEA will provide the individual student results at the end of each student's test event. ESC will provide the individual student reports (ISR) and aggregated reports in an online-interactive system, as described in Section H at the class, school, district, and state levels. This system supports disaggregated views as well as print-on-demand ISR's and summary reports. All aggregated data reports will be available at the completion of the test window.

To ensure accuracy of each report, NWEA and ESC will work in collaboration through a series of quality assurance steps. NWEA and ESC will create data file and QA specifications to detail file layouts, receipt and delivery steps, and independent verification steps. We will independently run verifications in advance of each administration with dummy files. We will also run user acceptance testing on all data from NWEA to ESC.

In addition, NWEA will work with ESC and DLM to run similar independent verifications on assessment data provided by the alternate assessment for inclusion in aggregated reports. Note that we will work with the NDE through report sample designs to make sure the aggregations are meaningful and valid, and clear with respect to each of the general and alternate assessments.

Alternate Assessments Reporting Analyses

Data Files and Analyses

DLM assessment results will be calculated and delivered to NWEA in the consortium's General Research File (GRF), a return file delivered annually in Excel® (.xlsx) format. The file structure is one row per student per subject. The contents of the file include student information and results, including demographic fields, each student's highest linkage level mastered for each Essential Element (EE) and final performance level for each subject.

Two supplemental data files are delivered with the GRF. The Special Circumstances file provides information about EEs that were impacted by extenuating circumstances for each student, as defined by NDE prior to the testing window. Additionally, if any incidents were reported that potentially impacted

scoring (see section G.4), an Incident File is delivered with the GRF to summarize students impacted by the incident.

The NDE is provided with a two-week review window each year during which review of the data files can occur, edits made to demographic fields or to otherwise modify student records, or invalidate test results prior to the creation of score reports. If edits are made, a modified GRF is returned to DLM staff for use in preparing score reports.

On an annual basis, NDE will have access to an update to the DLM technical manual. The annual update summarizes analyses conducted for the academic year. Analyses include:

- Summaries of item statistics for field test and operational items
- Student participation and demographic information
- Test results, including distributions of students to performance levels and linkage level mastery information
- Updated reliability statistics
- New evidence in support of the validity argument, such as teacher survey responses, test administration observation data, or differential item functioning results

Ongoing conversations and feedback from the DLM Governance Board and the Technical Advisory Committee inform additional analyses conducted throughout the year and included in the technical manual update.

Score Reports

DLM summative assessment results are provided to the state education agency annually to be reported to parents/guardians and to educators at local education agencies. If the state decides, reports can also be delivered electronically to local school districts via the Educator Portal.

DLM proposes to deliver the standard DLM consortium individual student score reports and a supplemental, brief score report customized for NDE. The current DLM individual student score reports are comprised of two parts: (1) the Performance Profile, which aggregates linkage level mastery information for reporting on each conceptual area and for the subject overall, and (2) the Learning Profile, which reports specific linkage levels mastered for each assessed Essential Element.

The performance levels currently reported on the Performance Profile are: Emerging, Approaching the Target, At Target, and Advanced. These labels, which reflect a student's overall performance, are determined through a standard-setting process. The Performance Profile also reports the percent of skills, or linkage levels, the student mastered within each conceptual area. Bulleted lists of grade- and content-specific performance level descriptors follow the results reported for the conceptual area. The Learning Profile shows each Essential Element separated into the different linkage levels. English language arts and mathematics are separated into five linkage levels: Initial Precursor, Distal Precursor, Proximal Precursor, Target, and Successor. Science is separated into three linkage levels: Initial, Precursor, and Target. Sample DLM individual student score reports are provided in Appendix Z, and an excerpt from one is seen in Figure 55.
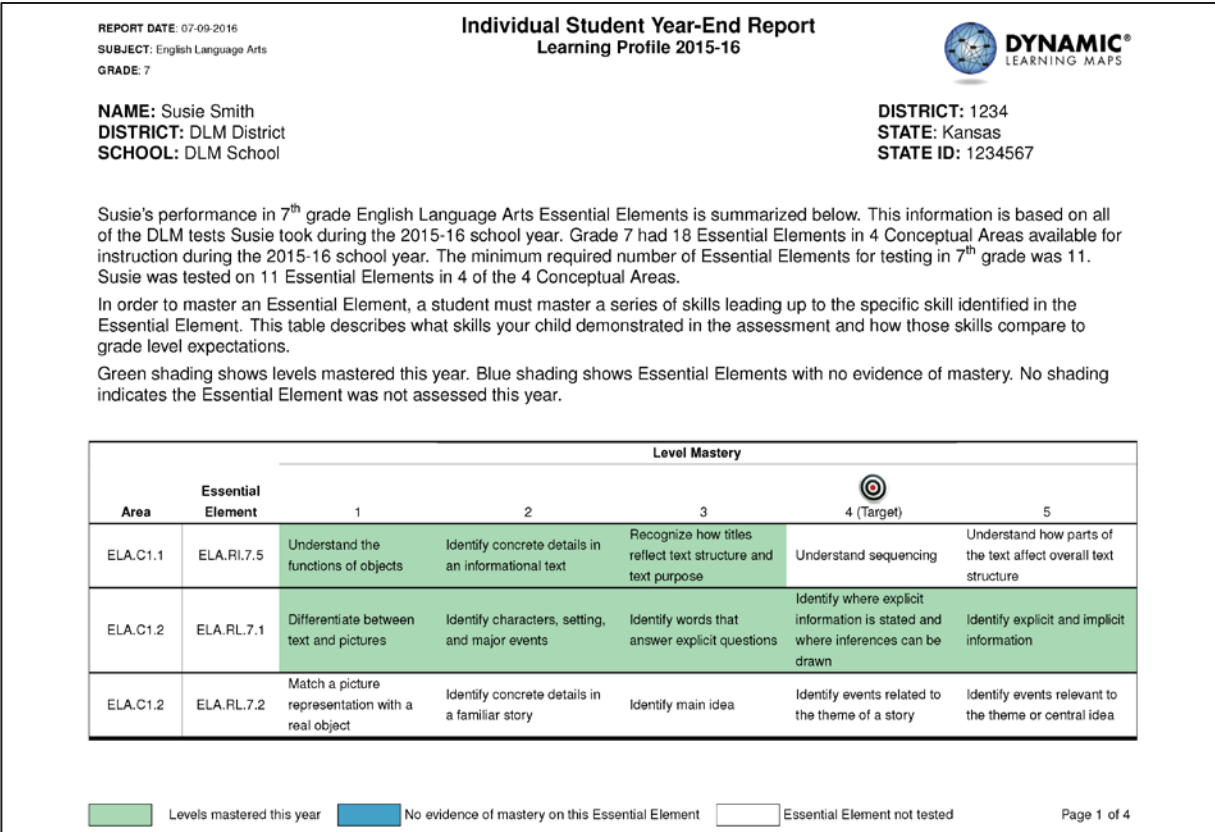
Figure 55: Individual Student Year-End Report. A one-page excerpt from a comprehensive individual student score report is seen here, showing a seventh-grade student's results in ELA.

There is one individual student score report per student per subject. Each student's report is typically two to seven pages in length per subject. While these comprehensive reports are valuable to teachers and parents, it may be cost-prohibitive to print and ship them. Therefore, DLM proposes to design a customized brief report that summarizes a student's overall performance in each subject. The report would include appropriate branding and logos for the statewide assessment system and could be available as a PDF via KITE Educator Portal. The brief report would also be provided to NWEA for printing and shipping along with the general education summative assessment reports.

Student results are also aggregated into several other types of reports. At the classroom and school levels, roster reports list individual students with the number of Essential Elements assessed, number of linkage levels mastered, and final performance level. District- and state-level reports provide frequency distributions, by grade level and overall, of students assessed and achieving at each performance level in each content area.

Individual student results in the GRF will also be provided to NWEA so that students who take DLM alternate assessments may have their results incorporated into school and district aggregated reports.

In addition to summative score reports, progress reports are also available on demand in the Educator Portal throughout the instructionally embedded window to inform instructional decision making and goal setting. The report is structurally similar to the Learning Profile delivered to each student at the end of the year. The progress report lists a row for every Essential Element and linkage level for which the

teacher has created an instructional plan, with shading to indicate whether the linkage level has been mastered, attempted, or is still planned but has not yet been assessed. Educators may generate a progress report and view it online or print it as a PDF.

Quality of Score Reports

Summative score reports are checked for accuracy with a combination of *R* quality control programs and visual inspection by a quality control team. This includes review of both individual student and aggregate reports. All reports are subjected to the script-based quality control evaluation, and a random sample of approximately 1-2 percent of the score reports generated are checked by human reviewers.

All score reports are compared against the state data files to ensure accuracy and consistency of values. This includes values for individual Essential Elements and overall performance level values for each content area, but also student and school information in the header of the reports. The quality control process also verifies all students receive reports for all content areas in which they were tested and no extraneous reports are provided. Any issues identified during quality-control checks are corrected prior to distribution of data files and score reports to states.

7. Data Analysis

a. The Contractor will provide annual analyses, including but not limited to identifying problems and inconsistences such as duplicate records, missing data, etc. so that NDE can work with districts to resolve problems.

During the student rostering phase, our systems are designed and can be configured to identify data related issues, such as duplicate or missing data using a State Student ID for example. Such data records can be flagged for districts to edit and re-upload once corrected.

Alternate Assessments Data Analysis

The Educator Portal is designed to prevent problems such as duplicate records and missing data, to the extent possible, while providing flexibility for atypical but legitimate data configurations (e.g., teachers who are assigned to more than one school). Educator Portal prevents most problems through error or warning messages. Data verification and revision procedures outlined in the Data Management Manual provide clear direction for data managers. Data managers may generate extracts on demand to review current teacher and educator records and make revisions as needed. Additionally, the DLM project manager will further support the NDE team to develop best practices and establish revision timelines throughout the school year.

A General Research File (GRF) is returned annually with all student records and summative results, including instances of duplicate records and missing data if those were not resolved before the spring testing window ended. NDE is provided a two-week review window to correct any inconsistencies prior to the creation of student score reports.

Since all DLM assessments are administered online, operational research on the design, administration, and scoring of online alternate assessments is ongoing. On an annual basis, NDE will have access to an update to the DLM technical manual. The annual update summarizes data analysis conducted for the academic year. Analyses include summaries of item statistics for field test and operational items; student participation and demographic information; test results, including distributions of students to performance levels and linkage level mastery information; updated reliability statistics; and new evidence in support of the validity argument, such as teacher survey responses, test administration

observation data, or differential item functioning results. Ongoing conversations and feedback from the DLM Governance Board and the DLM Technical Advisory Committee inform additional analyses conducted throughout the year and those results are also included in the technical manual update.

b. The proposal will include a description of Contractor's capacities for research that can be conducted for online assessments, for example, test-taking time compared to results.

NWEA is pleased to work with you in determining the best research studies that should be conducted. We have an extensive background in a variety of research areas, as you can see from the sample of studies in each of the named psychometricians' resumes. As a research based organization, we look forward to partnering with the NDE on studies, and have included up to 3 special studies in our costs. We look forward to planning a research agenda with you. As examples, NDE may consider the following studies:

- Response time considerations across item types
- Relationship between response time and student engagement. Note that Dr. Steve Wise of NWEA is the preeminently published scholar on item response time and student engagement metrics that help support valid ability estimation in adaptive testing[26].
- Pool depth and adaptive engine constraint considerations – how many items are optimal for an economical item development plan under an adaptive approach?
- A look at ESSA's flexibility for off-grade item administration: feasibility, defensibility, and student performance

All analyses will be disseminated in technical brief, and more extensive analyses will be provided in an annual technical report following the Standards for Educational and Psychological Testing and the Critical Elements for the USDE peer review regulations.

Alternate Assessments Research Capacity

The DLM Consortium is an active body of researchers and practitioners who gain from the shared experiences of the consortium members and supporting organizations. Throughout the administration of the DLM, we welcome the opportunity to partner with the NDE in identifying and recommending additional research related to alternate assessment. For additional information, please see the response provided in G.7.a Data Analysis.

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[26] Wise, S. and Kingsbury, G., "Modeling Student Test-Taking Motivation in the Context of an Adaptive Achievement Test," *Journal of Educational Measurement,* 53(1) (2016): 86-105.

8. Data Forensics

a. As a component of the overall security for the assessment system, the proposal should include a description of appropriate methods for analyzing data to identify inconsistencies and problems for both online and paper/pencil tests and to include a security incident response plan. The Contractor is expected to provide a solution for not only reporting on data forensics, but supporting NDE in its use of the report and follow up on issues of concern indicated in data forensics report.

As a custodian of State and district partner data, NWEA is committed to ensuring the confidentiality, integrity and availability of NWEA information assets and resources, including, but not limited to, the data of our partners. In doing so, NWEA maintains a Security Incident Response Policy, which outlines the governing principles for Security Incidents and Security Incident Response Procedures. The purpose of this policy is to ensure the confidentiality, integrity, availability of NWEA and partner data and computing systems. The goal of this policy is to mitigate damages and minimize risk to NWEA and its partners through early detection and response. A copy of this policy is included as Appendix AA, *Security Incident Response Policy* in our Confidential and Proprietary Volume*.* Please see our response to A.5.a. for details on our Test Security Plan.

Test Fraud Detection

Test fraud detection is an integral part of a solid testing program. NWEA is pleased to partner with Caveon Data Forensics™ to provide an independent verification of the NDE program. Caveon Data Forensics uses sophisticated, statistical analyses of test-response data to identify patterns indicative of test fraud. The statistical algorithms detect anomalous[27] test response data for districts, schools, classrooms, computer labs, and students. The results of these analyses provide critical information regarding where and when suspect activity occurred, by whom, and its effects on the testing program. Using Caveon Data Forensics will provide NDE with ongoing information directly relevant to the fairness and validity of assessment results. The Department will be able to reduce the chances of "surprise" discoveries of problems by media representatives or other interested parties outside of education.

The use of statistics to detect possible test security issues can be represented graphically, as shown by the Venn diagram in Figure 56.

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[27] An observation is statistically ***anomalous*** when the measured attributes are seen to be extremely different than the expected values for those attributes. A common term to describe anomalous observations is "outlier." Statistical practice for outlier detection or declaring an observation to be anomalous is usually based upon statistical tests where the probability value of the test statistic is extremely small.
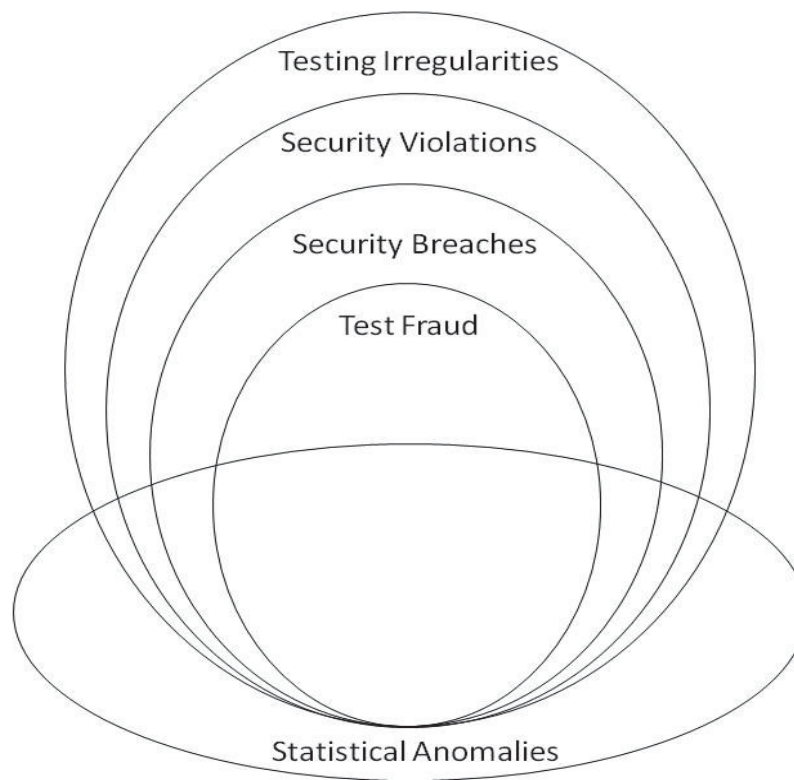
Figure 56: Test Security Threats Venn Diagram. Statistical analyses of test-response data help identify patterns of test fraud

Statistical anomalies are observed data that do not conform to statistical models of normal test taking. An anomaly *may* indicate the existence of a test security issue, but unless the statistical evidence is very strong the anomaly may be inconclusive.

Testing irregularities are abnormal occurrences which may have impacted the test administration. All testing irregularities are not test security violations (e.g., there was an earthquake during the testing session).

Test security violations occur when the security protocols of the test have not been followed. Even so, it does not follow that test security was breached when test security was violated (e.g., the answer booklets were left unattended but no individual accessed them and used them or only one proctor was present when two were required).

A breach in test security is an event which has jeopardized the fairness and the validity of the current or future test administrations (e.g., one test taker has copied answers from another or test questions have been posted on the Internet). But, test security breaches are not always willful and wanton acts of fraud (e.g., questions on the test taken from the teacher's guide were inadvertently disclosed to students).

Test fraud involves intent by a perpetrator to breach the security of the test. Note that statistical anomalies do not entirely enclose the other four levels because, unfortunately, testing irregularities, test

security violations, security breaches, and test fraud are sometimes undetected and do not result in statistical anomalies.

Methods for Analyzing Data

Caveon's analyses incorporate multiple statistics. The proposed service will be tailored appropriately depending upon the nature of the test (for example, Computer Adaptive) and the test response data that can be provided.

Caveon's algorithms are specifically designed to detect patterns that correlate highly with different types of potential testing irregularities. In order to learn what security issues may exist with a test administration and whether the test results are valid, the following statistical analyses will be performed, if relevant data are provided (data forensic analysis will be performed for each of grade of the English language arts, mathematics, and science assessments for the 2018 spring test administration of the NDE assessment; all of the statistics will be performed for online and paper and pencil tests, except where noted):

- Similarity in response patterns among groups
- Unusual score gains and drops
- Answer change/erasure analyses
- Synchronicity analysis
- Response time analysis
- Person-fit statistics
- Excessive omitted responses, excessive multiple marks, and blank answer documents
- Other statistics

Similarity Analysis

Similarity statistics compare individual test instances with each other to identify improbable similarities between the responses on the tests. These statistics are useful in identifying unusually similar pairs of tests, where answer copying or sharing may have occurred, or unusually similar groups of tests, where large-scale collusion, coaching, or tampering may have occurred. Large clusters of similar tests may be identified in specific schools or grade-subjects, which may indicate students colluded together or received unsanctioned aid while taking the test. The statistic that will be used for this analysis is referred to as "M4 Similarity" [28]. For additional information about these statistics, see Maynes 2016[29].

Unusual Score Gains and Drops

Score gain/drop statistics flag individuals or groups of individuals who have experienced unusually large score gains or drops from one test administration to the other. Unusual score gains can indicate that an examinee or group of examinees had an unfair advantage during the administration when the gain

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[28] Maynes, D. D., "Detection of Non-Independent Test Taking by Similarity Analysis." *Test Fraud,* Chapter 6, Neil M. Kingston and Amy K. Clark (Eds.), New York, New York: Routledge (2014).

[29] Maynes, D. D., "Detecting Potential Collusion Among Individual Examinees Using Similarity Analysis," *Handbook of Quantitative Methods for Detecting Cheating on Tests,* Chapter 3, Gregory J. Cizek and James A. Wollack (Eds.), Abingdon, United Kingdom: Taylor and Francis (2016).

occurred. Similarly, unusual drops can indicate that examinees had an unfair advantage during the prior test administration. The unfair advantage could be gained through a student having pre-knowledge of the test content, teachers providing unsanctioned aid during the testing session, or teachers or administrators tampering with testing materials such as changing answers after the test was taken.

Score gains and drops may be analyzed for students from one year to the next (this is known as a cohort analysis). For example, a student performed at a much higher level on the fifth grade English language arts test in 2018 than they performed on the fourth grade English language arts test in 2017. This analysis would provide information regarding whether the student may have had an unfair advantage on their English test in 2018. Note that this type of analysis requires test data for the student from multiple years.

The analysis also can be performed on groups. For example, an analysis may compare the scores on an English language arts test of fourth graders at a given school in 2017 to fourth graders at the same school in 2018, assuming the test was essentially the same (this is known as a cross-sectional analysis). Such an analysis would provide information about whether something happened at the school that gave the students an unfair advantage during one of the years. The analysis also may be performed for a teacher (e.g., scores on an English test in 2017 among students with Teacher A compared to the scores on an English test in 2018 among students with the same Teacher). Again, the test from one year to the next would need to be the same for the analysis to be informative.

Synchronicity Analysis

Synchronicity statistics detect test instances with synchronized response patterns, i.e. test instances with similar start and stop times for a substantial number of items. In a classroom, this could be the result of a teacher "lock stepping" or pacing the students through the exam and potentially providing correct answers in the process. Only test instances sharing the same school, grade, test date, and test session should be compared. This type of analysis is relatively new and has not yet become an area that has attracted the attention of academic researchers.

Response Time Analysis

Response time statistics measure item response times of test-takers and compare them to the entire test-taking population or to other mathematical models. Inconsistent use of time in responding to items or answering questions in unusually short time intervals are factors that are commonly considered. The analysis is only available if the response times are collected (i.e., through computer based testing). Unusual response time patterns can indicate pre-knowledge of test content or unsanctioned aid given to students.

Person-Fit Statistics

Person-fit statistics are a group of aberrance statistics that use psychometrics and other mathematical models to predict an examinee's performance on an exam or group of items and compares the predicted performance to actual performance to identify discrepancies. Person-fit statistics can be supportive evidence of pre-knowledge of exam content or unsanctioned aid given to students.

Excessive Omitted Responses, Excessive Multiple Marks, and Blank Answer Documents

Caveon will analyze the data for excessive omitted responses, excessive multiple marks (for paper and pencil tests, if data are provided), and blank answer documents (for paper and pencil tests, if data are provided). Excessive irregular responses can be indicative of answer sheet tampering, unusual distractions during the test, and/or coaching of students during the test.

Other Statistics

Other statistics also may be performed depending on the data that are provided. These may include score difference statistics (i.e., where students' scores on a subset of the items, such as filed test or "anchor" items, are compared with their scores on the remaining items), identical tests (where the number of identical tests within specific groups is compared to the baseline), and perfect tests (where the number of perfect tests within specific groups is compared to the baseline).

All analyses are performed using probability methods to establish an objective measure for making an inference concerning the extent to which a given result is anomalous. The data for a group of tests (i.e., a particular subject and grade) are statistically inconsistent whenever the statistical indicators are anomalous individually or when combined together. In order to control for environmental and endemic effects, population (or whole-sample) rates are used as the baseline rate for each test.

A very conservative statistical approach is used in performing the analyses. The conservative approach ensures that while not every potential source of test security risk is identified, those sources that are identified are so anomalous that reasonable explanations of the data under normal circumstances become improbable. This strengthens the inference that a potential testing irregularity occurred. Because the approach is inferential and based in statistical probabilities, care is required to establish the cause of anomalous data.

Analysis of Groups

All of the statistics described above are computed for every test instance. Some of these are especially suited for the analysis of risk groups (i.e., groups where the probability of a security breach is higher than the norm). Maynes[30] describes Caveon's approach to analysis of groups:

- **Districts and Schools.** Caveon will use these statistics to identify potential test security issues in different districts and schools. From these reports, NDE will be able to learn whether specific schools and educators may be providing inappropriate assistance to students or otherwise violating testing rules, and understand the prevalence of test irregularities at these locations. It is important to note, that the power of the statistics decrease as the sample size becomes smaller. This may impact some results for very small classroom sizes. However, there are some statistics that will still remain powerful indicators of irregular test taking patterns.

- **Students.** Caveon will analyze response data from individual students to determine if security-related issues are present. The student analysis answers the questions, "Which individuals might be involved in testing irregularities?" and, to a limited degree, "How many testing irregularities have occurred?" The results are detailed in the summary report, and present the number, percentages, and names of schools where anomalies indicate testing irregularities may have occurred.

- **Test Forms.** Caveon will analyze individual test forms to determine if test form and test item compromise has occurred. This analysis answers the questions: "Are the tests potentially compromised?" and "If so, which items are most likely to be compromised?" Pass rates are compared for the tests using statistical subgroups (e.g., tests with response aberrance) with the

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[30] Maynes, D. D., "Educator Cheating and the Statistical Detection of Group-Based Test Security Threats," *Handbook of Test Security,* Chapter 8, James A. Wollack and John J. Fremer (Eds.), New York, New York: Routledge (2013).

intent of determining which test-taking behaviors are most likely to be associated with a pass rate advantage. Caveon Data Forensics also evaluates test items using aberrance measures and p-value differences to determine whether any items are potentially over-exposed or compromised.

- **Proctors/Teachers.** Caveon will use these statistics to identify potential test security issues in related to specific proctors or teachers. From these reports, NDE will be able to learn whether specific educators may be providing inappropriate assistance to students or otherwise violating testing rules. It is important to note, that the power of the statistics decrease as the sample size becomes smaller. This may impact some results for very small classroom sizes. However, there are some statistics that will still remain powerful indicators of irregular test taking patterns.

Effects on Pass Rates

Caveon will perform an analysis of the effect of potential testing irregularities on "pass /fail". This analysis answers the question: *"What is the impact on test scores and pass rates when measured statistical inconsistencies are present?"* Typically, overall results reveal a complex relationship between pass rates and test results when the measured statistical inconsistencies are present. When pronounced effects of these inconsistencies are associated with higher than expected performance, a testing irregularity may have occurred.

Case Analyses

Caveon will extract and provide specific data elements which can be used for follow-up review of anomalous circumstances relating to students and/or schools. These illustrations help identify the nature of security risks being encountered and provide guidance for follow-up work to improve test and exam security. For example, a typical case analysis of similar tests presents an alignment of identical answers with charts and graphs to support the observed probability.

Data Forensics Reporting and Follow-up Support

Once all of the data have been fully processed for the spring 2018 administration, Caveon will provide a written summary report and one or more (usually several) spreadsheets with detailed data. This is further described in detail in the section below. Caveon will provide follow-up support for review and interpretation of the results as follows:

- **Education and Interpretation:** Caveon will provide NDE with information about how to understand and interpret the statistical outputs. To accomplish this, Caveon may host conference calls, web meetings, and/or attend in-person meetings with NDE and the testing vendor. Caveon also may prepare presentation materials and review training materials, as appropriate.
- **Prioritization:** Caveon will aide NDE in prioritizing actions based on statistical results. Caveon will review anomalies with NDE and provide recommendations to NDE, subject to NDE guidelines, regarding thresholds to use for taking action and possible actions that may be taken. Such actions might include professional development for testing practitioners and proctors, additional monitoring of testing sessions, collection of seating charts, analyses of the physical security of testing environments, academic probation, instructor reprimands, personnel file notations, score invalidations, and exam retakes.

Reporting of Testing Irregularities

Deliverables

Once all of the data have been fully processed, Caveon will provide a written summary report and one or more (usually several) spreadsheets with detailed data. The spreadsheets contain the fine-grained

results of the Data Forensics processing, and the written report contains an interpretation of the results which are intended to identify the greatest security risks, to discuss the salient findings and to recommend actions in order to strengthen exam security. Caveon will provide consultation and interpretation concerning detected anomalies, if any.

Caveon will tailor its Data Forensic reports to address the areas of greatest interest to NDE. Specifically, the results will identify high-risk groups at the district, school, proctor/teachers, and individual level, as relevant data are provided. All written results will be reviewed with appropriate NDE staff to assist with results interpretation and provide support for any subsequent investigations.

All results of the Data Forensics analysis will be provided in an appropriate "draft for review" format, unless specified otherwise. Caveon is prepared to assist with consultation in preparing materials, results, and presentations for both pre- and post-analysis. This will ensure that goals of strengthening test security and communicating efforts to strengthen test security are addressed.

Recommendations

The summary reports will include recommendations for specific actions based upon the findings, such as recommendations for further investigation of groups as well as recommendations for improving overall security processes, such as proctor training and test session monitoring.

Caveon Data Forensics not only identifies risks and inconsistencies that already have occurred, but is also a powerful aid to initiate preventative actions. The Data Forensics results enable states to:

- Review current security training practices and materials and enhance security training for test administrators;
- Inform all stakeholders (e.g., students, teachers, principals, and district leaders) that data are being collected and used to detect potential testing irregularities;
- Monitor individual classrooms or testing centers or within test delivery networks where testing irregularities appear to be most prevalent;
- Manage item and test exposure and compromise by identifying and replacing material that may no longer be secure;
- Confirm the validity of individual test results in a timely manner;
- Identify the number and percentage of students who pass with significant test irregularities;
- Discipline and impose sanctions on individuals who may be involved in organized cheating or who have violated exam policies.

Protection of Student Data

In addition to usual and customary security practices (such as confidentiality agreements and data encryption), Caveon employs security measures at its data processing facility such as isolated data processing servers, and secure file transfer of data. Caveon's data handling procedures conform to FERPA regulations, including the requirement that information which could be used to identify any student be excluded from any and all written reports. Because of the nature of Caveon's work, students and other individuals may be identified in data forensics outputs (usually delivered in the form of spreadsheets). If desired, clients may provide data that have been anonymized.

Security Incident Response Plan

Caveon will work with NDE to create a Security Incident Response Plan that will provide policy-driven processes for identifying, managing, and resolving test security irregularities, incidents, and investigations. Flow charts and matrices will be developed to standardize the investigative process and to articulate and implement sanctions consistently. Tools such as data forensics analysis results and information identified from web and media monitoring will be used in conjunction with this plan to determine root cause of testing irregularities so that they can be handled swiftly and completely. A communications process will be defined so that any test security incidents identified are communicated via the right protocols to media, stakeholders, and constituents. The Security Incident Response Plan will be created in a Word document and delivered in DRAFT format.

Security Incident Management

CaveonCore Overview

State assessment programs deal with a number of test security incidents on a regular basis. These incidents range from test administration irregularities, to inappropriate test content sharing via the Internet, to improbable score results. Keeping track and managing these incidents can be burdensome and time-consuming. Additionally, testing incidents periodically capture the attention of constituents, stakeholders, and the media. When this happens, it is often a frenetic fire drill to provide a snapshot of the current test security environment.

CaveonCore™ is a secure, Internet-based incident management and reporting platform that will enable NDE to easily and accurately input, view, and monitor test security incidents in real-time to better manage and mitigate risks. Details about incidents within CaveonCore are customer-configurable, allowing NDE to specify the types of information to collect and review.

CaveonCore will be licensed to NDE on an annual basis for use in collecting, managing, and reporting incidents for statewide assessments. This client-configurable tool will allow NDE to gather important information from districts across the state, allowing for a centralized state repository of incident information. Incidents will be identified, managed, and resolved using CaveonCore. Once an incident has been logged, it will be managed throughout the process to problem resolution. Incidents can be classified and prioritized to allow users to understand the volume and type of incidents reported.

CaveonCore will provide a secure, web-based test security tip line link (URL). This link can be affixed to both internal and external websites and will allow both educators and constituents to report testing irregularities. Once the information is entered into the web-based form, it is populated into the CaveonCore database for response and management.

On a larger scale, CaveonCore will provide aggregated incident data, painting a bigger picture of the program's test security.

Alternate Assessments Data Forensics

The DLM alternate assessments are delivered via a computer-based assessment platform. There are no paper forms. Analysis of potential response irregularities is based on the design of the system. Teachers choose Essential Element and linkage level during the instructionally embedded component, and the system assigns testlets during the spring component. As such, assessments are delivered at a level appropriate to the student and decreases the instances of non-response or blank answers. Testlets at the lowest linkage level include an answer option that allows test administrators to indicate if the

student was unable to respond to the item. Furthermore, the KITE platform prohibits multiple marks from being submitted in the system.

Testing irregularities are also identified by evaluating testing time based on start and end date and time stamps collected for each testlet. Additional analyses of testing irregularities, including monitoring adaptive system routing in the spring window, are evaluated throughout each testing window and informed by feedback from NDE and the Technical Advisory Committee.

The Educator Portal also allows the state department to determine if special circumstance codes should be made available to describe reasons for students not participating in the assessment. If the state chooses to make such codes available, and specifies which specific codes test administrators can input, a supplemental file is provided to the state accompanying delivery of the full student data return file to indicate which students were not assessed due to special circumstances (e.g., chronic absences). NDE may wish to use this file in conjunction with other sources when evaluating potential irregularities.

There are a large number of possible forensic analyses available for investigating test data for possible security breaches, all of which require the collection of specific types of data. Over time, testing programs develop and refine their data collection architecture and mechanisms for the purpose of doing more sophisticated and useful data forensics. For the DLM assessment system, feedback is solicited from the DLM Technical Advisory Committee and Governance Board to inform subsequent analyses.

The DLM system collects date and time stamps for the start and end of each testlet. These time stamps can be used to identify unexpected values for when students are testing, for example if times are outside normal school hours or on weekends. Additionally, functionality is being built for the 2017-2018 academic year to collect "click history" within the system, which captures a date and time stamp for every selection the student makes while completing the assessment. This extensive click history can be used to detect answer changing behavior, including wrong-to-right answer changes, as well as detect aberrant response time when responding to items.

Additional forensic analyses may include analysis of the relationship of First Contact complexity band and the linkage level of the student's last testlet, and identification of students who began the assessment at a lower linkage level and continually routed up a linkage level until reaching the successor level. Furthermore, methods will include evaluation of aberrant patterns at teacher, school, and district levels within the state, and methods for evaluating items and testlets for over-exposure. All findings will be delivered to consortium state partners, including NDE, for their use in evaluating the fidelity of implementation.

b. The Contractor will provide a report documenting irregular responses such as blank answer documents, excessive item non-response, and excessive multiple marks at the district and school levels.

As described in the previous section, Caveon will analyze the data for excessive omitted responses, excessive multiple marks (for paper and pencil tests, if data are provided), and blank answer documents (for paper and pencil tests, if data are provided). Excessive irregular responses can be indicative of answer sheet tampering, unusual distractions during the test, and/or coaching of students during the test.

c. The NDE and Contractor will determine levels of excessive non-response and multiple marks, and other indicators of irregular response. The proposal must describe how this requirement will be met. The proposal must include a solution for real time and end-of-testing support of NDE in data forensics. The Contractor is expected to provide a solution for not only reporting on data forensics, but supporting NDE in its use of the report and follow up on issues of concern indicated in data forensics report.

As described above, once all of the data have been fully processed for the spring 2018 administration, Caveon will provide a written summary report and one or more (usually several) spreadsheets with detailed data. This is further described in detail in the section below. Caveon will provide follow-up support for review and interpretation of the results as follows:

Education and Interpretation

Caveon will provide NDE with information about how to understand and interpret the statistical outputs. To accomplish this, Caveon may host conference calls, web meetings, and/or attend in-person meetings with NDE and the testing vendor. Caveon also may prepare presentation materials and review training materials, as appropriate.

Prioritization

Caveon will aide NDE in prioritizing actions based on statistical results. Caveon will review anomalies with NDE and provide recommendations to NDE, subject to NDE guidelines, regarding thresholds to use for taking action and possible actions that may be taken. Such actions might include professional development for testing practitioners and proctors, additional monitoring of testing sessions, collection of seating charts, analyses of the physical security of testing environments, academic probation, instructor reprimands, personnel file notations, score invalidations, and exam retakes.

d. NDE anticipates that the Bidder will use multiple methods to analyze results. Bidder will submit samples of data forensics reports illustrating how the results can be used by NDE. The RFP response must include detailed specifications of the statistical analyses used to provide the data forensics analyses.

As described previously, Caveon Data Forensics uses multiple methods to analyze results. A sample data forensics report is included in Appendix BB.

e. Analyses must include a plan for Contractor to work with NDE to establish parameters for decision-making of outlying testing aberrations. The proposal must describe how this requirement will be met.

Caveon will work with NDE staff to determine appropriate thresholds for extreme outliers in aberrant test performance. Using statistical illustrations, Caveon will identify the most extreme results for each of the forensic analyses conducted and make recommendations for establishing a cut point based on multiple probability levels so that NDE can make a decision about the level of risk they are willing to assume.

f. The proposal must include a solution for real time and end-of-testing support of NDE in data forensics.

Real time monitoring of potential threats is an integral part of test security. Regular monitoring of social media and internet sites can supplement data forensics analyses to provide ongoing support for NDE in evaluating test security. Caveon Web Patrol™ can provide broad, consistent real time monitoring of a program to watch for any discussion, dissemination, and exposure of secure test item content.

Caveon will work with NWEA and Nebraska Department of Education (NDE) to identify unique goals and priorities for Web Patrol and will tailor the service, the notifications, and reporting in a manner that is most powerful for the identified assessments. Caveon Web Patrol leverages the best of both automated technologies and our human capacity to judge and analyze. The result of this unique combination is a service that continually and systematically finds and tracks threats to a testing program. By taking on many of the complicated, time consuming chores involved in monitoring the Internet, Caveon Web Patrol helps protect against the worst-case scenario of an unforeseen testing breach.

Description of Caveon Web Patrol

Caveon Web Patrol addresses the risk to tests and items posed by illicit discussion, distribution, and sale of test content on the Internet. Caveon Web Patrol leverages technology tools and human expertise to identify, prioritize, and monitor websites, discussion forums, peer-to-peer servers, etc., where sensitive test information may be disclosed or is at risk of disclosure.

Patrolling efforts routinely find and evaluate social media channels and forums; "brain-dumps" (websites where test questions have been posted, or where disclosed test content may be inexpensively resold); test preparation training/education sites that may use actual (operational) test questions in the training; online auctions and classifieds like eBay & Craigslist; and other websites where actual test items may be revealed. Regular updates are provided that categorize identified threats by level of actual or potential risk to your testing program based upon the representations made on the web sites, or actual analysis of the proffered content. Web sites and Internet extracts are ranked from CLEARED (lowest risk but should be monitored) to SEVERE (highest risk). The reports contain specific URLs, and other content extractions that represent and depict the categorized threat. Additionally, the reports include overall and specific threat analysis, with actionable recommendations to follow in minimizing and removing the dangers.

Comprehensive, Consistent Monitoring

In conducting web patrol operations, Caveon has built a team of specialists who spend days and evenings continually scanning the Internet for our clients' intellectual property. The team leverages numerous search technologies, some licensed and some publicly accessible (e.g., "open source"), to ensure comprehensive, consistent, and continual monitoring of the web. Continual, daily web monitoring is critical before, during and after test administration windows. The web is a dynamic, sprawling entity, constantly changing and evolving. The way search tools index the web means that two searches in the same day may yield different results. One search may find nothing, but a search, moments later may discover a site that is aggressively distributing test content.

Verifying Threats

Casting such a broad net across the web means the team must cull through thousands of search results (each is a possible threat) for each test program. This is no small task, requiring hours of human effort to review possible threats and gauge their risks by drilling deeper to explore whether a result is benign or a legitimate worry.

This daily sifting is the most challenging aspect of web patrolling. The value in Caveon Web Patrol involves the "heavy lifting" our experienced web patrollers provide. Team members have, after years of service, become experts at quickly reviewing a search hit and discerning a level of risk. Most of the team has been with Caveon for over seven years (the Caveon Web Patrol Director has been with the company

since its inception in 2003). Despite technology innovations in other aspects of the service, this work requires human judgment and is vitally necessary to take action against real threats to test security.

Removing Threats

Unfortunately, discovering and validating threats is only part of the challenge. Once a threat is verified, the Caveon team systematically works through the steps necessary to have infringing content removed. Dealing with unethical website operators can be challenging, but through close collaboration with our clients' and partners' legal teams we have achieved tremendous success in protecting copyrighted test material.

An escalation path of legal remedies is available. That path begins with formal "bystander" notifications and cease-and-desist letters. The path ends when the website operators remove copyrighted material and/or cease operations, either voluntarily or by compulsion. Caveon endeavors to complement existing activities of clients' organizations, including issuing formal notices under existing U.S. copyright laws to offending website owners, ISPs, search engines, etc. Keys to successful threat removal include:

- **Timeliness of notification:** By continually, systematically patrolling for new threats and monitoring existing ones, Caveon Web Patrol quickly ascertains when a breach has occurred or may be imminent. When discovered, we immediately notify clients by email, phone, instant message, or a combination of these. A planned, timely response can be critical in minimizing impacts to a testing program.

- **Item Match Analysis:** When Internet sources of disclosed test information matching predefined criteria are identified, Caveon can purchase the proffered test materials, perform a sophisticated item match analysis for overlap with confidential, program test content, and report the similarity percentage between the materials. These analyses are useful in gauging the scope of security breaches, and are powerful supplemental evidence in legal actions. Item Match Analyses are provided on a per-incident basis for an additional fee.*Client Collaboration*

Several factors contribute to successful client engagements with web patrol. First and foremost, we request frequent collaboration with a client contact to discuss search terms, search term changes, search techniques, and results. Many comprehensive testing programs (including medical licensure programs, college admissions programs, state departments of education) use Caveon Web Patrol year after year — in these cases we've forged a tight, collaborative partnership where our team leaders and their client counterparts work in tandem to identify risks and aggressively manage them.

H. Reporting for All Statewide Assessments

1. Reporting assessment results

The Contractor is responsible for the reporting of results from all assessments on a timeline jointly developed in the beginning of project annual meeting to facilitate project planning through the establishment of intermediate milestones that include, but are not limited to, a) the completion of scoring and processing, b) the development, review, and approval of reporting specifications, and report shells, c) the review and approval of equating procedures and analyses, d) the delivery, review, and approval of preliminary data files, and e) the delivery, review, and approval of sample reports. Reports must include results from the alternate assessments. Penalties for failing to meet final reporting dates and intermediate milestones will be negotiated in the contract.

a. Timeliness of reporting is critical in meeting NDE's expectations. Students should receive results as soon as they complete the test. School staff should see results in the online system within a day of student testing and the proposal must include methodology for score reports to be meaningful. Solutions that workaround post-equating should be included, in order to expedite the reporting of meaningful results.

NWEA will work with the NDE during the annual meeting to establish all relevant reporting milestones. We will participate in the initial kick-off meeting, contribute to the timeline, and share the process for report development and review, report specifications, and report shells. Sample reports will be provided with mock data, followed by approved reports with mock data in advance of final reporting. NWEA will conduct the equating and provide details on the procedure and planned analysis, as well as lead the development and coordination of all data file and sample report delivery, review, and approvals. We understand there will be penalties for failing to agreed-upon dates and milestones.

In Year One, NWEA will be conducting item pool calibrations and scaling to be able to support the adaptive nature of the assessments, as well as equating to support comparability and growth measures across years. As such, student level raw scores will be made available immediately after each student's test event. Once calibration, equating, and standard setting are complete, student scale scores, subscores, and achievement level performance will be provided.

In Year Two, items will be pre-equated, supporting the immediate provision of student level results at the conclusion of each test. Once the test window has closed, NWEA will provide all Nebraska student data to our reporting subcontractor, Education Strategy Consulting (ESC) for integration into the Matrix online, interactive reports. These reports, described more fully throughout this section, provide both online and printable summaries. Individual student reports (ISRs) can also be printed on-demand in pdf format, along with aggregated data that can be disaggregated by desired subgroups, and summary reports in pdf format readily available.

Alternate Assessment Reporting

Progress reports that describe student performance on instructionally embedded assessment are available on-demand in the Educator Portal to users with appropriate roles. The reports show the Essential Elements (EEs) and linkage levels with assessments planned and completed, and for the completed assessments, whether the student demonstrated mastery of the skills. Results are available the same day as assessments are completed.

DLM summative reports provide information about student mastery of all possible skills across all Essential Elements. While DLM's psychometric approach does not rely on post-equating, the scoring

process takes place outside of Educator Portal and the results are much more fine-grained and multidimensional rather than consisting of a scale score and subscores. DLM makes annual refinements to the scoring process to reduce the time needed to create and certify score reports before they are released to the state.

NWEA will work with NDE to customize comprehensive, automated, statewide assessment reports. The process to develop the reports will include opportunities to view multiple reporting options and templates. Using feedback from NDE, our partner, Education Strategy Consulting (ESC), will develop a report for automation within our delivery system.

Summative assessment results provide unique and actionable insights on student performance. Many of these insights can be delivered within a traditional reporting framework. Other insights must come through individual or group exploration. Providing both options to stakeholders increases the likelihood these insights will be used and acted upon.

NWEA chose ESC as a subcontractor for this opportunity because ESC's tools have the ability to view multiple combinations of aggregate and disaggregate information of results, by demographics, and other filtering options to answer key questions about the data that will be meaningful for different stakeholders. This system, referred to as the Matrix and described more fully in Section G., also allows users to save and print specific plot and screen images from the interactive visualization. ESC understands that the comprehensive, automated report will cover the majority of information educators, parents, and other stakeholders want to access quickly. However, ESC also understands that individuals often seek additional information that goes beyond the automated report. The ability to save and print both screen and plot images from the Matrix provides a unique opportunity for flexibility and customization.

Alternate Assessments Reporting of Subscores and Summative Scores

DLM's individual student score reports were developed by the consortium through a series of focus groups conducted with parents/guardians of students with intellectual and developmental disabilities, and with professionals (e.g., parent advocates, teachers, district staff) who serve students who take alternate assessments. Reports provide fine-grained information about study mastery of skills, consistent with the design of DLM assessments and the use of cognitive diagnostic modeling for scoring.

DLM Individual student score reports are comprised of two parts: (1) the Performance Profile, which aggregates linkage level mastery information for reporting on each conceptual area and for the subject overall, and (2) the Learning Profile, which reports specific linkage levels mastered for each assessed EE. There is one individual student score report per student per subject, and each report is approximately 3-5 pages long. A sample score report is provided in Appendix Z. Studies on stakeholder evaluation of

prototypes[31] and teachers' ability to interpret and use results[32] indicate the reports meet stakeholders' informational needs about student performance in ways that previous alternate assessment score reports did not.

Standard DLM individual student score reports will be available via the Educator Portal. NDE controls the timeline for the release of these reports to the district level.

To facilitate local communication of concise information to parents and reduce shipping costs that would result from shipping ten-plus-page reports, DLM will also work with NDE to design a customized one-page summary report that describes overall performance and results by conceptual area (roughly analogous to the concept of subscores) for all tested subjects. The timeline will include opportunities for NDE to review prototype reports before the contents are finalized. Reports will be produced in PDF format and made available in Educator Portal at NDE's request. The one-page summary reports will also be bundled for delivery to NWEA for printing and shipping with the general assessment results. DLM will provide NWEA with a student-level data file so that NWEA can incorporate alternate assessment student results into customized aggregated school and district score reports.

c. The Contractor will be responsible for providing timely reporting of test results to schools and districts to better inform student learning. The proposal will provide evidence of timely reporting of results to districts and students. Evidence of timely reporting is a critical component of the proposal.

NWEA is committed to providing timely reporting to schools and districts to inform learning. The pre-equated design, adaptive nature of the assessments, and the inclusion of fully machine-scorable item types support immediate reporting at the student level. This allows for teachers and students to see where students are in their learning with respect to the standards before the end of the school year, even for a summative test. Then, once the statewide testing window has closed, the aggregated results can be returned quickly and efficiently.

NWEA has decades of experience providing immediate results to students and teachers that are instructionally informative and relevant to learning through our learning continuum. We provide a 24-hour turn around for proctored assessments. Similarly, we understand the need to transform data into usable information for policymakers, district leaders, and principals in a timely fashion. ESC's proprietary software allows for the rapid and efficient handling (ingestion, scrubbing, and processing) of large data sets. For example, ESC has successfully processed data for states with student populations exceeding one million. Finally, the NWEA proposed project team has the expertise to work with NDE to plan and manage all milestones relevant to the efficient turnaround of reports.

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[31] Clark, A. K., Karvonen, M., Kingston, N., Anderson, G., and Wells-Moreaux, S., "Designing Alternate Assessment Score Reports That Maximize Instructional Impact," Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, Illinois (April 2015).

[32] Karvonen, M., Clark, A. K., and Kingston, N., Alternate Assessment Score Report Interpretation and Use: Implications for Instructional Planning, Presentation at the 2016 annual meeting of the National Council on Measurement in Education, Washington, D.C. (April 2016).

Timely Reporting for Alternate Assessments

Student progress reports are available through the Educator Portal during the instructionally embedded testing window to provide teachers and students timely reporting of progress towards skill mastery during the year. The Student Progress report summarizes student mastery of skills associated with each Essential Element (EE), based on instructionally embedded assessments taken that year. Test administrators may use the report when planning or reviewing instruction for a student, or discussing student progress with parents. The report displays the conceptual area(s) tested, the grade level expectation, the specific levels tested, and mastery evidence for tested levels.

Summative individual student score reports are delivered via the Educator Portal and accessible only to users with specific Educator Portal roles and permissions. Reports are produced on a timeline that balances demand for timely reporting with quality control procedures that ensure accuracy of report contents, consistent with the Standards on Educational and Psychological Testing[33].

DLM is in the midst of a multi-year plan to build accurate, high-quality score reports and deliver them in a timely manner. By 2017-2018, DLM has scheduled individual student reporting to take place within forty-eight hours of the end of the testing window. Certified reports are delivered after the assessment window ends, rather than mid-window and on different timelines per student, in order to provide sufficient time to complete quality control processes.

Final individual student score reports, including learning profiles and performance profiles, will be delivered two weeks following the conclusion of the standards validation process in July 2018 and NDE adoption of the cut points.

Final score files are delivered in a General Research File following the close of each spring operational testing window. The timeline for delivery each year is set based on annual improvements to data queries, scoring procedures, and quality control checks. DLM's proven processes for timely delivery have been demonstrated beginning with the first operational delivery in 2014-2015.

d. Students should know results at the time of testing or shortly thereafter. The proposal should include a solution for timely reporting that is not impeded by equating of forms. Providing students raw scores, but not being able to provide either a meaningful final determination if the student passed the test or provide a growth score is of little meaning.

In Year One, students will receive only raw scores immediately after testing due to the analyses and decision making necessary after the initial administration. Other scores will be made available at the conclusion of scaling, equating, and standard setting.

In Year Two, however, because of the pre-equating design and adaptive nature of the assessments, each student will see their scores, subscores, and achievement level performance immediately at the completion of their test event. Growth scores will also be provided in Year Two and beyond for all students for whom a valid Year One score is available.

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[33] AERA, APA, and NCME, Standards for Educational and Psychological Testing, Washington, D.C. (2014).

Student Results for Alternate Assessments

Student Progress reports are available through Educator Portal during the instructionally embedded testing window to provide teachers and students timely reporting of progress towards skill mastery during the year. The Student Progress report summarizes student mastery of skills associated with each Essential Element, based on instructionally embedded assessments taken that year. Test administrators may use the report when planning or reviewing instruction for a student, or discussing student progress with parents. The report displays the conceptual area(s) tested, the grade level expectation, the specific levels tested, and mastery evidence for tested levels.

Reports are produced on a timeline that balances demand for timely reporting with quality control procedures that ensure accuracy of report contents, consistent with the Standards on Educational and Psychological Testing[34] . The DLM psychometric approach does not rely on post-equating. The summative scoring process takes place outside of Educator Portal and yields information about the highest linkage level mastered for each Essential Element. The results are much more detailed than a scale score and subscores. DLM makes annual refinements to the scoring process to reduce the time needed to create and certify score reports before they are released to the State.

Once produced, summative individual student score reports are delivered via Educator Portal and accessible only to users with specific Educator Portal roles and permissions.

e. The Contractor will provide the reports listed below for each test. All reports of results must be available in an electronic file for downloading and delivered in web-based format in addition to the paper/pencil versions of the Individual Student Reports (below). The proposal must include a detailed description of a proposed method for web-based reporting that provides easy access to results while ensuring security and confidentiality. The web-based reporting system must enable NDE access to all district and school reports and district access to appropriate school reports.

i. School Report Package containing whole school aggregated and disaggregated achievement level results and subscore results as specified by NDE. School reports shall also include, at a minimum, district and state comparisons.

ii. District Report Package containing statewide aggregated and disaggregated achievement level results and subscore results.

iii. State Report Package containing statewide aggregated and disaggregated achievement level results and subscore results.

iv. District confidential student-level database containing information such as school identifying information, student identifying information, demographic information, raw score totals, scaled scores, and performance level.

[34] Ibid.

Report Packages

As stated in Section B, NWEA will work with NDE to customize individual, school, district and state level reports. This process will provide the opportunity for several iterations before finalizing what is included in each of the School, State, and District Report Packages.

For the Alternate Assessment results, we recognize that all students in a school need to be included in aggregated views. NWEA will coordinate with DLM and ESC to integrate reports for the alternate assessment into the Matrix system.

The ability to explore, customize, save, and print queries within the system will also be constant across all levels of reporting. Figure 57 was created using the functionality of The Matrix to save a specific query. In this example, the relative performance of a selected (focus) elementary school is compared to all other elementary schools in the state.
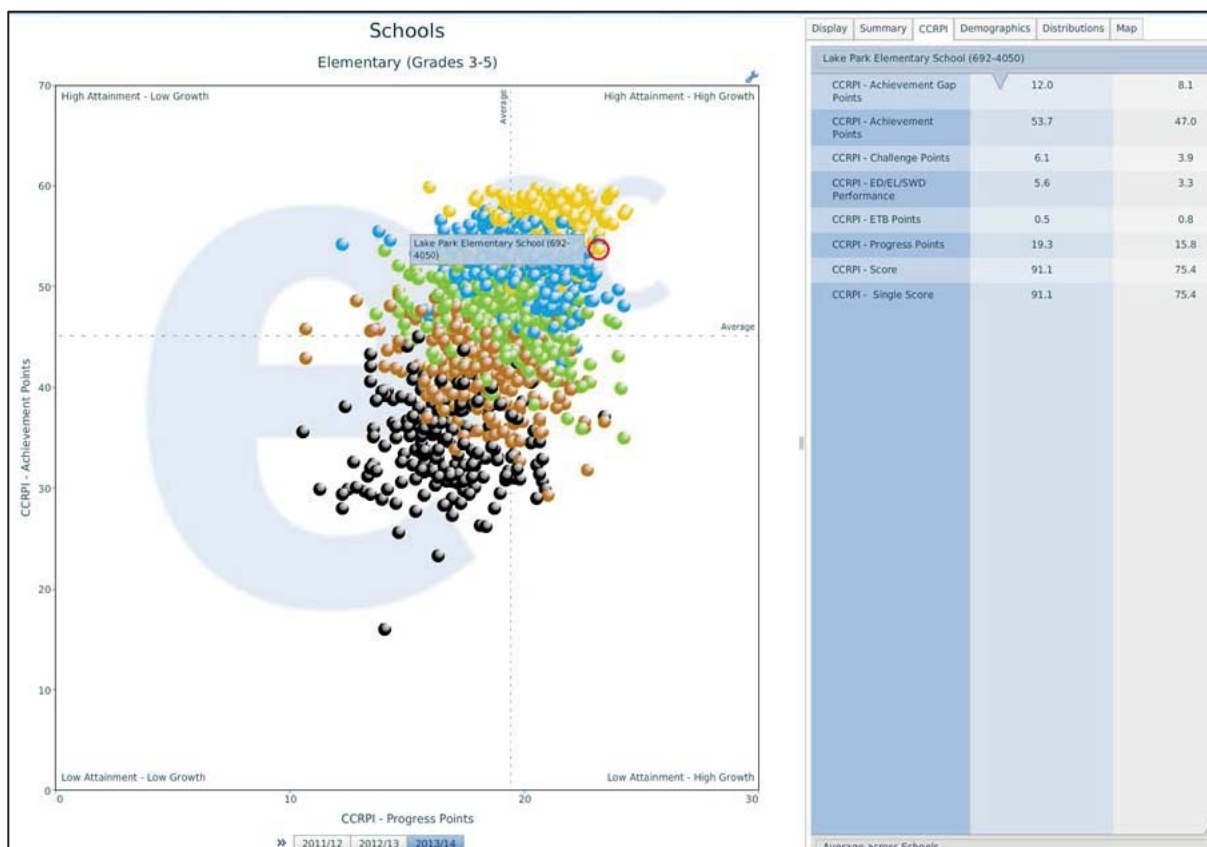
Figure 57: Focused Query. This specific visualization is from Georgia, where the College and Career Ready Performance Index (CCRPI) is used. On the right of the screen, the subscores of the CCRPI for the focus school is presented in one column, which allows for easy comparison to state averages presented in the next column.

In addition to aggregated, whole-school performance, disaggregated data can be examined. In Figure 58, summative assessment results are disaggregated by subgroup. ESC will include the requested subgroups and apply business and suppression rules for their inclusion in The Matrix.
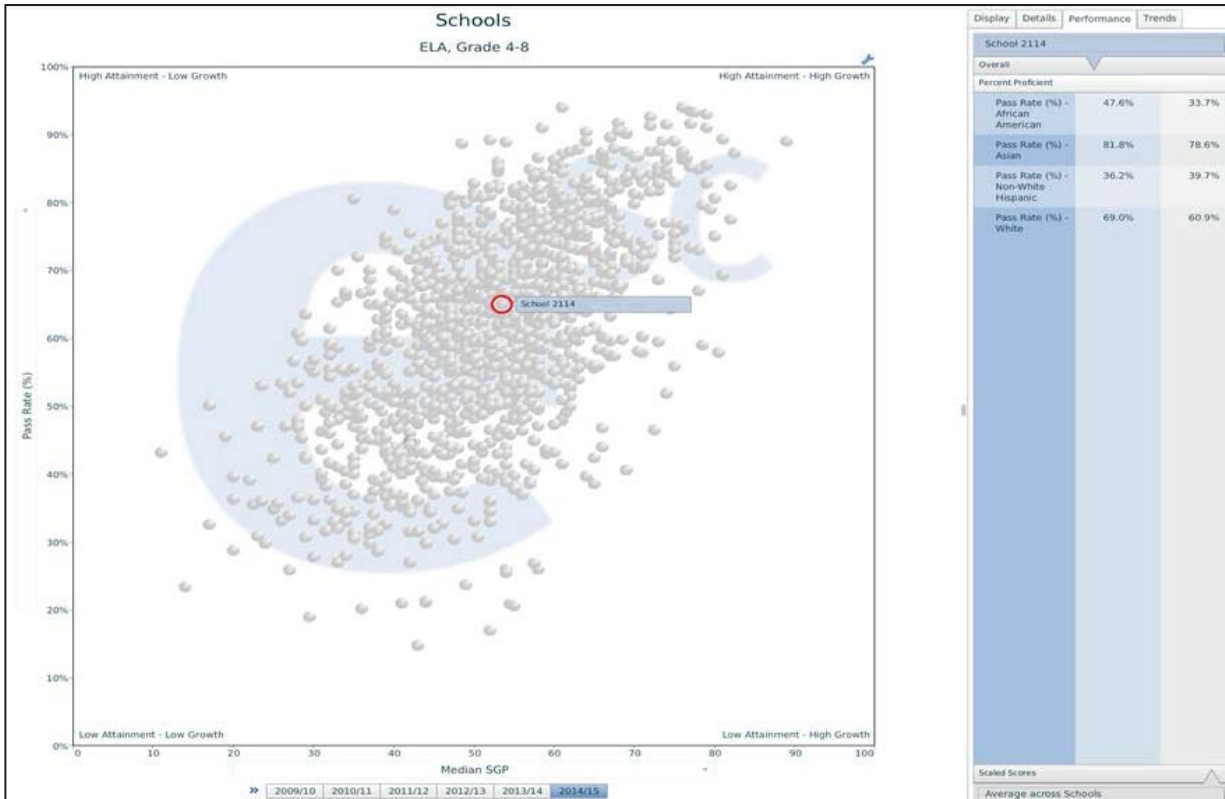
Figure 58: Disaggregated Results by Subgroup. ESC will include requested subgroups and apply business and suppression rules in The Matrix.

Finally, specific district comparisons can be made, as seen in Figure 59.
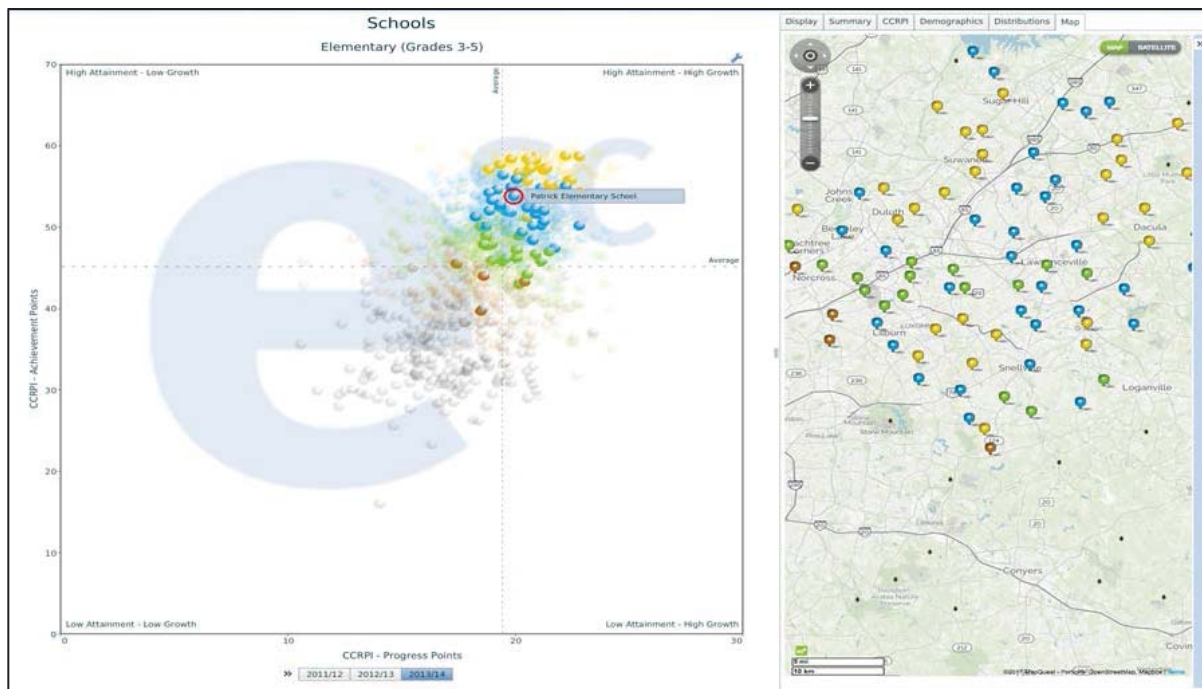
Figure 59: District Comparison. In this example, an individual school is compared to all other schools in the state (dots grayed out) in contrast to all other schools in their district (dots remaining bold). In addition, the map feature, provided on the right of the screen, allows district and school leaders to explore the geographic spread of performance across the district.

District Confidential Student-Level Database

NWEA will provide a link through the reporting system for districts to securely login and download student level data, including the alternate assessment information. The file will contain student demographic information and assessment results. The user interface will be available only over SSL and will require a user login to access the reporting system.

Data transfer to NSSRS will be supported by the following mechanisms.

- APIs will be exposed in NWEA native and Ed-Fi compatible formats. Student APIs will be keyed by NDE Student ID. The APIs will expose the demographic data previously provide by the NDE. The SSL (https) based APIs will be further secured by the standard OAuth 2 client credentials flow.

- Secure File Transfer will be available download student, assessment, and demographic data. The file will be keyed by NDE Student ID. The file format will be native to NWEA, known as a Combined Data File (CDF), similar to the files that some Nebraska districts receive currently.

Please see Section A.5.g for a graphic depiction of our secure data transfer process.

District Confidential Student-Level Database for Alternate Assessments

The DLM student-level database is called the General Research File (GRF). It contains all student identifying information, demographic information and student results, including each student's highest linkage level mastered for each EE and final performance level for the subject. DLM results are based on cognitive diagnostic modeling so that results describe student mastery of specific skills. There is no unidimensional scale score, raw score, or subscore. The GRF will be provided to NWEA for upload/distribution via NWEA. If NDE prefers, Nebraska district-level staff may also access results for students in their district via Educator Portal. Results may be downloaded for all students in the district, by authorized users with the appropriate Educator Portal roles.

v. Individual Student Reports for parents/guardians containing achievement performance level results for all tests. (Two paper copies per student and digital versions so districts can print additional copies if desired). Expectations for the type of information on the state summative assessment reports have increased over the last several years by both educators and parents. Information of current statewide assessment reports is available at: https://www.education.ne.gov/Assessment/Index.html

NWEA will work with the NDE in the design of the individual student reports, attending to variations in types of information these new reports will offer. This information is just as important for parents/guardians and NWEA will ensure their reports contain achievement performance results for all tests. These reports will be made available in print-ready format for districts to print on demand. NWEA is partnering with Educational Data Systems (EDS) to print and ship paper versions of the individual student reports to districts for distribution to schools. These reports can be provided to parents/guardians and contain achievement performance level results for all tests.

NWEA will review and approve draft report designs prior to programming the reporting software. EDS will use a "test deck" of known data to quality check the reporting program, ensuring that the known values are correctly printed on the reports. Additionally, prior to printing any live reports, EDS will use a set of three or four "pilot" districts to print and hand-check the reports against printouts of the student data records. All values will be checked and verified before printing any live reports.

Once the individual student report programs are ready, EDS will print two copies of the reports on its high-speed laser printers. Reports will be printed on pre-printed 11 x 17-inch paper "shells" that contain the NDE logo in color and other design marks such as boxes or bars. Each student report will be folded and stacked for shrink wrapping. EDS will use an alternate printer tray with colored paper which will be pulled as header sheets at the start of each district, school, and grade. These header sheets contain the district name, the school name, and the grade level of the reports under it. These headers will serve as dividers, as well as covers to protect sensitive student data. EDS will package each school's reports in shrink-wrapped packages and label the packages with a barcode label identifying them by school and district. As shipping boxes are packed, EDS will scan the barcodes identifying each package that is included in each box.

To make the lives of district staff easier, we will utilize the First Box approach for reports. Inside the first box, staff will find their packing list of the reports included for each school's shipment. This helps staff review the order and identify the packages that are to be distributed to each school.

As they are packing, EDS shippers will apply a district and school barcode label to the outside of each box. The barcode labels will be pre-printed and available as the reports are printed, packaged, and

placed in boxes. As each box is closed and entered into the UPS system, the box barcode labels are scanned to ensure the box information and the shipping information are the same.

The processes of printing, packaging, and shipping will be quick and efficient so that reports are printed and shipped within the strict timelines established by NWEA and the NDE.

Reports Provided for Alternate Assessments

For logistical ease, NWEA will coordinate with DLM to integrate the ISRs into the reporting and shipping process by EDS. The customized one-page summative report will include achievement level results for all tested subjects and summary information for skills mastered within each conceptual area. This customized report will be brief in order to facilitate printing and shipping. The more detailed, standard DLM individual student score reports will be produced and distributed as electronic PDFs. DLM Individual student score reports are comprised of two parts: (1) the Performance Profile, which aggregates linkage level mastery information for reporting on each conceptual area and for the subject overall, and (2) the Learning Profile, which reports specific linkage levels mastered for each assessed EE. There is one individual student score report per student per subject, and each report is approximately 3-5 pages long. A sample score report is provided in Appendix Z.

f. NDE seeks a score reporting design that is more informative and accessible for communicating with students and parents. The Contractor will deliver the Individual Student Reports to the district's central office for distribution to the appropriate school at the earliest possible date, per agreement between Contractor and NDE. The expedited delivery of Individual Student Reports is critical to a successful proposal. The Contractor should propose a solution that allows districts to sort students for efficient delivery of Individual Student Reports to schools.

EDS will ship reports to the district's central office for distribution to the appropriate school at the earliest possible date. EDS will use a two-day shipping method to expedite the receipt of reports.

To prepare for receiving their individual student reports, EDS will make available to districts a brief survey in the home page of the CORE system to select an option for sorting individual student reports to facilitate efficient distribution to their schools. NWEA will notify districts when the survey will be available. Through the survey, districts will be able to choose the default report sort order (e.g., district, school, grade, classroom, period, alphabetical by student last name) or a custom sort order. If districts do not fill in the survey, they will receive reports in the default sort order.

Prior to printing the reports, EDS will sort the records for every district based on their stated sort order preference. To quality check the order of the reports, EDS will provide a printout of the sort order by district to the printing operators who will check the order of reports while they are printing.

Reporting Design for Alternate Assessments

Standard DLM individual student score reports will be produced and distributed as electronic PDFs and the one-page reports will be made available for districts as well as to EDS for printing and shipping. EDS will print and distribute these reports based on the agreed upon program schedule. To expedite delivery of student reports, reports are provided through Educator Portal. DLM Individual student score reports are comprised of two parts: (1) the Performance Profile, which aggregates linkage level mastery information for reporting on each conceptual area and for the subject overall, and (2) the Learning Profile, which reports specific linkage levels mastered for each assessed EE. District level staff with the

appropriate Educator Portal role can access and download individual reports or bundles of reports for groups of students. District staff may access bundles per school and per grade/subject.

g. The proposal must describe how district and school staff will be able to securely access web-based reports and data at the earliest possible date after testing, per agreement. The proposal must provide evidence of timeliness of reporting assessment results. NDE would be interested in proposals that include dynamic reporting that allowed users to interact with data instead of having static reports.

NWEA will provide web-based visualizations for the summative assessments that, through ESC's Matrix, will allow users to interact with and explore many different levels of information. Users will be provided with secure access (see section H.1.i), which will allow them to login to the web-based environment, see the ISRs, and interact directly with the data. The Matrix was designed to help clients answer targeted questions about their organization (district, school, or state) and also generate new questions that were otherwise difficult to identify. The main feature of this tool is an interactive scatter chart designed to display longitudinal data. On the Matrix, the X and Y axes are modifiable—allowing on-the-fly inspection of myriad relationships (see Figure 60). A number of features can accompany this central scatter chart, including line charts, histograms, and maps.
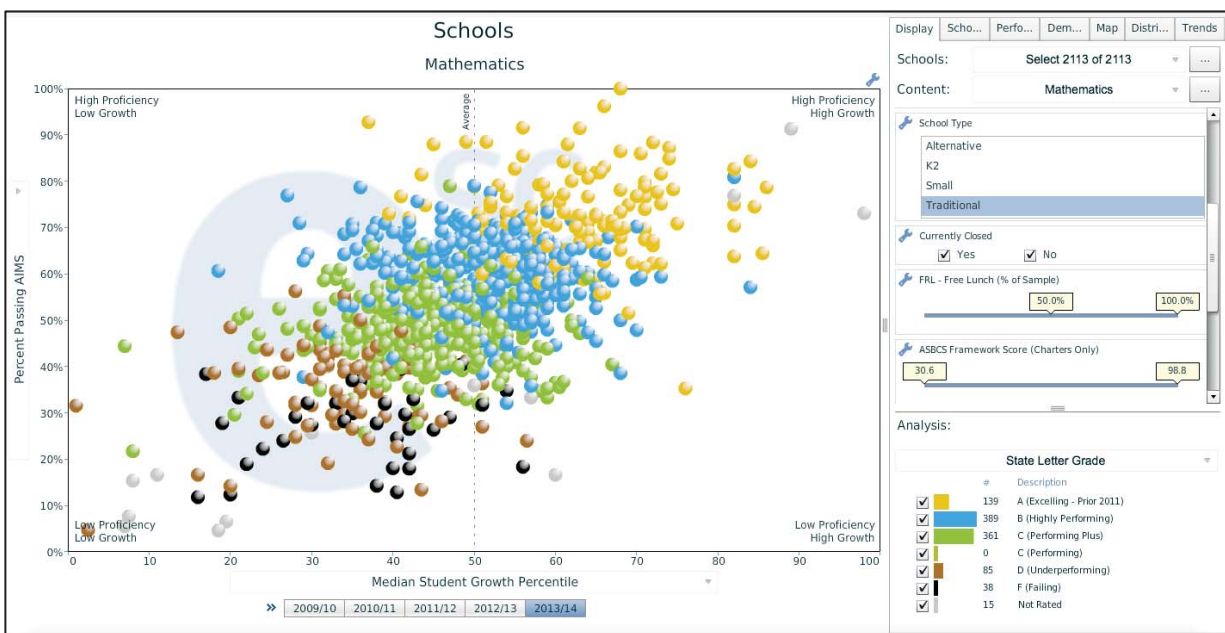
Figure 60: Interactive, Web-Based Data. This screenshot shows the web-based tool, The Matrix, with Student Growth on the X-axis and Percent Passing on the Y-axis.

Nearly every facet of The Matrix may be customized including: the types of filters that can be provided (e.g., percentage of students receiving free and reduced lunch, school type); color schemes; summary tables; and map locators. Specifically, per the NDE's requirements, NDE will have the opportunity to customize several versions of the Matrix to include the following features and options:

- Play time trends of district, school, class, and student performance on summative assessment results ranging from aggregate to student-level summative scores and subscores. These assessment results will include scaled scores, proficiency rates, and annual growth.

- Filter the displayed schools/districts by any variable for which information is given, including demographics, school type, performance, and grade level.
- Track district or school performance relative to various benchmarks, including state and/or district averages.
- Inspect a school's performance and demographic details through summary tables.
- Identify geographical variance through integration with various mapping services.
- Compare schools side-by-side with respect to information like achievement, growth, and demographics.

In partnership with NDE, NWEA will coordinate with ESC to develop multiple web-based visualizations to meet the needs of state personnel, district administration, principals, teachers, and parents. The development of multiple versions of The Matrix for each client is standard practice for ESC.

The goal of each customized visualization is to communicate data in a way that's most practical to use and easiest to understand. ESC has a super-user version of the Matrix designed for state personnel and researchers who have a deep familiarity with the data. The super-user version can serve as a platform to choose the features and data points NDE would like included in the customized versions. The following link will take you to an overview tutorial of some of the basic features of The Matrix: https://vimeo.com/escmatrix/quick-start. Next, several interactive features of the visualization are described.

Time Trend

Each visualization features a time trend and play button that tracks growth and performance from year-to-year. A specific year can be selected or the user can press the play button to see how districts or schools have progressed over the entire span of time for which data have been collected.

For NDE, this feature will be helpful in evaluating the impact of education polices across multiple years and quickly illuminate areas of best practice and need. Schools can use this to evaluate the impact of professional development, interventions, and other school wide initiatives.

Figure 61 portrays the time trend.

Sub-Group Performance

Each dot in the visualization contains an extensive amount of performance and demographic data about each school and district. The tabs to
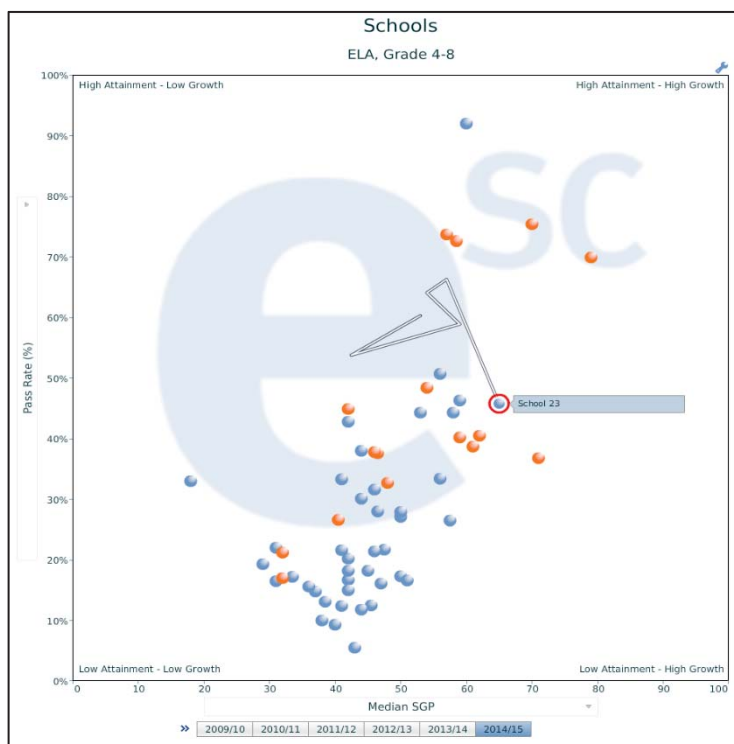
Figure 61: Time Trend. In partnership with NDE, ESC will develop multiple web-based visualizations to meet the needs of state personnel, district administration, principals, teachers, and parents

the right in the visualization will show aggregate and sub-group student achievement metrics including raw scores, scaled scores, proficiency rates and growth. See Figure 62 for an example.
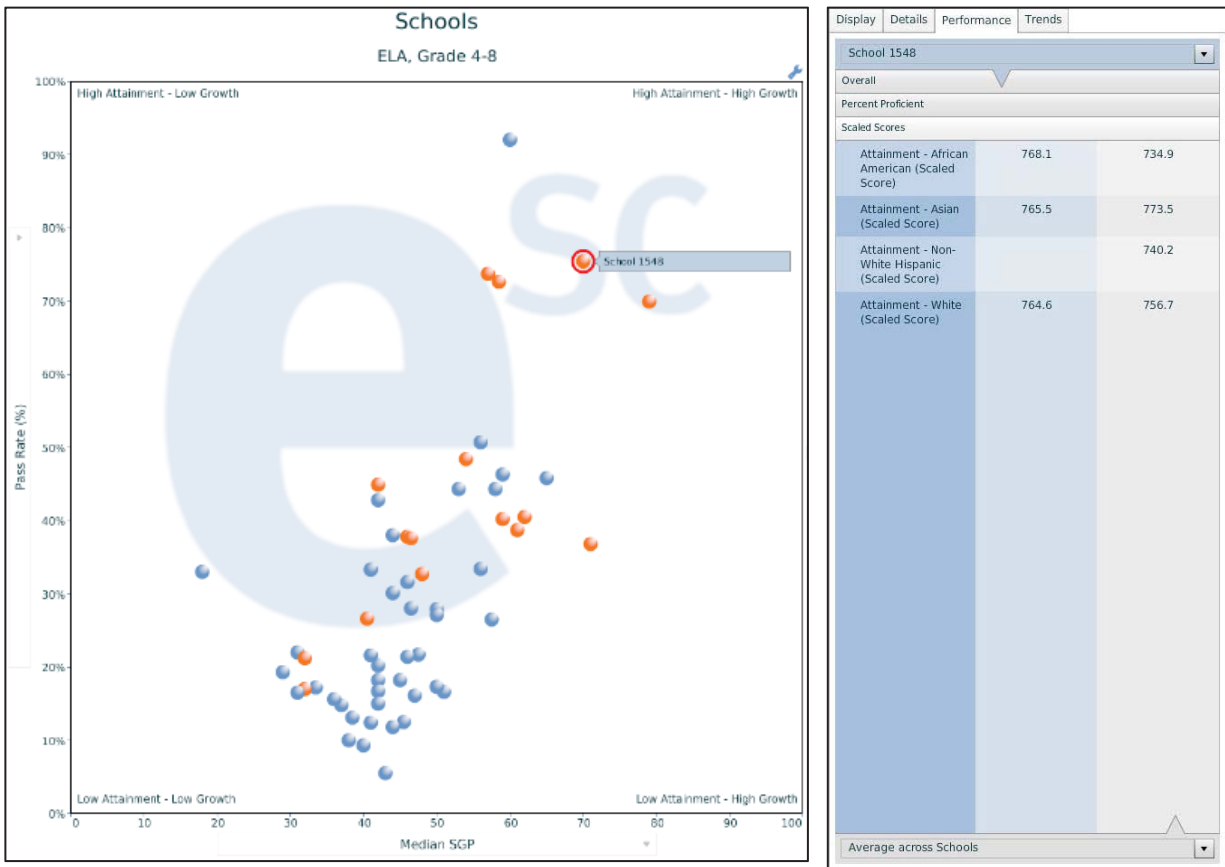
Figure 62: Sub-Group Performance. The tabs to the right in the visualization will show aggregate and sub-group student achievement metrics including raw scores, scaled scores, proficiency rates and growth.

Exploring Subjects and Schools

Each visualization contains dropdown menus for exploring subjects and schools, as shown in Figure 63. This feature allows for targeted conversations and professional development. For example, a principal can have a specific conversation with third-grade teachers about third grade reading by simply selecting it from the dropdown menu.
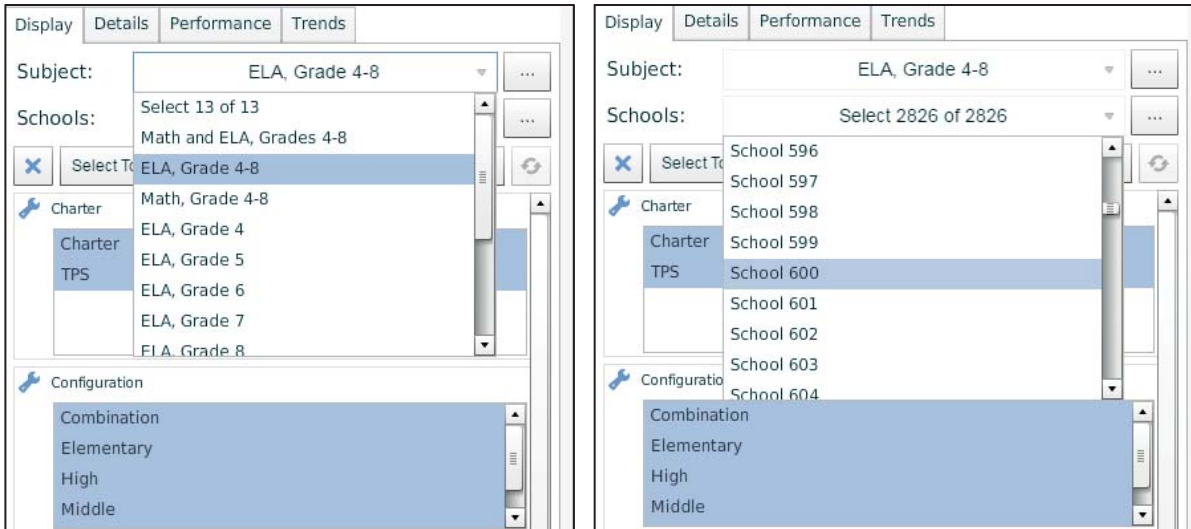
Figure 63: Exploring Different Subjects and Schools. This feature allows for targeted conversations and professional development.

Printing Reports, Exporting Views

Each visualization allows the user to access and print the state-, district-, or school-level PDF report, as seen in Figure 64. Additionally, screen and plot images can be saved and exported for use in other documents.
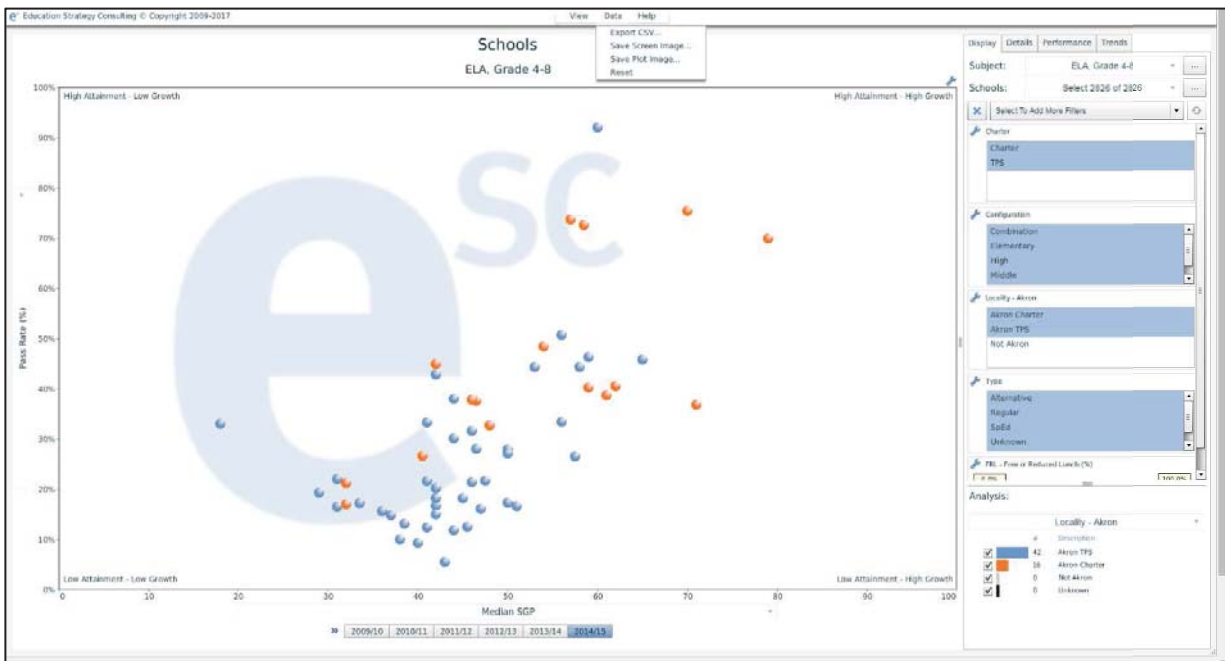
Figure 64: Printing Reports and Exporting Views. Each visualization allows the user to access and print the PDF report.

Spreadsheet View

The default setting of the Matrix is interactive scatterplots. Users can also change to a spreadsheet view (see Figure 65) and construct a spreadsheet from all of the available variables within the visualization. This feature allows easy access to high quality and data that has gone through rigorous auditing. Users can then explore and sort data to meet their individual needs.

Figure 65: Spreadsheet View. Users can change from the default view of interactive scatterplots to a spreadsheet view.

Toggle Additional Variables

Finally, "Toggle Additional Variables" allows users to view the interaction of three variables at one time (see Figure 66). There are three features used to demonstrate the effect—size, opacity, and presence. Size changes the size of the dots relative to the selected variable (e.g., larger enrollment would show up as a larger dot). Opacity changes the opacity of the dots relative to the selected variable (e.g., bolder dots reflect stronger proficiency rates). Lastly, selecting a school and then picking a variable from the "similar" dropdown shows other schools that have comparable performance (schools with differing performance will disappear).
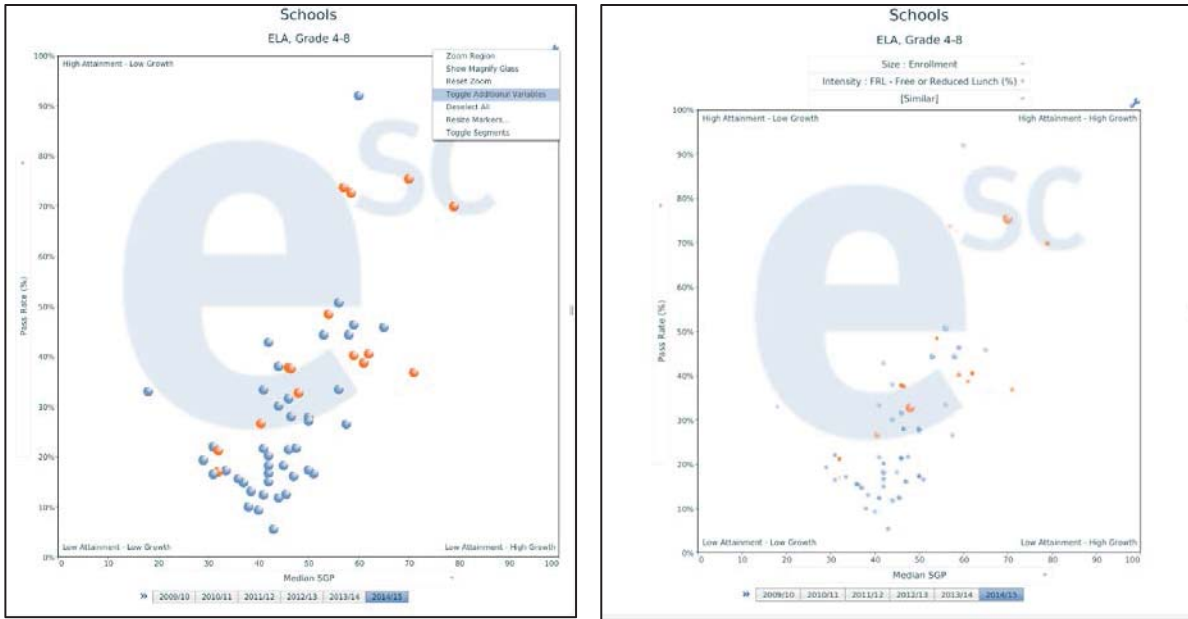
Figure 66: Toggle Additional Variables. This view allows users to view the interaction of three variables at one time.

h. The Contractor's system must have the ability to integrate or interface with an Ed-Fi REST API and optionally produce Ed-Fi XML. In addition, Contractor should list any integrations with other common systems. Contractor must commit to supporting native integration via the Nebraska Education Data Standard (NEDS), which is the State's extensions to the Ed-Fi REST API and optionally Ed-Fi XML. Updates to NEDS will be published by the NDE by January 31 of each calendar year. Contractor must commit to continuing to support annual updates to NEDS by June, 30 of each calendar year. The NEDS are also aligned with Common Education Data Standards (CEDS) available at ceds.ed.gov. For more detailed information on NEDS and the ADVISER system, see: https://sites.google.com/a/education.ne.gov/nde-adviser-Contractor-resources/.

NWEA will expose Data APIs based upon an event based architecture that will readily support transformation into multiple formats including Ed-Fi, NEDS, and NWEA native format. The APIs will be SSL (https) based and further secured by the standard OAuth 2 client credentials flow. The APIs will be highly available and highly scalable capable with a target response time < 1 second for individual student transactions and 99.9 percent availability.

NWEA will be prepared to update its integration via NEDS by June 30 of each calendar year.

The Data APIs will expose data within twenty-four hours of when it becomes available after assessments are completed.

Note that the results from the DLM alternate assessment will be provided directly to NWEA in flat files, as described, but direct APIs are not included.

i. The proposal must describe how district and school staff will be able to securely access web-based reports and data at the earliest possible date after testing, per agreement. The proposal must provide evidence of timeliness of reporting assessment results.

As described in Section H.1.c., NWEA and ESC are committed to providing timely reporting to schools and districts to inform learning. The pre-equated design, adaptive nature of the assessments, and the inclusion of fully machine scorable item types support immediate reporting at the student level. This allows for teachers and students to see just where students are in their learning with respect to the standards before the end of the school year. Then, once the statewide testing window has closed, the aggregated results can be returned quickly and efficiently through the Matrix reports by ESC.

In year one, the Nebraska Statewide Assessments will need to go through calibration, equating, and standard setting. Thus, raw score reports will be provided immediately, while total scores, subscores, and achievement level performance data will follow after standard setting based upon an agreed-upon timeline. In out years, students will receive their individual student performance information immediately, and -once the testing window has closed and student administrations have been completed – the data will be available in the Matrix within 36 hours.

Both NWEA and ESC have extensive experience in providing timely reports. NWEA has decades of experience providing immediate results to students and teachers that are instructionally informative and relevant to learning through our learning continuum. We provide immediate results and a 24-hour turn-around for proctored assessments on our interim assessments. Similarly, ESC understands the need to transform data into usable information for policymakers, district leaders, and principals in a timely fashion. ESC's proprietary software allows for the rapid and efficient handling (ingestion, scrubbing, and processing) of large data sets. For example, ESC has successfully processed data for states with student populations exceeding one million. Finally, the thoughtful timeline established in the RFP regarding deliverables allows for ample time to plan and structure for the efficient turnaround of reports.

Users will be able to access The Matrix through a password protected website. The Matrix efficiently communicates fundamental aspects of student achievement while providing for personal exploration from various stakeholders. However, these benefits are largely lost if The Matrix is not available in a timely fashion. Principals, teachers, and state administrators need timely access in order to plan professional development, group students for targeted interventions, and evaluate the efficacy of state policies for legislative sessions. Access to The Matrix will be available shortly after all results have been reviewed and approved by the appropriate NDE staff.

Secure, Web-Based School and District Access for Alternate Assessments

Student Progress reports are available through Educator Portal during the instructionally embedded testing window to provide teachers and students timely reporting of progress towards skill mastery during the year. Teachers and other staff, such as district or building testing coordinators, may generate these reports on-demand and view results based on assessments completed since the start of the year.

Standard summative DLM individual student score reports are produced and distributed as electronic PDFs. To expedite delivery, reports are provided through Educator Portal. NDE may also opt to have DLM deliver the customized, one-page summary report via Educator Portal. District level staff with the appropriate Educator Portal role can access and download individual reports or bundles of reports for groups of students. Once DLM certifies reports and loads them into the system, NDE determines the timeline on which reports are made available at the district level.

j. The Contractor will provide NDE with electronic files containing the aggregated school, district, and state results provided in the web-based report as well as a confidential student-level electronic file containing all available student-level information for all students such as student name and identifying information to include NDE Student ID, demographic and program information, test form, raw item responses, scored item responses, accommodation information, raw score totals, domain/subscores, scaled scores, and performance levels. The proposal must provide evidence of timeliness of reporting assessment results.

NWEA will provide NDE with electronic files containing all required information. These files will be available to NDE within the timeline outlined in the proposal. Additionally, ESC will make the aggregated school, district, and state results available within The Matrix version created for NDE. The Matrix allows users to view data within a scatterplot or spreadsheet view. By choosing the spreadsheet view, users will have instant access to all aggregated school, district, and state results. Current clients find this to be an extremely useful tool to access official and accurate data in a timely fashion. Figure 67 shows what the spreadsheet view looks like and how easy a user can manage additional variables. Users can also export and save the spreadsheet in .csv format. Clients also find this this useful for additional research needs and reporting requirements within their organizations.
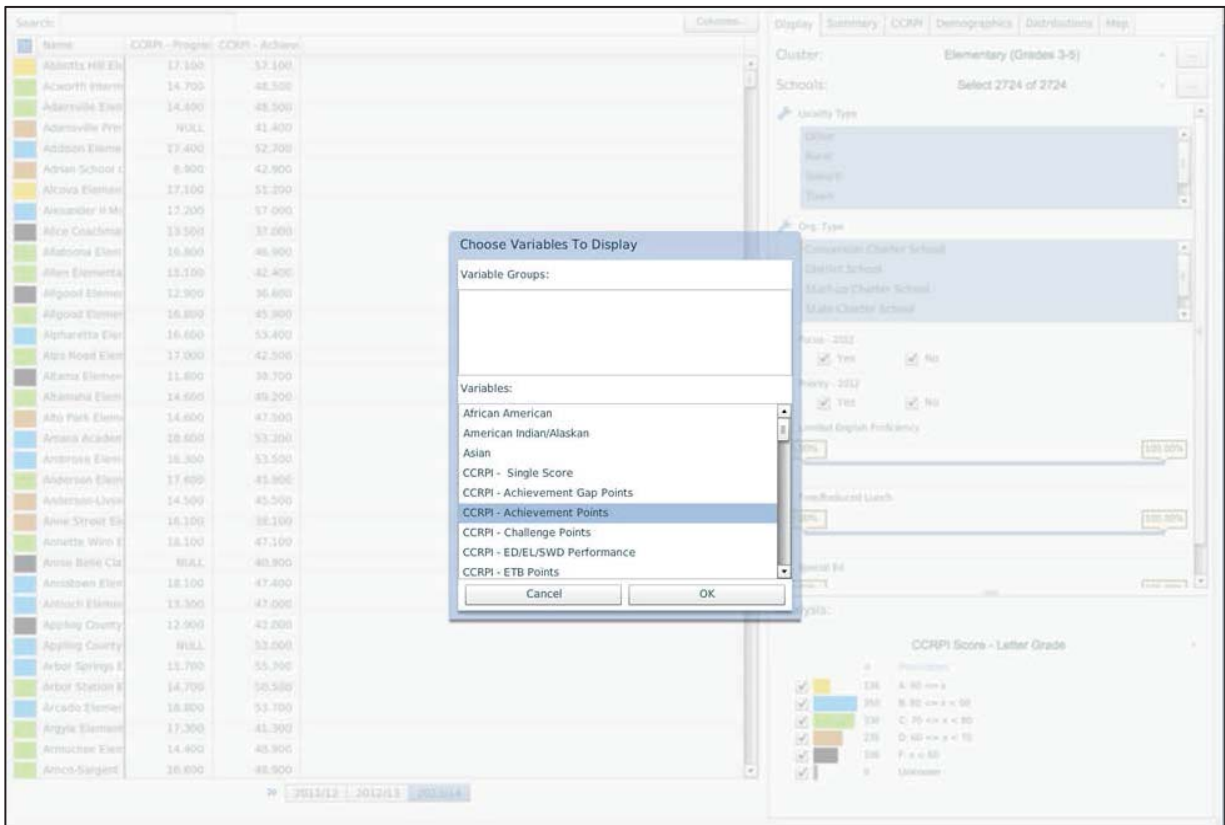
Figure 67: Spreadsheet View. Users have instant access to all aggregated school, district, and state results.

Aggregated Files for Alternate Assessments

There are three confidential student files that contain the information NDE requests. The DLM student-level database is called the General Research File (GRF). It contains all student identifying information, demographic information and student results, including each student's highest linkage level mastered

for each essential element and final performance level for the subject. DLM results are based on cognitive diagnostic modeling. Results describe student mastery of specific skills. There is no unidimensional scale score, raw score, or subscore. All appropriate and relevant information about student results is provided in the GRF. Since DLM assessments are teacher-selected during instructionally embedded assessment and delivered adaptively in the spring, there are no pre-defined test forms. Instead, each testlet is treated as a test form and all testlets completed by all students are listed in a supplemental date-time file. NDE may generate a downloadable file that contains all Personal Needs and Preferences (PNP) selections made for all alternate assessment students. The PNP extract is one of the standard data extracts available on demand in Educator Portal.

k. The Contractor will develop and produce interpretive materials for the Individual Student Reports for parents and schools/districts. The interpretive materials will be provided in web-based format for posting on the NDE website. The proposal must include a description of the type of information to be included in such materials and methods to increase the usefulness of such materials. Expectations for clear, informative, and succinct student and parent information has increased. The proposal will address this requirement.

Interpretive guides will be developed to inform parents about how to understand their child's Nebraska State summative assessment scores contained within the Individual Student Reports. The reports will be designed to support parents' understanding of their child's test results in relation to the Nebraska State Standards. Interpretive guides will also answer questions such as, "How is my child performing relative to other students in the school, district and state?" Or, "What are my child's relative strengths and learning needs? Is my child mastering important skills?". The guides will contain supporting information to describe the test structure as well as how the assessment scores are used by teachers, schools, and policymakers.

In addition to the interpretive guides, a host of customized tutorial videos will be accessible through the "Help" feature on each version of The Matrix. These videos allow for quick start access, refined exploration, and guide interpretation of outputs. As shown in the following screenshot (Figure 68), the content of these videos will include an overview of the tool, a Quick Start guide for first-time uses, detailed tutorials on how to use the various interactive features, and guidelines for how to interpret the data outputs. These videos will be reviewed and customized in the same manner the customized versions of The Matrix were developed and refined in collaboration with NDE. A quick-start tutorial that shows the basic features of The Matrix can be found at the following link: https://vimeo.com/escmatrix/quick-start. A sample tutorial on target setting can found at the following link: https://vimeo.com/escmatrix/target-setting.
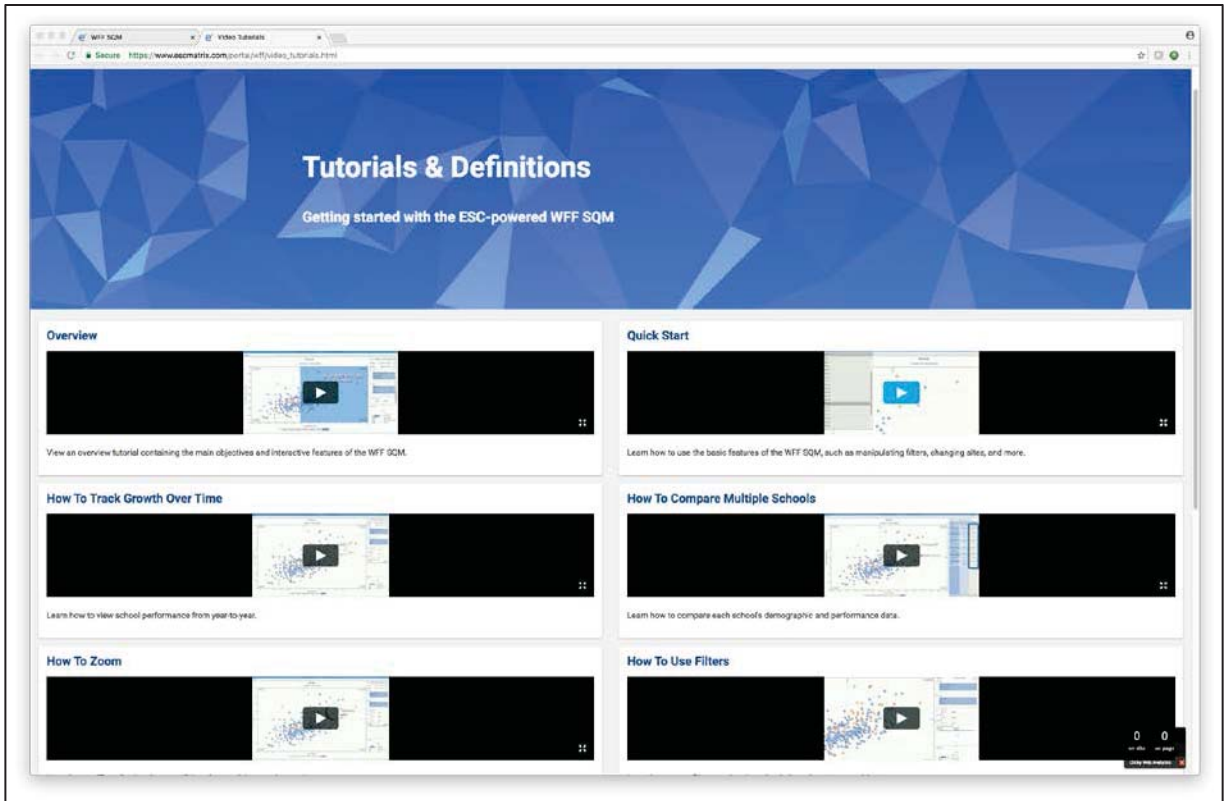
Figure 68: Tutorial Videos. Customized tutorial videos will be accessible through the "Help" feature on each version of the Matrix.

Interpretive Materials for Alternate Assessments

To support appropriate interpretations and uses of DLM assessment results, DLM has produced several supports to aid score interpretation:

- The Parent Interpretive Guide is designed to provide definition and context to student score reports.
- Parent/guardian letter templates are designed to be used by educators and state superintendents to introduce the student reports to parents/guardians.
- The Teacher Interpretive Guide is designed to support educators' discussions and build understanding for parents/guardians and other stakeholders.
- The Scoring and Reporting Guide for Administrators targets building and district-level administrators.

Sample interpretive materials are provided in Appendix CC. All of these interpretive resources are posted on a public, but hidden webpage. States have the option to make them available as-is and link to the consortium versions, or to customize the resources for their own state's use.

An interpretive guide for NDE's customized, one-page summary report on alternate assessment results will also be produced and made available on Nebraska's DLM webpage.

Additional resources are produced each year. For example, for 2016-2017 a new video will be made available to support teachers in interpreting the contents of DLM individual student score reports.

The use of interpretive guides and resources may be promoted through sidebars on the state's DLM website or through announcements in Educator Portal. These messages are posted at the state's discretion.

l. The Contractor will develop and produce an annual Technical Report that documents and provides the necessary evidence to demonstrate that each of the assessments and the set of assessments as a whole serve their intended purposes, are aligned with Nebraska State Content Standards, and test design (including accessibility criteria), and meet accepted professional standards for educational testing. The NDE and Contractor will negotiate the table of contents and format for the Technical Report with input from the NDE. The annual Technical Report will not replace or fulfill the requirement for ongoing technical documentation or documentation specified in other tasks. The final draft of the document will be delivered to the NDE no later than three months following the release of assessment results. The document will be delivered in web-based format for posting to Department websites. The proposal must include a copy of a technical report produced for a similar state assessment program.

Nebraska will benefit from decades of experience by Dr. Jungnam Kim, Dr. Canda Mueller, Dr. Christina Schneider, and Dr. Karen Barton in developing rigorous technical reports for multiple states across the country. These experts have a wealth of expertise in the documentation of evidence required by the USDE Critical Elements for Peer Review and adherence to the Standards. Each of these nationally recognized psychometricians has supported many states in their state-wide accountability programs for successful Peer Reviews, provided extensive technical support and multiple reports and presentations to state Technical Advisory Committees, and have served on such committees for other states and federal grants.

Building the body of evidence that shows that an assessment system is a rigorous, but fair, set of tools to use to determine student performance is an ongoing process. The annual technical report is the culmination of these yearly activities. NWEA understands and uses the Standards for Educational and Psychological Testing (Standards) requirements for the valid use of test scores. We will work with the NDE to finalize the format and content of the technical report. The annual technical report will be delivered on a schedule agreed to by both NWEA and the NDE.

Dr. Kim will lead the development of the technical documentation, as an accumulation of evidence from standards alignment and item development through to reliability and validity of scores, with the direct support of Dr.'s Mueller, Schneider, and Barton, ensuring best-in-class documentation around issues not limited to validity, accessibility, reliability, standard setting, and relevant policy considerations. Below is an example of the major sections of a technical report. Note that the validity evidence from a technical report is really the accumulation of evidence across the full development and implementation to use of the assessment system. It should tell the full story and collection of qualitative and quantitative data in support of valid use and interpretations of the results. This technical report can also provide NDE with technical documentation that can be specifically cross-referenced to the Standards. For example, from the intended inferences of each assessment (Standards for Validity, Cluster 1), to the factors affecting the reliability and thus the validity of those inferences (Standards for Reliability, Cluster 4) such as administration, scoring, and analysis, including the statistical documentation of reliability and validity (i.e., coefficients (Cluster 3), standard errors (Cluster 5), decision consistency (Cluster 6), various forms of validity (such as in Cluster 3). In addition, we can provide specific references for the NDE of our work as it relates to the Critical Elements for Peer Review.

The NDE technical report contents will be finalized only after negotiation with NDE. These reports will be web-based for posting on Department websites.

Sample technical report outline where reliability and validity data and evidence are interweaved throughout the report and summarized for ease of reference at the close:

- **Section 1: Standards –** the standards to which the items and tests align, their history, and importance as the bases of the purpose of and inferences from the results.
- **Section 2: Item and Test Development –** the process of item bank integration from NDE, standards reviews, item specifications and development, reviews (process, criteria, results), committees; test designs, blueprints, constraints for the engine.
- **Section 3: Administration –** the context for and logistics around administration, including accommodations and administration training.
- **Section 4: Scoring –** scoring rules, data cleaning, scoring QA
- **Section 5: Data – Population and Sample –** targeted population, sampling descriptions, participation rates by subgroup and test type (paper, accommodated), etc.
- **Section 6: Methods –** item level analyses, bias statistics, calibration of items, scaling design, equating, QA specifications, dimensionality
- **Section 7: Results –** Classical item level statistics, flag summary, standard/subscore statistics, test level performance (total population, subgroups), achievement level impact data and decision consistency (separate standard setting technical report will be provided)
- **Section 8: Special Studies –** any special studies or analyses relevant to NDE
- **Section 9: Summary**

Technical Report for Alternate Assessments

The University of Kansas, Center for Educational Testing and Evaluation (CETE) supports DLM by conducting ongoing research and develops technical documentation as supporting evidence for the DLM alternate assessment system. Research and technical documentation is designed to be consistent with best practices as described in the Standards on Educational and Psychological Testing[35] and with criteria described in existing US Department of Education Peer Review.

As a member of the DLM Consortium, NDE joins other states in shaping the direction of research and technical documentation on the results of this research, monitoring progress, and evaluating the results and written products. A benefit of consortium-level research and technical documentation is larger student populations on which to base alternate assessment analyses.

The initial DLM technical manual was completed for the 2014-2015 administration. The table of contents for the technical manual is provided in Appendix DD. The full 2014-2015 Technical Manual for the Integrated Model is available online. For each subsequent year until a significant revision to the assessment system, CETE creates annual technical updates, which provide ongoing validity evidence, psychometric characteristics of DLM assessments, test development procedures, accessibility findings, and test results.

Upon the completion of a testing cycle, DLM psychometricians, content developers, and test development staff collaborate to assemble the required documentation, which will have been collected

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[35] AERA, APA, and NCME, *Standards for Educational and Psychological Testing,* Washington, D.C. (2014).

throughout the test development cycle, and organize it into a coherent whole. DLM editorial staff review all technical documentation as well. A draft of each year's technical documentation is provided to DLM Consortium member states, including NDE, and to the DLM Technical Advisory Committee, for review and input prior to publication.

This proposal assumes that technical documentation developed for the DLM Consortium as a whole will meet NDE's needs. If additional customization is required to best serve the needs of NDE, DLM would negotiate with NDE as to how best to meet those needs.

m. The proposal must include the production of a template in Spanish of the Individual Student Report that can be accessed online and that will allow districts to populate with results.

NWEA with ESC will offer two solutions for a Spanish version of the Individual Student Report. The first solution will be to produce and automate the Spanish version of the Individual Student Report in the same manner as all other Individual Student Reports. The second solution will be online access to a template in Spanish of the Individual Student Report that districts could use to manually populate with results. ESC can implement either or both of the solutions as requested by NDE.

Spanish Individual Student Report for Alternate Assessments

For the alternate assessment, a Spanish-language version of the customized Nebraska one-page summary report will be created once the English language version is finalized. The complexity of the report contents will determine whether districts will be expected to populate results or whether CETE would generate Spanish language reports, either for all students or using a list provided by NDE once annually.

n. The proposal must include a description of the procedures that will be used to collect, record, and investigate reports by districts and schools of discrepancies and errors in results.

NWEA takes reports of discrepancies by districts and schools seriously and understands the time-sensitive nature of these types of inquiries. The Partner Support Services team will provide assistance to districts and schools that identify a potential discrepancy in results. They will collect and record pertinent information into our customer relationship management (CRM) tool and follow up with the necessary NWEA team members, including Program Management, to investigate the potential discrepancy. If an issue is identified, the Program Management team will communicate with the NDE immediately.

Procedures to Investigate Discrepancies for Alternate Assessments

District and school education agency staff will report to NDE any appeals they would like to claim, using the state's process for receiving requests. NDE will review the General Research File and supplemental files delivered from DLM to determine if the issue can be resolved or explained. If a resolution is not found by NDE, the state will submit a single file with all impacted student IDs via secure file transfer method to DLM for further investigation. DLM will review the impacted student list, and either determine a resolution, or rescore and provide an updated file back to NDE within three weeks. If an error is found, score reports will be re-generated for the impacted students.

2. Retrieving Student Work

EDS will create a re-score request form and publish it in the Test Administrator manuals. If there is a question about the validity of a student's scores, the DAC will fill in the form and it will be routed to the NDE project manager for approval. Upon receipt of the approved written request, NWEA will notify EDS and EDS will retrieve the student document(s) from the long term storage boxes, scan the documents, and place the image file(s) on a secure FTP site for NWEA to hand score and verify the original scores. If the documents in question are score reports, EDS will make an electronic version available (via secure ftp site) to NWEA for review.

The rescore fee is provided in the Cost Proposal. Rescoring can usually occur within 48 hours, during normal business hours. If rescoring results in a different student result, there will be no charge to the NDE. Charges for this service will be submitted to the NDE, along with the rescore request form, for approval in advance of publication in the Test Administrator manuals.

I. Standard Setting and Alignment

1. This is the information to use for budgeting purposes. Use the following for the proposal and for budgeting purposes for (1) alignment and (2) standard setting. The proposal should propose an appropriate standard setting methodology and procedure that meets the following goals:

a. Is appropriate for the subject area tests.

b. Supports coherence across the grade levels tested.

c. Includes the direct participation of Nebraska teachers and other subject area experts and educators.

d. Includes the validation of alignment and standard setting results with information gained from educators in the field and through the use of other available information, as appropriate.

e. Is consistent with the goals and purposes of the NDE test specifications, whether developed by Nebraska educators or off-the-shelf solution is proposed, and assessment principles.

2. The proposal must include a comprehensive description of the proposed methods that includes procedures to occur before, during, and following the activities. The response must also include information on Contractor staff that will lead and participate in alignment and standard setting.

3. The Contractor will support all alignment and standard setting activities including, but not limited to, providing any stipends, substitute reimbursement, and covering expenses for participants in proposed meetings for the alignment and standard-setting process. NDE will assist with making arrangements for meeting room(s). Contractor is responsible for determining the number of participants. NDE will assist with identifying appropriate individuals to participate. Average daily stipend for teachers working during the summer months is $150/day. Plan

on similar amount for substitute pay for teachers working during the regular school year. Mileage – use current federal rate; Lodging – estimate $200 per night; the State meal reimbursement at $51 per day.

4. The Contractor will produce a written report documenting all aspects of the alignment and standard setting process. The report will be delivered to the NDE within 30 days of the conclusion of these activities.

NWEA understands the need for an independent alignment study for the summative assessments where they have not already been completed. We will plan, contract, and have costed for independent alignment study for the summative mathematics and science assessments, since they will be newly developed. Nebraska has already completed this activity for English language arts and we are not planning a new alignment study in this area. If NDE later decides that we need a study for English language arts in addition to the mathematics and science studies, we are happy to discuss adding that scope later.

Since NWEA plans to write the summative assessment content to Nebraska's standards, the alignment study will measure how well the content of the newly developed items align to Nebraska's interpretation of their standards, in terms of breath and depth of the standards as well as cognitive complexity. If there are additional areas which Nebraska would like to focus, we will work to integrate those areas into the study.

NWEA will work with NDE to find a mutually agreed upon vendor which have expertise in the area of summative alignment to conduct the study. Once a contract is in place, NWEA staff will work with the selected alignment vendor and NDE staff to agree to the alignment process which will be used. We will collect and deliver all of the necessary materials to the alignment vendor, including item and test specifications as well as items and metadata needed to do the actual study. We will attend and act as subject matter expert in discussions and meetings. Finally, we will work with the alignment vendor and NDE to finalize the report of findings and take any actions necessary based on the outcomes of the study.

We recognize that setting new standards and related cut scores is an often necessary change when transitioning from old to new content standards, or from old to new expectations about those standards. Such changes can be difficult to compare and interpret longitudinally. Our proposal seeks to minimize disruptions in longitudinal comparisons as much as possible, as reflected in our approach to 1) leveraging the existing NDE item banks and 2) conducting psychometric equating to preserve the underlying theta/ability scale. In particular, for English language arts and Mathematics, the metric of the scale scores in the adaptive and across-grade scaling method requires, at minimum, a thoughtful review of the existing cut scores on the new score scale. We propose a separate standard setting workshop for science.

For English language arts and mathematics, we will provide NDE with impact data after the operational administration based on the old and new cut score, and additionally relevant data (such as raw score to scale score tables and score distributions) for consideration in the evaluation of those newly equated cut scores. We recommend a formal, in person, one-day review of those data and relevant achievement level descriptors with content experts, educators, and state personnel, and any technical advisors or other critical stakeholders. Our costs reflect this recommendation. Should the NDE wish a full standard setting for English language arts and/or mathematics, a similar process as described below for science can be employed and costed at a later time.

For science, standard setting is needed following the spring 2019 administration. We suggest the ID-Matching procedure outlined below, led by Dr. Christina Schneider and Ms. Chris Rozunick. More information about their roles for this project are provided in our response to Section 3.I.

Achievement Level Descriptors and Standard Setting Workshop Facilitation – Science

Standard setting is a series of related policy based and content centered processes that occur over time in which a state sets its vision regarding what students should know and be able to do in relation to its standards given multiple opportunities to learn. When following a principled approach to test design, development, and implementation, standard setting is multi-step process embedded into each of those phases. A state makes policy decisions about the rigor for achievement expectations, explicates descriptions of levels of achievement, writes items to those descriptions, and gathers stakeholders to recommend or review cut scores that separate students into achievement levels. This process is needed to ensure that standards-based achievement tests meet three essential stakeholder goals:

1. Classifying students into achievement levels that enable valid inferences about student knowledge and skill,

2. Measuring growth towards achievement, and

3. Explicating what growth towards achievement means to support teaching and learning.

The standard setting process begins with stakeholders writing achievement level descriptors (ALDs), which are a means for state education agencies to communicate their expectation for student performance to districts and other stakeholders. This practice enables the test to be designed so that it supports the test score interpretations intended by the state because item writers use ALDs to guide item development and think about what makes content easier or more difficult for students which supports creating increased measurement precision for the lowest and highest performing students.

Standard Setting Phase 1: Inter-related evidenced-based ALDs

Policy ALDs

Policy ALDs are an important communication device for your vision of what it means when a student's performance is categorized with a particular achievement level. Policy ALDs will be the first step in the ALD development process to guide the establishment of the intended policy outcomes you desire for Nebraska students, and they mark the beginning of the standard setting process from a policy perspective. NWEA will work with the NDE in the development of Policy ALDs.

Range ALDs

Range ALDs explicate observable evidence of achievement, demonstrating how skills change and becomes more sophisticated across achievement levels for each standard and achievement level on an assessment. Schneider, Huff, Egan, Gaines, and Ferrara wrote[36] that for ALDs to be the foundation of test score interpretation, they should reflect more complex knowledge, skills, and abilities (KSAs) as the

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[36] Schneider, M.C., Huff, K.L., Egan, K.L, Gaines, M.L., and Ferrara, S., "Relationships Among Item Cognitive Complexity, Contextual Response Demands, and Item Difficulty: Implications for Achievement Level Descriptors," *Educational Assessment* 18, no. 2 (2013): 99–121.

performance levels increase (e.g., more complex KSAs should be expected for Advanced than for Proficient)[37].

The Nebraska College and Career Ready Standards may be thought of as the learning goals for students at each grade level, and the Range ALDs may be considered evidentiary statements regarding children's observable thinking and skills as they progress and move forward in achieving the learning goals. In the development of Range ALDs the state will define and align the expected advances in student reasoning for each standard with the Policy ALDs.

This is useful to teachers because both the vision for student performance in terms of mastery of the content and the expected pathway of skill growth in terms of complexity and content are illuminated. These evidentiary statements support teachers in extending or remediating student learning in the classroom during instruction as appropriate and support item writers in determining what evidence they should collect related to the standard for each achievement level.

Because they support item writing, we will also consider test blueprints, reporting category requirements, and item writing specifications into this process. They will also be the foundation of standard setting process.

Reporting ALDs

Reporting ALDs are optimally created after final cut scores are adopted. They are finalized versions of the Range ALDs that have been vetted against test data. After the standard setting, teachers will compare the information gleaned about items on the test scale and edit the Range ALDs based upon item data. Dr. Schneider will work with standard setting participants to finalize the Range ALDs so that the program can use them as Reporting ALDs.

Dr. Schneider and Ms. Rozunick will work with the NDE in 2017 to understand and articulate the Nebraska-specific conceptualization process for creating items and interpreting standards. In particular, pre-work considerations for ALDs include:

- Decisions regarding how Range ALD prototypes align with the State's policy vision
- Item cognitive complexity alignment
- Assessment item types and methods
- Decisions about how to wrap item specifications into the process
- Articulation regarding how the NDE conceptualizes and measures text complexity as a component of the primary and secondary source stimulus documentation
- How scores will be reported and how this may be used as decision point to drive ALD organization

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[37] Egan, K.L., Schneider, M.C., and Ferrara, S. (2012), "Performance level descriptors: History, practice and a proposed framework," *Setting Performance Standards,* Second Edition: 79–106, G. Cizek (Ed.).

We will work with the NDE team to design the Nebraska-specific process with a panel of seven to ten teacher stakeholders per grade as a cost option between the NDE and NWEA in which the descriptors disseminated to field for public review.

Option: Designing the Initial Range ALD Development Process

If desired by NDE, NWEA can facilitate a two-day workshop with Nebraska educators, NDE staff, and our psychometric and content staff to create specific Range Descriptors which will ensure science descriptors. NWEA will also work with NDE to develop Policy ALDs prior to this workshop. Costs for this option are included in the Cost Proposal.

Standard Setting Phase 2: Standard Setting Workshops

NWEA recommends the Achievement Level Descriptor Item Matching Procedure (commonly called the ID-Matching procedure[38]). The implementation of the ID-Matching procedures comprises the development of Range ALDs noted above prior to the workshop. The Workshop schedule includes orientation to standard setting and the ordered item book (same process as bookmark), item-to-ALD match training, and three rounds of judgments. Below we describe the process for spring 2019 which will include a workshop director, three content room facilitators, two operations persons, and one program manager.

Participants

Although it was once typical for each grade/content area team to include approximately twenty-four participants, in recent years as few as nine participants within each grade/content area have been recruited for participation by states. Therefore, we recommend nine to twelve participants per grade, with a total for this science standard setting of eighteen to twenty-four participants. Participants should have diverse backgrounds and each content panel should be drawn from an educator pool with experience in using the Nebraska Standards and with teaching students with the following characteristics: gifted education, special education, and English language learners.

It is common to consider parents, business leaders, or members of the community as participants in the process. Should this be of interest to the NDE, it is essential that these participants be familiar with and separately trained in the standards or already have some degree of expertise with the content so that they can meaningfully participate in the process. In the absence of such expertise, participants are unable to participate in and support the standard setting process as intended or required.

Day 1: Orientation to the Standard Setting Task

On the first day of the workshop, we will begin with an orientation to the standard setting process. The workshop will be comprised of standard setting participants, NWEA facilitators and the NDE. A representative of the NDE should welcome participants to the standard setting, provide an overview the testing program, the policy ALDs, and outline the review process for the cut scores after the standard setting.

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[38] Ferrara, S., and Lewis, D., "The Item-Descriptor (ID) Matching Method," *Setting Performance Standards: Foundations, Methods, and Innovations,* 2nd ed. (G. Cizek, ed.), New York: Routledge (2012): 255-282).

Participants typically provide a recommendation to a policy body that makes the final determinations, thus participants need to understand that their cut score recommendations are central to, but only one component of, a larger process.

Dr. Schneider will provide an overview of the standard setting process and purpose, and introduce the tools of the ID-Matching procedure. These tools will be the ordered item book (OIB), the item map, the ID-Matching form, and the Range ALDs. During the orientation, participants will practice the cognitive task of the ID-Matching procedure using sample items from another testing program such as the National Assessment of Educational Progress (NAEP). After the orientation to the standard setting tasks, participants will be directed to their pre-assigned tables in grade-level breakout rooms. Table 38 includes descriptions of standard setting tools used during this process.

Table 38: Standard Setting Tools

Tool	Description and Use
OIB	The OIB comprises multiple-choice and technology-enhanced items in the order of empirical difficulty, from the easiest to the most difficult.
Item Map	The item map summarizes the characteristics of the items in the OIB in their order of difficulty. The item map typically identifies the sequence of items in the OIB by difficulty, scale score of each item on the test scale, item number, the correct answer, and standard that each item measures. The item map also comprises two questions that are central to the standard setting process:
	"What does this item measure? That what knowledge and skills does this item elicit and
	"Why is this item more difficult than the earlier items?"
	Participants answer these questions for each item in the OIB.
Range ALDs	Range ALDs explicate observable evidence of achievement, demonstrating how skills change and become more sophisticated across achievement levels for each standard and achievement level on an assessment.
Nebraska College and Career Ready Standards	Nebraska standards define the expectations regarding what students should know and be able to do as an outcome of instruction.

Once participants move to one of three breakout rooms, they will study the Range ALDs.

Participants will orient themselves to the assessment by taking the test either on the computer or in paper and pencil form so that they have a better feel regarding how the test was administered and presented to students. Finally, they will analyze and discuss each item in the OIB and answer the two questions in the item map. The analysis of the OIB will continue into the morning of Day 2.

Day 2: Rounds 1 and 2

Once the analysis of the OIB items is complete, participants will receive training on how to match the items to the Range ALD. Participants will the items in order of difficulty and analyze the item to determine the content knowledge, the cognitive processes, and the contextual components that are intended to be activated when a student responds correctly to the item and associated stimulus material. Participants ask themselves, *"Which Range ALD descriptor most closely matches the knowledge and skills required to respond successfully to the item (or score point for a constructed response item)?"*

The standard setting cognitive task consists of matching of response demands found in an item to the Range ALD descriptor, and then coding the item to the corresponding achievement level for the descriptor is the standard setting cognitive task. This cognitive-judgmental task does not require panelists to consider borderline examinees, make probability judgments, or vacillate on whether the bookmark is placed on or after the last item a student is expected to answer correctly; thus, it mitigates common areas of procedural validity concerns with the bookmark process while maintaining the strength of the bookmark process: the use of ALDs and the ordering of items.

After the participant responses are complete, participants will discuss matches within their group at their table. They will focus their discussion on the items that are in threshold regions, the areas in which participants have produced non-sequential matches, for example between Level 1 items and Level 2 items. After these discussions, they will again match their items to the ALDs independently. Table 39 depicts how a workshop participant might complete their ID-Matching form. The threshold region is the focus of discussion.

Table 39: Example Workshop Form

Ordered Item Sequence	"Which Range ALD descriptor most closely matches the knowledge and skills required to respond successfully to the item (or score point for a constructed response item)?
1	Level 1
2	Level 1
3	Level 1
4	Level 2
5	Level 1
6	Level 1
7	Level 2
8	Level 1
9	Level 2
10	Level 2

Day 3: Round 3 and ALD finalization

At the beginning of Day 3, participants in each grade/content area will be shown impact data based on the grade/content area median of each threshold region across participants. The impact data will show the percentage of students who would be classified in each achievement level based upon the proposed cut score. Participant cut scores are located in the scale interval defined by the threshold regions. Participants adjust cut score recommendations by determining sequences of items, as opposed to individual items, that most closely match the descriptor of each achievement level.

Participants will generally have policy-related questions during this phase of the standard setting, thus, the NDE should be present for this component of the presentation. Because the standard setting includes data from Grade 5 and Grade 8, we will show impact data for the two grades during this process so that participants can have discussions about not only what is reasonable within their grade, but also in comparison between grades. At this point, the policymakers will need to determine if it is

appropriate to show impact data disaggregated by subgroups. Participants will discuss their ID-Matches as a grade group prior to making the final matches individually. Once the final matches have been made, NWEA will show participants the final recommendations and allow participants to evaluate the workshop.

ALD Finalization

Based upon the final recommended cut scores, participants will categorize items into achievement levels based upon actual test data and compare these findings to the expectations for items based upon the ALDs. Where the items and Range ALDs match, no edits to the Range ALDs will be made. Where they do not match, participants will be guided on how to make edits so that the Reporting ALDs represent the test scale and provide data based interpretations of the scale scores.

Technical Report

NWEA will produce a technical report of the standard setting ten weeks after the standard setting concludes. Table 40 includes a detailed agenda for the standard setting workshop.

Table 40: Agenda for the Standard Setting

Day	Time	Activity
1	8:00 AM	Registration
	8:30 AM	NDE Welcome and Workshop Purpose
	9:00 AM	Standard Setting Orientation
	10:20 AM	Move to Breakout Rooms and Break
	10:30 AM	Study Range ALDs
	12:00 PM	Lunch
	1:00 PM	Take the test
	2:30 PM	Break
	2:45 PM	Study OIB
	4:30 PM	Secure materials collection and dismissal
2	8:30 AM	Complete OIB Study
	9:45 AM	Break
	10:00 AM	ID-Match Training
	11:00 AM	Round 1 Matches
	12:00 PM	Lunch
	12:30 PM	Discuss Round 1 Matches within Tables
	2:30 PM	Break (10 min)
	2:45 PM	Round 2 Matches
	3:30 PM	Secure materials collection
	4:00 PM	Dismissal
3	8:30 AM	Round 2 Results Presentation/Impact Data
	9:00 AM	Across-Table Discussion
	10:00 AM	Round 3 Matches

Table 40: Agenda for the Standard Setting

Day	Time	Activity
	10:30 AM	Break
	11:00 AM	Round 3 Results Presentation
	11:30 AM	Workshop Evaluation
	12:00 PM	Lunch
	12:30 PM	Categorize Items into Achievement levels based on cut scores
	1:00 PM	Editing Range ALDs
	2:30 PM	Break
	2:45 PM	Continue Editing Range ALDs
	4:00 PM	Collect Materials
	4:30 PM	Workshop Ends

Standard Setting and Alignment for Alternate Assessments

The purpose of a standard setting is to determine cut points for achievement levels to classify students in different performance categories for the DLM Alternate Assessment System in each content area. For all states currently in the consortium, standard setting is based on 2015 operational data, which will apply until the consortium decides to update the standards.

Since NDE would begin using DLM assessments in 2017-2018, NDE may choose to approach standard setting in one of several ways. Similar to the general assessment's standard setting options, one option would be a standards validation process, in which panelists from Nebraska (1) review performance exemplars representing levels of achievement that are adjacent to the cut points previously set by the consortium, (2) evaluate the existing cut points as too high or too low, and (3) evaluate impact data based on those judgments. Advantages of a standards validation approach include the opportunity to evaluate comparability of results relative to historic NDE data and other DLM states and the cost savings with a simplified process. **However, for the purpose of this proposal, DLM proposes a full standard setting for NDE, to be conducted for English language arts, mathematics, and science in summer 2018**.

A full standard setting for NDE would begin with defining policy achievement level descriptors (ALDs). As a starting point, DLM presents policy ALDs developed by the consortium to meet the needs of states that required four performance levels (see Table 41).

DLM state partners developed ALDs through a series of conversations and draft ALD reviews between July and December 2014. The final versions of DLM Consortium policy ALDs are below. If NDE requires different ALDs, DLM proposes a stakeholder meeting conducted virtually to draft new NDE ALDs, followed by a period for review and feedback before policy ALDs are finalized.

Table 41: DLM Consortium Policy ALDs

Four Levels
The student demonstrates *emerging* understanding of and ability to apply content knowledge and skills represented by the Essential Elements (EEs).
The student's understanding of and ability to apply targeted content knowledge and skills represented by the EEs is *approaching the target.*
The student's understanding of and ability to apply content knowledge and skills represented by the EEs is *at target.*
The student demonstrates *advanced* understanding of and ability to apply targeted content knowledge and skills represented by the EEs.

There is a history of selecting a standard-setting method based on the type of assessment. Because the DLM assessment is a unique alternate assessment system, an approach to standard setting has been developed to be consistent with the DLM design while still relying on established methods, best practices recommended in the literature, and *The Standards for Educational and Psychological Testing.*

There are several assessment design features that impacted the DLM standard-setting approach. A student-based standard-setting approach was judged to be more appropriate than an item-based approach for the following reasons:

- Modeling is used to support the order of linkage levels. Item difficulty statistics are not used to ensure correct ordering of content, so an item-based approach would not match the design of the test.

- DLM assessments are adaptive across testlets. Considering adaptive delivery and different forms for each EE/linkage level, it would be rare for students to receive completely identical testing experiences.

- A student-based approach supports the panelists' ability to make judgments about the student's mastery of the full range of skills rather than performance on a limited subset of items.

For DLM assessments, the standard-setting approach leverages mastery classifications from the diagnostic classification model. The panel process draws from several established methods, including generalized holistic[39] and body of work[40] but is unique to the DLM assessment. Other holistic approaches, such as the performance profile method[41], which takes into account the specific content

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[39] Cizek, G. J. and Bunch, M. B., *Standard Setting: A Guide to Establishing and Evaluating Performance Standards on Tests,* Thousand Oaks, California: Sage Publications (2006).

[40] Kingston, N. M. and Tiemann, G. C., "Setting Performance Standards on Complex Assessments: The Body of Work Method," *Setting Performance Standards: Concepts, Methods, and Perspectives* (2nd ed.), G. J. Cizek (Ed.), New York, New York: Routledge (2012).

[41] Perie, M. and Thurlow, M. "Setting Achievement Standards on Assessments for Students with Disabilities," *Setting Performance Standards: Foundations, Methods, and Innovations*, G. Cizek (Ed.): 347-377, New York, New York: Routledge (2012).

mastered, would have been difficult to apply due to DLM partners' goal of reporting an overall performance level for each subject rather than subscores.

The DLM standard-setting approach relies on aggregation of dichotomous classifications of mastery of the knowledge and skills across EEs in the blueprint. This is different from assessments that use score scales, where standard setting involves identifying cut scores that are imposed on a theoretical, unidimensional continuum of knowledge in a subject.

The DLM standard-setting process uses a profile approach to classify student mastery into performance levels. Profiles provide a holistic view of student performance by summarizing mastery across the EEs and linkage levels. Cut points are determined by evaluating the total number of linkage levels mastered. Although the number of linkage levels mastered is not an interval scale, the process for identifying DLM cut points is roughly analogous to assigning a cut point along a scale score continuum.

Although the DLM standard-setting approach is a unique hybrid of existing methods, the guidance in *The Standards for Educational and Psychological Testing* and recommended practices for developing, implementing, evaluating, and documenting the standard setting was followed[42]. *The DLM standard setting approach has been successfully applied and favorably reviewed during U.S. Department of Education Peer Review of states' assessment systems.*

DLM standard-setting procedures are evaluated using procedural, internal, and external criteria as described by Hambleton and Pitoniak (2006)[43]. Each category contains several sub-categories. Procedural criteria include the explicitness and practicability of the process, fidelity of implementation, panelist feedback, detailed documentation, consistency within the method, and interpanelist consistency. External criteria include the reasonableness of the performance levels and standard setting process. Evidence was provided and supported each of these criteria.

The DLM TAC reviewed the standard setting methods prior to any standard setting event and supported the methods and process proposed. After each standard setting event, the DLM TAC members indicated that each of the standard setting meetings was well planned and implemented, the staff were helpful to the panelists, and the panelists worked hard to set standards. The full TAC evaluated the evidence about the standard setting process, including the TAC members' observations, panelist evaluations, and the relationship between panel and independent cut points. The TAC accepted the resolution about the adequacy, quality of judgments, and extent to which the process met professional standards.

External Alignment Study

The DLM alternate assessment system has been evaluated for alignment at various points in the test development cycle, including an external evaluation of alignment of the operational assessment system. However, NDE would require additional evidence of alignment between Nebraska's content standards and the DLM Essential Elements. DLM will procure an external alignment study focused on the

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[42] Hambleton, R. K., Pitoniak, M. J., and Copella, J. M., "Essential Steps in Setting Performance Standards on Educational Tests and Strategies for Assessing the Reliability of Results," *Setting Performance Standards: Foundations, Methods, and Innovations*, G. Cizek (Ed.): 47-76, New York, New York: Routledge (2012).
[43] Hambleton, R. K. and Pitoniak, M. J., "Setting Performance Standards." Educational Measurement (4th ed.), R. L. Brennan (Ed.): 433-470, New York, New York: American Council on Education/Praeger (2006).

relationship between Nebraska's College and Career Ready Standards for English language arts and mathematics with the Essential Elements. Additionally, the relationship between the Nebraska College and Career Ready Standards for science and the Essential Elements will be evaluated, pending the Nebraska standards' completion in 2017. Similar alignment studies have previously been conducted to evaluate the relationship of college and career ready standards and Essential Elements, for both the DLM consortium and for individual states. The methodologies from those studies could be applied or adapted based on consultation with NDE staff prior to the solicitation of the study.

External alignment studies conducted by ACERI Partners for English language arts and mathematics[44] Flowers, Wakeman, McCord, and Taub, and HumRRO for science (in progress) provide additional alignment evidence[45] for the following relationships:

1. an Essential Element (EE) and its Target level node(s)

5. the vertical articulation of the linkage levels associated with an EE

6. learning map nodes within a linkage level and assessment items

The primary measures of alignment were content and performance centrality. Content centrality is a measure of the degree of fidelity between the content of the target (EE, Target level node, and linkage levels) and the linked target (Target level node, linkage level, and items). Panelists rated each pair as having *no link*, a *far link*, or a *near link*. Performance centrality represents the degree to which the operational assessment item and the corresponding academic grade-level content target contain the same performance expectation. The panelists rated the degree of performance centrality between each pair as *none*, *some*, or *all*. Where panelists identified a relationship that did not meet criteria for alignment (e.g., *no link* for content centrality) additional feedback was provided. When evaluating items, panelists also identified the category for the highest cognitive process dimension required of the student when responding to the item, using the DLM cognitive process dimension taxonomy.

Overall, the external alignment studies provide evidence of the DLM Alternate Assessment System components that connect the standards to the assessment items, via EEs and nodes in linkage levels. The external alignment study provides substantial content-related evidence to support the DLM Assessment System's claims about what students know and can do in each subject.

Standard Setting Methods

As described in section 1, DLM proposes using a standards validation approach for the standard setting method. DLM would implement the standards validation approach with Nebraska educators and impact data.

The standards validation approach leverages the learning map model and mastery classifications to feed into a panel process for setting standards. DLM assessments use a profile approach to classify student mastery into achievement levels. Profiles provide a holistic view of student performance by summarizing

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[44] Perie, M., & Thurlow, M. (2012). Setting achievement standards on assessments for students with disabilities. In G. Cizek (Ed.), Setting performance standards: Foundations, methods, and innovations (pp. 347-377). New York, NY: Routledge.

[45] Flowers, C., Wakeman, S., McCord, J., and Taub, D., *Alignment of Dynamic Learning Maps Operational Items to Grade-Level Content Standards* (May 2016).

across the EEs and linkage levels. Cut points are determined by evaluating the total number of linkage levels mastered out of the total available, similar to assigning a cut point along a score continuum. Mastery profiles are created based on the most frequently occurring combinations of linkage levels mastered by students taking operational DLM assessments. A sample mastery profile is provided in Appendix EE.

For the standards validation process, panelists will first be presented with a blank profile for the grade and content area to familiarize themselves with the EEs and linkage levels on which the students were assessed. Then for each achievement level cut, they will review three exemplar student profiles generated from Nebraska students who mastered the current consortium definition of the minimum number of linkage levels required. Panelists will discuss the different ways students demonstrated mastery of linkage levels to reach the achievement level cut and provide any content-based rationales for changing the cut to require mastery of more or fewer total linkage levels. Finally, panelists will be provided with impact data, calculated from Nebraska students testing in 2018 to indicate the percent of students who would be categorized to each achievement level based on the cut points specified in the previous step.

Selection of Panel Participants

NDE will identify potential panelists for DLM staff to contact and invite. Panelists will be sought with both content knowledge and expertise in the education and outcomes of students with significant cognitive disabilities, including teachers and school and district administrators. Sufficient recruitment will be conducted so that the final panelist pool includes six panelists per content area, with two from each grade span. DLM staff will contact potential panelists and ask them to complete an online survey about their willingness to participate and their backgrounds and experience. DLM staff will evaluate the survey responses and officially invite panelists. Diversity of experience and level of expertise will be given priority in the selection of panelists.

Each panel will be led by a panel facilitator who is responsible facilitating discussion and following a general script of the standard setting process. Panel facilitators will consist of DLM staff with prior experience conducting standard setting events. Prior to the standard setting event, all panel facilitators will participate in training to familiarize themselves with the script used to conduct the standards validation meeting.

Panel Process

Panels will be created for each content area: English language arts, mathematics, and science. A brief overview of the process is as follows:

1. Panelists complete online training in advance of the panel meeting to gain background knowledge about the DLM system and the purpose of the meeting.

2. Panelists receive on-site training that includes a high level overview of the mastery profiles and the general process used to arrive at consortium cut points.

3. Panelists familiarize themselves with the EEs and linkage levels assessed at each grade in the content area.

4. Panels discuss the linkage levels required to reach the achievement level and what changes, if any, are needed to adjust the cut points.

5. Panels analyze impact data, including Nebraska-specific results, as well as consortium level data.

6. Panelists evaluate the panel process and the outcomes.

7. NDE reviews results and makes a decision about final cut points.

DLM staff follow standard industry practices and procedures recommended in the literature to ensure test and data security as well as fidelity of the panel processes so that panelist judgments are made based on the expected criteria.

Grade/Subject-Specific ALDs

Unlike item-based standard setting approaches, in the DLM standard setting method grade/subject ALDs emerge from the panel cuts and are based on the content of the learning map models. After the standards validation process is complete, ALDs for specific grades and subjects will be reviewed for any cuts that panels modified from the consortium cuts. DLM test development teams will evaluate the linkage levels from exemplar profiles that are associated with each achievement level. For each grade and subject, linkage level descriptors will be analyzed to determine if modifications are needed to statements about the knowledge, skills, and understandings typical of students at that achievement level. NDE will have an opportunity to review and comment on descriptors before they are finalized. Final descriptors will be used to populate the narrative sections of performance profiles on the individual student score reports in subsequent years.

Standard Setting Timeline

Table 42 lists major steps in the standards validation timeline, includes procedures to occur before, during, and following the standard setting event.

Table 42: Major Steps in Development of ALDs and Standard Setting

Dates	Step
March 2018	Panelist recruitment begins
May 2018	Panelists notified of selection
June 2018	Standards validation session
July 2018	Data files with ALDs
August 2018	Score reports with ALDs distributed

Alignment Study

Since NDE will contract with a third party directly for an independent alignment study of the DLM Essential Elements to the Nebraska state standards, DLM will provide materials and assistance to the selected vendor. The DLM Project Director, Associate Director for Test Development, and a member of the psychometric team will be available for this requirement. Materials may include spreadsheets with DLM Essential Elements identified by grade and conceptual area, and training materials used in previous alignment studies.

DLM will coordinate and cover costs for the standards validation study. Costs include NDE-specified rates of $150 per day for teacher stipends, $200 per night for lodging, $51 per day per diem, and federal mileage rate.

DLM will also provide materials and support to a third party contractor hired by NDE to conduct an external alignment study of the DLM Essential Elements to the Nebraska standards.

Standard Setting Technical Report

DLM will develop and provide NDE a comprehensive technical report after the summer 2018 standards validation study. The final contents of the technical report would be decided collaboratively by DLM and NDE in advance of the validation process, but proposed contents include detailed information regarding the standards validation process; panelist recruitment and descriptive information; overall recommendations of the panelists for each cut; results of panelist surveys; results of impact data; rationale for recommended adjustments; and any other information pertinent to the standard-setting process.

The draft technical report will be provided within thirty days following completion of standard setting. The final report will be delivered two weeks after receiving NDE feedback on the draft report. DLM will provide a PDF electronic copy of the final report.

J. Interim Assessment System

The proposal must include an innovative interim system to provide opportunity to individualize student learning around all college and career ready state standards in English Language arts, mathematics, and science, not only ones tested on statewide assessments.

The current Nebraska interim system contains items in English Language Arts, mathematics, and science written by Nebraska educators. The items include multiple choice, technology-enhanced, and open response. Educators use the system to build custom interim assessments designed to assess student learning of Nebraska state standards and to receive timely reports in order to provide instruction to students.

NDE expects the Contractor to provide a system for local assessment that assists districts in assessing all components of NE standards in English Language Arts, Mathematics, and Science in order to improve student learning on college and career ready state standards. Other subject areas may be included at a separate cost. The system must score items, provide reports that analyze results for use by educators, and give teachers information to support individualized learning plans. If the system includes open-ended items, some open-ended items should be scored by artificial intelligence (AI), so results can be provided. In addition, some open-ended items may not be AI scored to provide educators in districts the opportunity to score open-ended items

The interim system may be:

-An off-the-shelf system (commercially available, published, or Contractor-owned), or

-A system developed with items from other sources that is augmented and/or customized for Nebraska, or

-A system developed with items developed by Nebraska educators; current item bank has been developed.

If the proposal includes use of the item bank already developed by Nebraska educators, the proposal must include costs and process for transferring items from the current system into the proposed system. If an off-the-shelf system is being proposed, the proposal should include all details below, except item bank.

Successful schools engage students in all aspects of their learning. How can Nebraska classroom teachers or administrators ensure that they have a balanced picture of their students' strengths and

weaknesses? The answer to this is to balance summative, interim benchmarks, and formative classroom assessment practices to best inform the full picture of student learning.

In this section, we describe for NDE's future consideration an innovative and balanced assessment system across multiple measures from formative to interim and summative assessments.

Thereafter and for each of the requirements, we describe first our proposed off-the-shelf solution for NDE's interim assessment system – our Measures of Academic Progress (MAP), followed by detailed description of a proposed option to integrated the NDE's interim item bank into a formative assessment system that works in very much the same way as NDE's current and described system.

An Innovative and Balanced Assessment System for Nebraska

While not part of the specific requests in this RFP, as Nebraska looks innovatively towards assessments that align with the six tenets of AQuESTT, we believe we can work with Nebraska to fulfill and support your vision. With multiple, meaningful measures that are personalized and provide individualized instructional information; that adapt to minimize the burden of testing on students, teachers, and schools; that help students as they grow and are prepared for life after school; and that connect assessment and learning opportunities; we believe we can specifically and successfully support Nebraska in creating a truly innovative and balanced assessment system.

A balanced assessment system, according to the National Research Council in "Knowing What Students Know," should exhibit ***comprehensiveness*** (range of approaches and measures of and for student to demonstrate what they know), ***coherence*** (models of learning connected across instruction and assessments), and ***continuity*** (progress over time).[46]

Comprehensiveness

Often with fixed form assessments, students are given a very limited opportunity to show what they know. The amount of error in resulting scores is much higher for students in the upper and lower performance ranges, limiting the validity of the results. Adapting the test in real time to provide students with greater opportunity to demonstrate what they do know increases the statistical information and validity of their scores. And, as is now allowable per ESSA, these assessments can be adapted above and below the student's assigned grade. With an adaptive interim providing timely and valid results, teachers can have the information they need to help students at the right level at the right time. The Nebraska Interim System will benefit from our years of experience and research in successfully delivering adaptive assessments.

Variations in item format, such as through technology enhanced items and tasks, and measured constructs, from those that can more easily be measured in the classroom than on a test, also provides more comprehensiveness in assessments. Formatively, teachers are able to observe student performances in many different ways, from projects, peer interactions, presentations and research, to quizzes and exams with a variety of item types. As proposed, NWEA will provide multiple item types and

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[46] James W. Pellegrino, Naomi Chudowsky, and Robert Glaser, eds., Committee on the Foundations of Assessment Board on Testing and Assessment, Center for Education, and National Research Council, *Knowing What Students Know: The Science and Design of Educational Assessments,* Washington, D.C.: National Academy Press, 2011

ways in which students can interact with assessment content, and that are aligned to Nebraska standards and allow for demonstrations of complex thinking. Innovations in new item types and performance tasks would provide additional, instructionally helpful information to students and teachers and expand the comprehensiveness of the system. We are committed to collaborating with Nebraska educators and the NDE in innovations in item and task types.

Coherence

There are multiple ways to bring coherence across assessments in your system. Often there is little connection between formative assessments at the classroom level and the cumulative, summative measures at the end of the year. However, interims are often linked to summatives to provide predictive information of how students might do at the end of the year. When a system of assessments can be tied together more directly, while supporting multiple approaches, there is coherence. One way to consider building greater coherence is through achievement level descriptors, ensuring those are detailed and vertically articulated and can be understood and operationalized from summative reports into the classroom. Our professional development in assessment literacy and our collaborations with you on ALDs will support greater coherence.

When standards are unpacked to reveal possible learning paths (such as through a learning continuum), teachers have examples of how they might operationalize the intentions of standards, the skills reflected in achievement level expectations for summative and interim, and more directly through formative approaches relevant to their own curriculum and student needs. From formative and interim assessment opportunities, through to summative assessments – for general and alternate student groups – our designs are intentionally supportive of *all* students throughout their learning and assessment experiences. Such learning paths can further be connected from the general to the alternate assessments, as NWEA works in collaboration with DLM, to find meaningful inflections in student pathways, particularly for higher functioning students in the alternate assessment population.

To provide a stronger link between interim and summative, the assessments could share similar adaptive constraints and provide results in light of the achievement levels and learning continuum to provide instructionally relevant links beyond the statistical. We can bring this to life through Nebraska specific achievement levels, with items and skills tied to a learning continuum, and with our advances in adaptive assessments across interim and summative.

Continuity

As students engage in comprehensive and coherent assessments over time, the measures can be flexible to timing and frequency of administrations. The adaptive nature of our assessments will also minimize testing burdens and maximize usefulness of information with rapid results. And as assessments can be connected in terms of learning, teachers and students will be able to see and interpret growth throughout the year, across the assessments in the system.

MAP as Nebraska's Interim Assessment

A balanced system of summative, interim benchmarks and formative assessment practices allows educators at all levels of the educational system to understand performance from the state to classroom to the home. When a comprehensive assessment program at the classroom level balances interim and formative assessments, a clear picture emerges of where a student is in their learning. The more we know about individual students as they engage in the learning process, the better we can adjust instruction to ensure that all students continue to achieve by moving forward in their achievement.

Within this balance, NWEA recognizes the important part that interim assessments play. We recognize, that educators use interim assessment data to plan for students' instructional needs and help them with their growth. We also recognize that a truly balanced assessment system should also include formative assessments to help them at an even more granular level in the classroom.

Having a comprehensive assessment system means that assessments are aligned to the full range of Nebraska standards and skills expected of students so that districts, schools, and teachers can make informed decisions about student learning. As we partner with NDE to create a balanced assessment system of multiple measures, we propose our off-the-shelf interim assessments, Measures of Academic Progress (MAP), for reading, language usage, mathematics, and science in grades 3 – 8.

Nebraska educators are already familiar with this assessment – MAP is used by over 300 partners in the State, including public school districts, ESUs, and private schools, and we have established a wide network of NWEA Certified Facilitators in your Educational Service Units (ESUs).

Using MAP data to identify where a student is relative to learning targets, standards, and growth allows educators to identify student needs. And formative assessments, when built with student needs in mind, can help teachers create an ongoing and continuous system of improvement.

MAP assessments are built upon formative instructional principles, providing immediate feedback and valid, reliable data that can be used to inform instruction, improve learning, and monitor progress and growth over time.

Education organizations around the globe use MAP data for multiple purposes – to measure growth, as a universal screener in a multi-tiered system of support (MTSS) or response to intervention (RTI) framework, to measure the performance of programs or instruction, and to predict performance on high-stakes summative tests. State departments of education approve the use of MAP for various purposes, demonstrating that our assessments meet the rigorous standards required for State approval and statewide use. In Nebraska, as NDE is well aware, MAP assessments are among the approved tests for Rule 10 accreditation. More Nebraska districts use MAP than any other of the approved assessments. The most recent published data, from the 2014-2015 school year, shows 215 districts chose MAP as their national standardized test for accreditation. For comparison, just more than forty districts used another assessment for accreditation purposes.

Because our interim assessments measure growth and instructional levels using our RIT scales, which are IRT based, a consistent record of student achievement and growth can begin in kindergarten and continue through high school. Individual scores and growth are comparable across students and across time – within and across years. Because of the tests' scale, our product is labeled below as K – 12 because it can measure students performing above and below grade level. However, we recognize licenses will be limited in use to students in grades 3 – 8. Table 43 provides a more detailed description of the assessments included with a MAP license.

Table 43: Types of MAP Assessments

Test Type	Purpose	Testing Frequency	Subject Areas
MAP K – 12 Interim Assessments			
Survey with Goals	Computer adaptive test with a cross-grade vertical scale that assesses achievement according to Nebraska standards-aligned content. Scores from repeated administrations are used to measure growth over time.	Four times per year (three times per school year, plus an optional summer administration)	▪ Mathematics ▪ Reading ▪ Language Usage (grades 2 and above) ▪ Science (grades 3 – 8)
MAP for grades 2 – 12 Additional Assessment			
Survey Assessment	Abbreviated, twenty-item adaptive tests that yield an overall RIT score. Survey tests typically take about thirty minutes to administer, and are most commonly used for intake testing and placement.	As frequently as needed	▪ Mathematics ▪ Reading ▪ Language Usage ▪ Science
Optional Spanish-Language MAP for Mathematics (not included with MAP license)			
Spanish MAP for Mathematics	Computer adaptive version of MAP for Mathematics in Spanish. Nearly identical to the English-language version, it uses the same scale and reporting, so scores are consistent and comparable. Aligned to Common Core, but NWEA would discuss possibility of aligning to NE Standards if NDE is interested in this option.	Up to four times per calendar year in grades 2 – 5, and up to three times per calendar year in grades six and above	▪ Mathematics

MAP assessments provide insight into the instructional needs of all students, whether they are performing at, above, or below grade level. By calibrating item difficulty and student achievement on our stable, equal-interval scale, our assessments adapt above and below grade level to accurately identify a student's true achievement level. MAP assessments help identify at-risk students and link to resources to help teachers develop individualized instruction and intervention plans.

Implementing MAP Assessments

Implementation of MAP assessments in Nebraska should be simple, largely because of our significant presence in the state. Already 95 percent of your school districts use our interim assessment, so the burden of transferring or re-training educators will be reduced. Our Project Manager, Ms. Orta, will oversee the implementation of MAP alongside the summative assessment.

Proctoring/Administration Steps

MAP assessments are a fully hosted solution and are easy to implement and to administer. Our partners experience the assessment system as intuitive and easy to operate, engaging to both students and educators. The MAP system has a visually appealing interface that is simple to navigate, providing users embedded page-specific online help, guides, and tutorials on-demand. All of this supports our ability to

keep the educator time invested in learning the application at a minimum, and the ability to obtain useful and informative information from the data at a maximum.

Proctoring of assessments is managed through the MAP Administration and Reporting Center (MARC). To access the MARC, educators enter their user name and password in the login page shown in Figure 69. After accessing the MARC, users can

- Manage user, student, organization, program, and test data
- Create testing sessions and administer tests
- View test results, comparative data, and operational reports
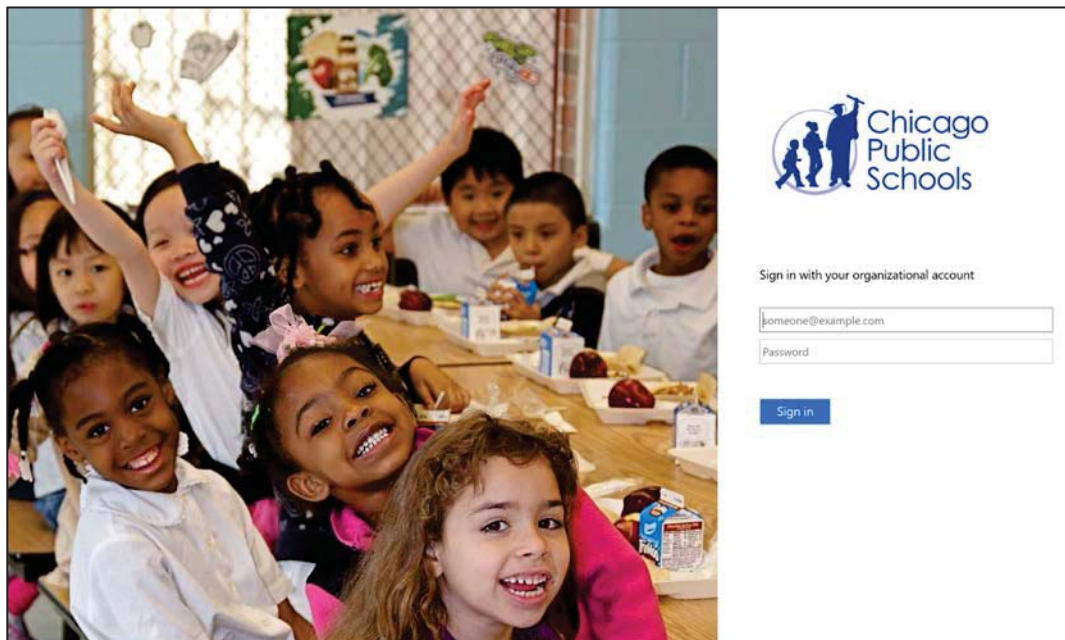
Figure 69: Custom MARC Login Page. The login page for the Nebraska Statewide Assessments would be customized similar to this one created for Chicago Public Schools. From this page, educators can easily manage users, administer tests, view reports, and access instructional resources and support.

It is simple for users of all technical abilities to initiate a test session. Within the MARC, the proctor can easily create and administer assessments by following these steps:

1. The **proctor** logs in to the administrative site to begin a test session, and to obtain the session name and password. As a security measure, a new password is generated by the system when the proctor begins a test session. Additionally, each test session will time out after twenty-four hours.

2. After the test session has been initiated, the **student** logs into the testing application and signs in for the test session.

3. Once the student has signed in for the test, the **proctor** confirms the student.

4. After being confirmed by the **proctor**, the **student** begins the test.

Interim Item Bank Integration Option

While over 95 percent of districts currently use MAP as their comparative interim assessment, we understand the desire for teachers to be able to draw upon a conveniently available item bank for use at

any time and for a variety of purposes. For this reason, NWEA offers its partnership with Certica Solutions as an optional addition to the use of our MAP assessments and maintain the valuable investments that the state has made in its current interim item bank. With our proposal NWEA offers the ability for Nebraska educators to also purchase Certica's TestWiz and the optional Navigate Item Bank™ with MAP assessments to support the delivery of formative assessments in the classroom. We recognize that providing a comprehensive system of assessments is the best way to support a balanced assessment approach and success for Nebraska students. By leveraging research-based MAP data to inform instruction and then check understanding with short cycle item bank assessments, Nebraska educators will have access to a continuous system of data that will help guide student growth and success on the summative assessment. More information about these products is provided below.

Certica Solutions is the provider of the Certica Connect™ platform-as-a-service (PaaS) which enables K – 12 application interoperability, enrichment and leverage of learning content, and integration of data via a common education data standard. The Certica Connect platform provides a unique opportunity for K – 12 system providers to centralize data, metadata and content, and leverage a broad range of cloud-based technology services, with the goal of accelerating product development, reducing support costs, and delivering a highly integrated and sustainable learning solution.

Two key commercially available offerings within the Certica Connect platform, TestWiz and the Navigate Item Bank™, are proposed as an innovative solution to the Interim Assessment System. These two commercially available offerings will be licensed to NDE on an annual subscription basis and no title or rights of ownership will be assigned to NDE with respect to these offerings or derivative works thereof.

TestWiz is a comprehensive, web-based student assessment solution which enables educators to track student progress and achievement, target instruction, and monitor instructional effectiveness. TestWiz provides teachers and instructional leaders with the ability to create, administer and score classroom and district wide assessments, as well as analyze and report on a wide range of local, state and standardized assessment data simultaneously.

TestWiz can be utilized by a range of educators and administrators – including district leadership, principals, curriculum coaches and teachers – for assessment creation, administration, and personalized reporting. Users can create local assessments using the Nebraska educator developed item bank items and items from Certica's industry leading Navigate Item Bank, which can be provided to districts who choose to invest in an additional item bank to increase the number of items available to them. Assessments created in TestWiz can be administered online, with paper and pencil, or a combination of both. Online assessments are scored automatically (except for constructed response items which are scored by teachers), and paper-based assessments can be either scanned and automatically scored, or hand scored and key entered into TestWiz. Assessment results can be viewed by student, class, grade, school or district. Comprehensive reporting and analysis allows results to be filtered by demographics or other student data attributes.

The Navigate Item Bank is designed to guide instruction at the district and classroom levels. Over 67,000 in the Navigate Item Bank are aligned to Nebraska learning standards.

Alternate Interim Assessments

The DLM Alternate Assessment does not offer a formal, point-in-time interim assessment. However, in the integrated assessment model, teachers use DLM instructionally embedded assessments September through February. These assessments inform instruction while also meeting summative assessment

requirements. During instructionally embedded assessment the teacher may choose Essential Elements from among those on the blueprint and select a linkage level that is an appropriate instructional target for the student. The teacher also generates a progress report on demand in Educator Portal to review student mastery of tested Essential Elements. DLM instructionally embedded assessments serve similar purposes as interim assessments.

1. Technology Capacity

The interim system must deliver assessments though an online system on demand by users. Since it must always be available, it is important that the system be able to handle potentially high levels of usage on a regular basis. The proposal should detail what efforts that will be made to ensure that districts will have access to the interim system whenever they need it with limited interruptions for maintenance and updates.

a. The proposal should include consideration for integrating with systems such learning management, Ed Fi® operational data stores, and other systems supporting the educational experience.

MAP as Nebraska's Interim Assessment

The platform that will deliver the MAP assessments in Nebraska is the same that we propose for delivery of the summative assessments. The use of the same platform ensures that student data is managed with the same set of security protocols, that the delivery of assessments remains consistent, and that integration does not need to be completed multiple times. This platform is also remarkably stable and proven, so what it has proven to accomplish with our widespread interim assessment administration proves its ability to deliver a high-stakes assessment to a large student population. The platform currently supports more than forty million student test events each year. To date, the platform has delivered uninterrupted service with over 145,000 students taking assessments at the same time with response times less than twenty-five milliseconds. The current configuration has been certified and tested for at least 250,000 concurrent users, and 10 million students rostered, delivering over 900,000 tests in a single day. We define "concurrent" to be students actively testing at one time, proving that our platform is highly reliable and scalable.

NWEA maintains several integration environments that match the software and application configuration of the assessment production environment. We use these environments and rigorous development processes to fully test new software deployments. We use this integration environment to verify the overall system is working correctly before any system update to avoid any service interruption. Systems engineers subscribe to vendor update services to be notified of maintenance windows and system changes.

All updates are performed during scheduled maintenance windows, which are listed below:

- Normal partner-facing system maintenance is performed on Friday evenings with less than a three-hour impact. A full list of scheduled maintenance windows is available online at https://support.nwea.org/node/4627, as seen in Figure 70.
- Quarterly partner-facing systems maintenance activities expected to have a three hour or greater impact on partners. These windows are communicated in detail to each partner in advance.

Figure 70: System Maintenance. NWEA keeps a schedule of MAP maintenance times available online for partners' convenience and planning. This image is a recent example from the online schedule.

We continue to enhance our core platform to optimize the user experience and ensure data validity is not affected by testing technology. NDE can share the same confidence in administering NWEA assessments that our 8,700 other partners enjoy through our reliable and secure test experience. Our platform and products have a proven track record of helping children learn. They set the industry benchmark for reliability and scalability.

Our Test Engine

There are multiple ways to adapt an assessment, but adaptivity guided by defined constraints should reflect the purpose and claims of the assessment. NWEA has the flexibility to constrain our computer adaptive engine to a variety of purposes, such as those described and customizable for the Nebraska Statewide Assessments, and we are continually enhancing our engine to be as flexible and customizable as needed.

MAP assessments use our adaptive test engine to adjust item by item to each individual's level of achievement and skills. The assessment begins by delivering the student a question with a difficulty level close to the grade-level mean for that student. If the student answers the question correctly, he or she receives a more difficult question. An incorrect response triggers an easier and less difficult second question. As the test progresses, the engine attends to instructional areas and sub-areas and also has the option to track student response time as a measure of engagement.

Technical Requirements

Because the platform used to deliver the proposed Nebraska State Summative Assessment will be the same as that for the interim, all technical requirements remain the same.

Interim Item Bank Integration Option

TestWiz is a proven and highly available web-based solution that has reliably served a high level of users. Certica has extensive expertise and experience building highly available and scalable systems. Certica constantly monitors usage and scalability needs to continually evaluate and expand the availability and scalability of all systems. Certica hosts its platforms and applications in cloud-based infrastructures such as Amazon Web Services (AWS) and Rackspace which enables flexible and scalable architectures based on the usage of the system and availability requirements of the end users.

TestWiz is configured in a server environment that allows large groups of concurrent users, either district staff accessing the assessment data, and/or students taking assessments. Further, as the workload grows, Certica is able to scale the infrastructure in this hosting environment very easily.

During the past six years, TestWiz has enjoyed 99.999 percent uptime with the scheduled availability time window.

System Integration

For MAP Interim Assessment, NWEA will provide a set of secure and highly scalable set of Data APIs to facilitate the integration with third party ed-tech solutions such as Ed-Fi dashboards, learning management solutions, instructional content providers and other data aggregators. One of several forms of the Data APIs will be compatible to Ed-Fi format and semantic specifications. The APIs will be SSL (https) based and will be protected by industry standard OAuth tokens.

In addition to the Data APIs, districts will have the ability to download student data files known as Combined Data Files (CDF). These files will be provided in the event that Data API integration is not possible or cannot be supported by NDE or other authorized consumers of NDE student data.

Certica is an expert in the delivery of Ed-Fi® services, technology and data architecture for state and local education agencies, and the company has on its staff the original architects of the Ed-Fi unified data model and related technologies.

Certica employs the expertise with Next Generation Data Architecture services, which provide industry expertise to enable a comprehensive data platform that integrates data from multiple information systems and applications; ensures high-quality data; enables operability between applications; and supports data visualizations and analytics to support instruction and student success.

TestWiz supports a district-wide export function for administrators to export large quantities of data into a .csv file, to be easily consumed by other applications, such as a student information system or a data warehouse.

Given the Certica expertise in data integration and interoperability, other methods of system integration can be considered and implemented.

b. The proposal should include strategies and experience for implementing SAML integration for authentication and attributes required for authorization.

MAP as Nebraska's Interim Assessment

Single sign-on (SSO) integration will be provided based upon SAML 2.0 protocol. Within SSO, authentication and authorization will be utilizing the mechanisms available based upon the SAML standard. This approach is similar to our current SSO integration with large school districts for the past several years.

TestWiz has specific integrated authentication capabilities built-in, but Certica is proposing to implement SAML integration within TestWiz as part of the rollout of the solution. Certica has experience in other applications that it provides with SAML integration, and in particular has considerable experience with SAML integration in an Ed-Fi environment.

2. Student Information

a. The proposal should include a solution for uploading students as early in school year as possible. The interim system must provide a secure access web-based system for districts to upload their student demographic, teacher, and school data to the interim system because the NSSRS data are currently not available at the start of the school year.

MAP as Nebraska's Interim Assessment

NWEA will provide a web-based user interface to manually upload roster data and student demographic data via a roster file native to NWEA. The format of the roster file will ensure the cleanest possible data exchange between Nebraska school districts and NWEA. The user interface will require a student id as a unique identifier and the student id will remain as a unique key identifier throughout the NWEA systems and data stores.

The user interface will be available only over SSL and will require a user login to access the page. The web-based user interface will allow authorized users to upload, update, and delete student data. Nebraska school districts will use NDE Student IDs as unique identifiers. The use of NDE Student ID will ensure a smooth transition to the data available from the NSSRS. For existing MAP district partners, NWEA will work with the NDE to create a cross reference between student IDs that have been rostered and the NDE Student ID.

We also support automatic rostering via APIs as detailed below. Some districts/partners in Nebraska currently use this method of auto-rostering, which ensures seamless and automatic data synchronization across district system information system and NWEA systems.

Upon contract award, we will ask NDE to provide a list of all districts and schools participating in the program with their associated codes – this will act as the organizational hierarchy in our system. This format will be reviewed and agreed upon with NDE prior to the delivery of the file.

In addition to these details, we will need a key contact (phone and email) for each district. This person will act as the "initial user" for the system and will have responsibility for setting up other users in their district and schools. The format for user role set up will be reviewed and agreed upon with NDE prior to the delivery of this initial set of users.

The third step in this process will be for the state to provide us an enrollment file of students (in a pre-defined and agreed upon format) that will act as the initial roster of students to be tested. Subsequent updates to this file will be the district responsibility.

Prior to building the MAP testing environment, our onboarding team will work with each district to collect and document all data components necessary to build the testing environment (i.e., names of schools and identification of staff in key system administration roles). All information collected requires final sign-off by the district prior to creation of the MAP testing instance.

Once the testing environment has been created and tests are loaded into the system, the implementation support specialist will verify that the environment includes the data components collected from the district, and then conduct a "Go-Live" call with key staff. During this call, the accuracy and functionality of the environment will be verified again using a remote support application (LogMeIn) to observe the initial district login. A verification of product functionality and a product walk-through is

also performed during this call. We will conduct this verification in the first year of the contract for every district.

Interim Item Bank Integration Option

Keeping student, teacher and course data accurate and up-to-date in TestWiz is necessary for test administration as well as the valuable reporting and analysis that helps assess student performance and outcomes, and to target instruction. The Certica client services organization works with districts to identify the most efficient method of obtaining and processing this reference data, and the frequency with which it should be refreshed based on a district's administrative systems, IT processes and use of TestWiz.

There are three ways in which this reference data can be updated in TestWiz:

1. **Automated Integration with Student Information System.** With most student information systems, the Certica client services organization is able to collaborate with a student information system (SIS) administrator at the district to perform a one-time setup of a daily automated process.

2. **Electronic.** If a district chooses to manage the synchronization locally, they may export a data file from their SIS, map the TestWiz fields to the file, and upload the data. TestWiz will update accordingly. This may be done as often as the district desires.

3. **Manually.** At any time, an authorized administrative user can make changes to class rosters, teacher assignments and special codes directly in TestWiz.

Certica is proposing to integrate TestWiz to the Ed-Fi Operational Data Store (ODS) via the Ed-Fi Application Program Interfaces (APIs) as part of the implementation of TestWiz within the Interim Assessment System. This integration between TestWiz and Ed-Fi is a very simple task for Certica Solutions, given the company has on staff the original architects of the Ed-FI ODS data standard and the Ed-Fi APIs.

b. The interim system must have a complete set of demographic data for each student at the point-of-time of assessment. This data management system must also provide reports and analysis, as noted below, for districts and for NDE.

MAP as Nebraska's Interim Assessment

Interim MAP assessments have a complete set of demographic data for each student at the point of assessment as a result of the student rostering process. Using each student's unique ID, demographic attributes are used as sorting filters prior to running a report.

Standard data within a class roster file (CRF) are:

- Term Name
- Beginning Instructional Date
- Total Number of Instructional Days
- Testing Window Start Date
- Testing Window End Date, School Name
- School Number
- Previous Teacher ID
- Teacher ID

- Teacher Last Name
- Teacher First Name
- Teacher Middle Initial
- Class Name
- Class Period Name
- Class Subject Name
- Previous Student ID, Student ID
- Student Last Name
- Student First Name
- Student Middle Initial
- Student Date of Birth
- Student Gender
- Student Grade
- Student Ethnic Group Name
- Student Language Preference Name

In addition, the interim MAP allows for a Special Programs File (SPF) enabling additional demographic data to be utilized for creation of unique groups of students. This file is customizable by NDE based on localized preferences.

c. The system must allow for the creation of classes and for students to be assigned to multiple classes.

MAP as Nebraska's Interim Assessment

Your CRF contains each student in your system and their full set of demographic data. A student within the CRF can be listed under as many classes as needed which enables every stakeholder to have access to reports. As part of support training, staff are provided directions that enable a CRF to be fully configured by the user. While starting with an export from a student information system, additional classes not listed in an SIS can be created in the CRF enabling tracking of student performance by multiple stakeholders.

d. The proposal should include the capacity and experience in using API access to synchronize student and district data.

MAP as Nebraska's Interim Assessment

NWEA will expose Representational state transfer (REST) APIs to allow for the collection of roster data as well as student demographic data. Student APIs will be keyed by the NDE Student ID and the NDE Student ID will remain as a unique key identifier throughout the NWEA systems and data stores. The SSL (https) based APIs will be further secured by the standard OAuth 2.0 client credentials flow.

3. Assessment Development

a. The interim system may allow district users to create tests from the item bank for administration at the classroom, school, or district level or may be an off-the-shelf system, or may be off-the-shelf augmented by Nebraska developed items. The system provides districts flexibility to use it based on their needs. The interim system may be available only online but the users must be able to print out paper versions of any test. The interim

MAP as Nebraska's Interim Assessment

MAP is an off-the-shelf product offer, so our proposed interim assessment solution does not require educators to create tests. MAP delivers secure, computer adaptive assessments drawing from over 30,000 calibrated items. However, in response to this request we are offering an option that can be purchased in addition to MAP to provide a method of managing and delivering items drawn from the Nebraska item bank using services provided by Certica. In partnership with Certica, NWEA can offer TestWiz to support the Nebraska item bank and the optional Navigate Item Bank with the purchase of MAP.

We believe offering both of these options furthers the vision of the NDE to provide educators with a comprehensive assessment system. Educators will be able to use their valid and reliable MAP data to isolate individual and classroom needs for instruction. Instruction can be delivered based on identified student learning paths established to support student growth. Educators then use the Nebraska item bank to build short cycle assessments to check for student learning gains. This system creates a continuous cycle of research based interim assessments, instruction, and short cycle assessments to monitor student progress and growth.

Interim Item Bank Integration Option

Certica Solutions is the provider of the Certica Connect platform-as-a-service (PaaS) which enables K – 12 application interoperability, enrichment and leverage of learning content, and integration of data via a common education data standard. The Certica Connect platform provides a unique opportunity for K – 12 system providers to centralize data, metadata and content, and leverage a broad range of cloud-based technology services, with the goal of accelerating product development, reducing support costs, and delivering a highly integrated and sustainable learning solution.

Two key commercially available offerings within the Certica Connect platform, TestWiz and the Navigate Item Bank, are proposed as an innovative solution to the Interim Assessment System.

TestWiz is a comprehensive, web-based student assessment solution which enables educators to track student progress and achievement, target instruction, and monitor instructional effectiveness. TestWiz provides teachers and instructional leaders with the ability to create, administer and score classroom and district wide assessments, as well as analyze and report on a wide range of local, state and standardized assessment data simultaneously.

TestWiz will support the Nebraska educator item bank and be used by a range of educators and administrators – including district leadership, principals, curriculum coaches and teachers – for assessment creation, administration, and personalized reporting.

Assessment Repository

TestWiz supports a district's entire local assessment program by integrating test results from multiple sources in a central repository, as seen in Figure 71. Scores from local, literacy, and state assessments in addition to certain standardized test results can all be input, stored and analyzed in TestWiz. Assessment data can be collected in TestWiz in four ways: administered online, scanned from TestWiz produced plain paper answer documents, key entered or imported from a data file.

Figure 71: TestWiz Assessment Repository. TestWiz allows educators to store scores from local, literacy, and state assessments, in addition to certain standardized test results, in its repository.

Assessment Creation

Using a simple wizard-based interface, educators can create standards-aligned assessments for any grade and any core or non-core subject area. Multiple-choice, technology-enhanced and constructed response question types can be utilized for formative or benchmark purposes. Tests created in TestWiz can be administered online, with paper and pencil (provided the assessment doesn't include technology-enhanced items), or a combination of both. With support for multiple item banks, including the Nebraska educator created item bank, educators can produce tests created from an unlimited number of local items input by their district, or by selecting items from the Navigate Item Bank, commercially available as an additional option to districts from Certica Solutions.

TestWiz also includes a "Quick Test Builder" feature (see Figure 72) that allows users to quickly select the quantity of items to be included on an assessment and define a profile for the item mix, such as passage or non-passage related items, passage type, and item difficulty level. The Quick Test Builder automatically generates an assessment for review and administration.

Figure 72: Quick Test Builder. This feature of TestWiz lets educators quickly define and create an assessment.

Educators who wish to take a more hands-on approach can follow a simple nine-step test-creation process, as seen in Figure 73. Users start by specifying the subject area and grade level of the assessment then preview and filter the relevant passages and items by standard, item type, difficulty level, point value and Bloom's Taxonomy. Once items are selected, the user can sequence the order in which the items are presented and preview the assessment.

Figure 73: Nine-Step Test Creation Process. Educators can choose subject area and grade level and select items to create their own assessment.

Local Item Management

Educators have the ability to create and administer assessments using the Nebraska educator-created item bank or their own local items to best fit their assessment needs. Users can create items in any subject area and align those items to Nebraska's standards, as seen in Figures 74 and 75. TestWiz supports pre-defined sets of standards such as state-specific standards, as well as a local set of standards that can be created by a district. Item types include multiple choice, technology-enhanced and constructed response, and can be associated with passages. Specific properties such as Difficulty Level, Bloom's Taxonomy, or a Depth of Knowledge (DOK) level can be associated to each local item.

Figure 74: Adding Local Items. Educators can create items and align those items to Nebraska's standards within TestWiz.

Figure 75: Adding Local Items. Educators can preview the items they have created before adding them to an assessment.

Item Bank Management

Users can organize items by establishing local item banks for specific purposes, which could include subject specific item banks– such as Elementary Reading Comprehension or American History – or task

specific item banks – such as formative or benchmark purposes. Access to item banks can also be secured so only permitted users can view certain items and create assessments from those items.

Online Testing

As a web-based application, TestWiz, enables educators to administer assessments online using an internet connected device equipped with a modern browser. Assessments taken online by students using TestWiz are automatically scored and then stored for viewing and reporting alongside other local, state and standardized test results, providing a longitudinal profile of each student, as well as a test group's overall achievement. The ability to administer online assessments is provided for any assessment created in TestWiz using local items or items from the Navigate Item Bank. See Figure 76 for the TestWiz Login screen.

Figure 76: TestWiz Login. TestWiz allows teachers to create and administer and students to take assessments online.

Online assessments can be administered for specific grade levels or classes. A fixed testing window can be established to restrict the date and time in which a test may be taken. For security purposes, personalized test tickets are created, which include the student's name, a unique pass code and any special instructions added by the teacher.

Online assessments administered via TestWiz are accessible to students using a browser from an internet-connected PC or tablet. Navigation through a test is done by progressing forward, skipping a question, or going back. Once the test is complete, the student clicks "Finish," and the test is scored, as shown in Figure 77.

Figure 77: Student Testing. Students take tests administered in TestWiz through a browser. They navigate by pressing the blue buttons at the bottom, for forward, skipping, going back, and "Finish" when the test is complete.

Teachers have immediate access to results and can filter by question or learning standard for each student or customized sub-group. Reports can be exported in PDF, Microsoft Word or Microsoft Excel® format. All TestWiz reporting capabilities are available for online assessments.

Plain Paper Scanning

For local paper-based assessments; educators can print a student answer document on plain copy paper for each student that contains his or her name, the teacher's name, the test specifications and a unique bar code identifier. After the test is administered, the answer document can be scanned using a plain-paper, affordable desktop scanner directly into TestWiz for immediate scoring, reporting and analysis. Answer documents can be produced for assessments created within TestWiz or for other locally created tests.

Key Entry

Certain assessments, such as literacy tests, require results to be entered by hand. For assessments of this type, TestWiz includes a simple interface for educators to key enter answers and scores. Results are stored electronically for immediate access and timely decision making. By reporting alongside other test data, teachers can monitor individual student progress and instructional leaders can track achievement of cohorts. TestWiz supports key entry for DIBELS, DIBELS Next, DRA, DRA2, Fountas & Pinnell, and other literacy and standardized assessments.

MAP as Nebraska's Interim Assessment

Our interim system for NDE is already in use in over 300 Nebraska school districts and private schools; approximately 95 percent of your districts. Our MAP suite is made up of computer adaptive interim assessments for grades K – 12 in mathematics, reading, language usage, and science. (Language Usage assessments are for grades 2 – 12, and Science assessments are for 3 – 8).

MAP assessments mirror the statewide system in design, technology, and tested standards:

- **Design:** MAP and the summative assessment we will develop for Nebraska are both valid, reliable, computer adaptive tests with robust item banks and low standard errors of measurement.
- **Technology:** Nebraska's summative assessment will operate on the same platform and adaptive engine as our current MAP interim assessments.
- **Tested Standards:** Our assessments are aligned to Nebraska College and Career Ready Standards.

MAP assessments are designed to measure achievement and growth and on our RIT scales, so a consistent record of student growth can begin in kindergarten and continue through high school. The precise achievement data produced by MAP assessments allow us to measure student growth over time – within a school year, and across years. This gives educators, parents, and students clear information not only about each student's grade-level proficiency, but also how each student performed compared to others, to his or her previous achievement, and to his or her predicted performance.

MAP assessments provide insight into the instructional needs of all students, whether they are performing at, above, or below grade level. By calibrating item difficulty and student achievement on our stable, equal-interval scale, our assessments adapt above and below grade level to accurately identify a student's true achievement level. MAP assessments help identify at-risk students and link to resources to help teachers develop individualized instruction and intervention plans.

MAP as Nebraska's Interim Assessment

NWEA offers off-the-shelf computer adaptive assessments aligned to Nebraska College and Career Ready Standards in reading, language usage, mathematics, and science. These assessments draw from item banks containing 30,000 items, which are additional to the items that will be used for Nebraska's summative assessment. Our high-quality item pools have been widely acknowledged to play a critical role in the measurement precision and efficiency of computer adaptive tests.

MAP item pools contain a large number of items, with coverage in content and difficulty level across the full range of the RIT scale. The quality and depth of our item pools ensure precise measurement while always meeting the requirements of test specifications. We employ a rigorous item development procedure, following the guidelines described in *The Standards for Educational and Psychological Testing*.

Our content specialists create item specifications, derived from analyzing the standards for the fullest understanding of the intention, scope, and focus of instruction. From this, we provide specific guidance

to item writers regarding the content, context, and cognitive complexity of items that will assess a standard. MAP assessments include a deep pool of items that span a full range of cognitive levels and skills. Each item in the pool is evaluated and tagged with a Bloom's cognitive process dimension and Webb's Depth of Knowledge (DOK) level. Item pools for MAP tests include selected-response and technology-enhanced items at DOK levels 1, 2, and 3.

Our content experts continuously develop, field test, and operationalize new machine-scorable items for MAP assessments in order to provide the appropriate depth of coverage of the standards. As part of this process, our team carefully constructs both the content of the item and the item type to provide the most accurate measurement of each student's knowledge and abilities as they relate to the standard attached to the item. Our process ensures high-quality items with solid construction, appropriate reading levels, developmental appropriateness, accessible formatting and design, and adherence to bias, sensitivity, and fairness guidelines.

Our item development process is designed to include multiple reviews to ensure high quality. The process includes item specification creation; item specification review; item writing; review for copyright, permissions, and plagiarism; an initial item quality review and editorial review; a second content review; and two separate reviews for content integrity, bias, sensitivity, and fairness. These are all carried out before a final content review and copy edit. All items in the item banks are put into field test after they have completed the development and review process. The items that calibrate become a part of our active item pool.

Interim Item Bank Integration Option

Assessments can be created in the optional TestWiz system using an organization's own local items in any subject area. Those assessments can also be supplemented with external item banks such as Certica's optional Navigate Item Bank. The Navigate Item Bank is the largest repository of high-quality, standards-aligned test items which enables educators to create customized assessments and provides flexibility to reflect a range of curricula and instructional methods.

4. Item Bank

The current interim system has an item bank with items developed by teachers and supplied through NDE. Additional items are regularly created and added to the interim system. If the interim system is one where items are developed by educators and/or supplemented by additional items, resulting in an item bank to be used for educators to develop assessments. The system should also have the ability for users to easily create or upload all item types into the system. The system is currently populated with 8,000 items.

a. Each item in the bank must be searchable based on multiple criteria: content, grade level, framework, standard, benchmark, indicator, item status, and passage. Each item in the bank conveniently displays the following information: item ID, creation date, type of questions, subject, grade, DOK, difficulty, focus, aligned standard and what assessments that item is associated with. Each item has a field to allow users to provide feedback. Item display is designed to make it easy for teachers to construct assessments for their classroom. The item bank is accessible to NDE staff also. The proposal should describe a system that meets these requirements.

MAP as Nebraska's Interim Assessment

This is not applicable, as the off-the-shelf solution we are proposing includes our MAP item bank.

Interim Item Bank Integration Option

Designed to work with the Navigate Item Bank, which exceed 67,000 Nebraska-aligned items in total, TestWiz has been designed to leverage metadata associated with Items, Passages, and Standards to help quickly find items that meet the educator's specific needs. When creating an assessment with item banks in TestWiz, users utilize a nine-step test building process. The first steps of that process include specifying the subject and the grade level of the assessment, such as "mathematics, grade three." Once the subject and grade level are chosen, TestWiz displays the relevant standards that correspond to those selections (See Figure 78). In the "mathematics, grade three" example, strands such as Measurement & Data, Geometry, and Operations & Algebraic Thinking will be displayed and selected and then individual standards will be displayed for the selected strands, from which users can then choose, and then items aligned to those standards will be presented for test creation. Users then further filter and review the items based on other attributes, such as Blooms Taxonomy, Webb's Depth of Knowledge, Difficulty, Item Type and select the items they wish to include in the assessment.

Figure 78: Selecting Standards. This figure shows the screen where an educator would select standards – after choosing subject and grade level – in TestWiz assessment creation. This example uses Common Core, but Nebraska College and Career Ready Standards would be displayed in our interim assessment for Nebraska.

b. If the proposal includes use of current items for the interim system, the proposal should describe a process to move current items from the current system to a new one without the loss of any content or additional work on the part of NDE and state educators.

MAP as Nebraska's Interim Assessment

This is not applicable, as the off-the-shelf solution we are proposing includes our MAP item bank.

Interim Item Bank Integration Option

TestWiz has the ability, with assistance from the Certica client services organization, to import test item banks via the IMS Question and Test Interoperability specification (QTI). If the current items in the interim system are available in the QTI 2.1 format, we propose to load those items into TestWiz with the following process:

Use the existing QTI loading functionality in TestWiz to load the items and any existing alignment information provided;

Perform automated testing in TestWiz to ensure all loaded items are available in the search and test building functionality of TestWiz and are correctly scored;

Perform a manual review of <u>all</u> loaded items to ensure they render correctly in both paper (printed) form as well as in online testing form.

5. Ancillary Materials for Interim System

a. The interim system must include online (only) manuals for different levels of users that describe how to use the system and information about all aspects of the system. The proposal should describe how the Contractor will meet this requirement.

MAP as Nebraska's Interim Assessment

The MAP Help Center includes online manuals and user guides for different levels of users. These step-by-step trainings and resources for proctors, educators, and administrators describe how to use the system and provide them with further information, solutions, and troubleshooting help within the system. Our online eLearning platform, Destination PD™, provides users at various roles with even more detailed information and training about MAP assessments and the system. Please see Appendix FF, *NWEA Online Manuals*, for samples of these materials.

Interim Item Bank Integration Option

User documentation and online help is available to all users through TestWiz. These materials are accessible from the Welcome page of TestWiz and consists of easy-to-follow instructions for using each of the capabilities of TestWiz. In addition to a catalog of documentation, TestWiz users can access self-paced eLearning modules and live scheduled webinars to learn more about the features and functionality of TestWiz.

b. The system must include a Frequently Asked Questions (FAQ) that is regularly revised and updated with new questions and answers supplied by NDE. The FAQ is accessible through the interim data management system. The proposal should describe how it will meet this requirement.

MAP as Nebraska's Interim Assessment

NWEA will create a Frequently Asked Questions (FAQ) to NDE specifications, and frequently revise and update it with new questions and answers supplied by NDE. We will host this within our MAP Help Center, part of our interim data management system.

We also provide opportunities for NDE and Nebraska educators to ask and find answers to questions, and interact with other NWEA assessment users through our community site, NWEA Connection, as shown in Figure 79. On NWEA Connection, our partners and their educators can:

- Access exclusive content and participate in discussion topics
- Quickly search the Support Knowledge Base for answers to product questions
- View their own Support ticket status
- Log in using Destination PD credentials and self-register using Central Authorization
- Join online discussions within Formative Assessment workshops
- Connect with other NWEA partners on various topics
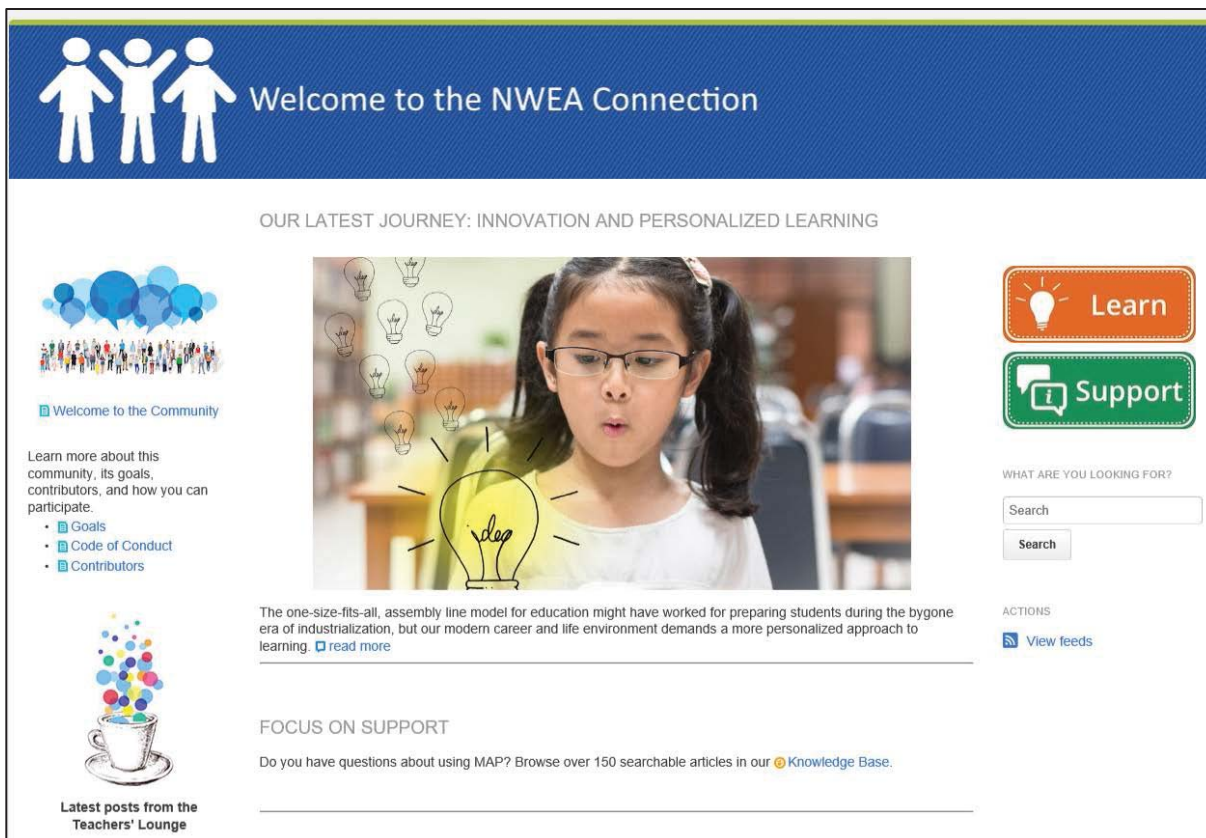
Figure 79: NWEA Connection. Our partners can join an online NWEA community for updates, quick support, answers to questions, and conversation with other NWEA assessment users.

Interim Item Bank Integration Option

User documentation and online help, including FAQs are available to all users through TestWiz. These materials are accessible from the Welcome page of TestWiz and consist of easy-to-follow instructions for using each of the capabilities of TestWiz, and are updated as frequently as necessary to encompass questions and feedback from end users and customers. In addition to a catalog of documentation, TestWiz users can access self-paced eLearning modules and live scheduled webinars to learn more about the features and functionality of TestWiz.

6. Reporting of Results and Communicating Meaning of Results of Interim System

a. The system must generate on-demand reports for each administered test to aid teachers to use results to inform instruction. All reports are delivered in web- based format and districts are able to print reports and export the data from the reports into a spreadsheet or database. The proposal must include a detailed description of a proposed method for web-based reporting that provides easy access to results while ensuring security and confidentiality. Reports should include:

i. Results will be available to students at end of test session. Test administrators should be able to control this feature based on their needs.

ii. Reports so individual student data can be tracked throughout the year.

iii. Individual student-level results at the classroom level that include item-level results, indicator (subscore) results and score distribution.

iv. Results on individual students that are linked from year-to-year so educators can view student results from past years.

v. Aggregated and disaggregated data at classroom, school, and district levels.

MAP as Nebraska's Interim Assessment

All MAP reports are delivered in a web-based format that provides easy access to Nebraska educators while protecting student confidentiality.

Immediate Results for Students

In addition to an overall score in mathematics, reading, language usage, or science, our tests provide scores in each instructional area of the test. The end-of-test screen seen in Figure 80, displays a preliminary overall score and instructional area RIT scores to students immediately upon completion of a MAP test.

Eliza Marquart

Congratulations, you finished the test.

Measurement Scale: Mathematics	
Overall Score: 250	
Goal Name:	Operations and Algebraic Thinking
Goal Score:	248
Goal Range:	242 - 254
Goal Name:	The Real and Complex Number Systems
Goal Score:	250
Goal Range:	244 - 256
Goal Name:	Geometry
Goal Score:	256
Goal Range:	250 - 262
Goal Name:	Statistics and Probability
Goal Score:	246
Goal Range:	240 - 252

The total test time was: 01:00:39
Date: May 18, 2016 **Test Name:** MAP: Math 6+ Common Core 2010
V2

Figure 80: RIT Score and Subscores. After a student completes the last item of each assessment, this printable report displays the preliminary RIT score and instructional (goal) area RIT scores. This screen gives the student and teacher immediate and actionable data to inform instruction.

Test administrators can control whether or not this screen will appear while they are setting up a test session.

Tracking Individual Data Over Time

MAP includes many reports at the student level, many of which allow educators, parents, and students to track student data throughout the year and from year-to-year. For example, the comprehensive Student Profile dashboard report shows a wealth of individual student data – including current and past overall RIT scores, granular reporting (scores for instructional areas), growth information, and percentile comparisons, as seen in Figure 81. From this intuitive report, educators can see at a glance how a student is performing, or they can use this as a starting point to find more detailed information, set goals, or look at comparative data.
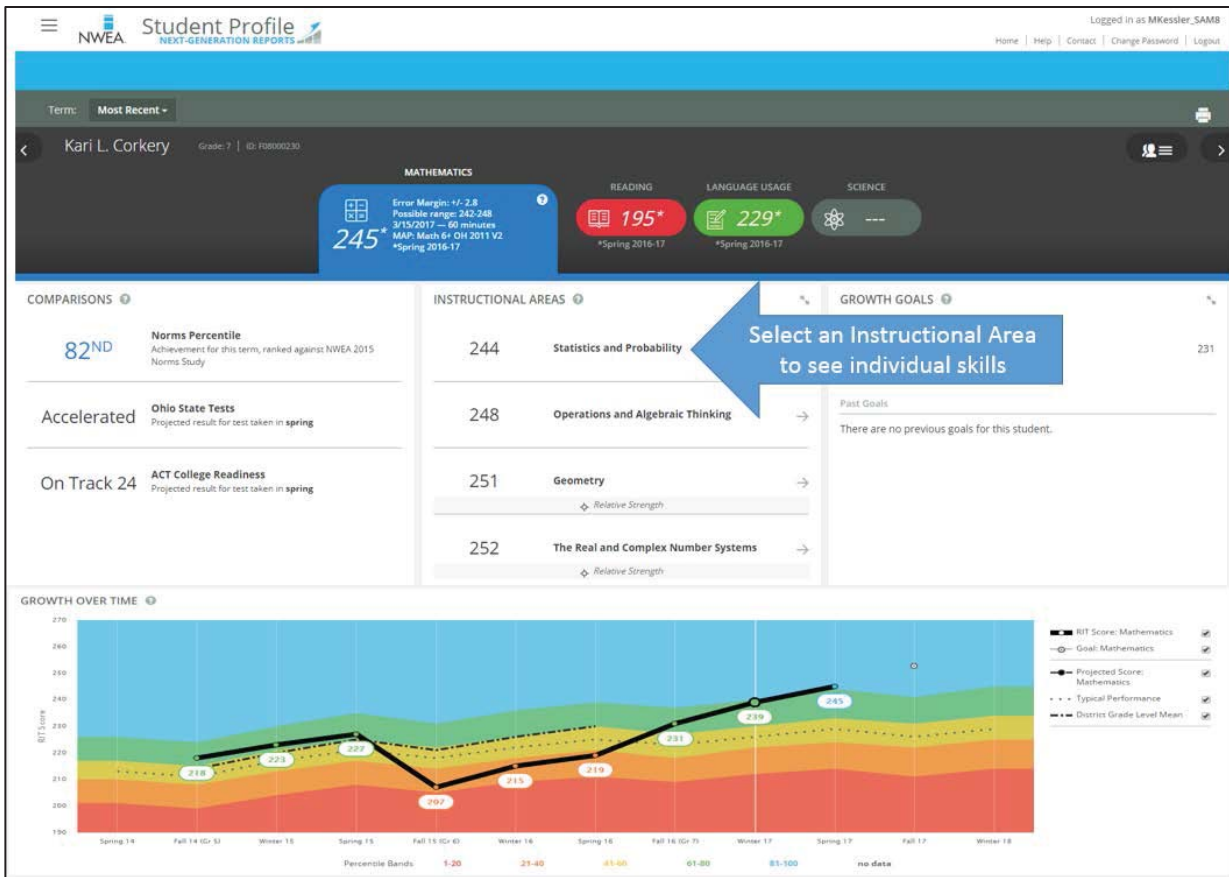
Figure 81: Student Profile. This dashboard brings several data points together to create a single view for student data, including a color-coded performance information based on normative data.

The Student Profile Report, illustrated above, produces a view of a student's scores in instructional areas to identify strengths and weaknesses. Each instructional area is presented for each student. As performance in each area is compared to a student's overall achievement, it is labeled as a "relative strength" or a "suggested area of focus" for the teacher. Prioritizing instructional next steps based on a pacing guide is better informed using the descriptor for each instructional area. A teacher may see in a pacing guide that an area is scheduled to be taught in the future. However, if the area is described as a "suggested area of focus," then immediate intervention would be beneficial.

Note, in Figure 82 below, that this MAP report helps educators prioritize by identifying Statistics and Probability is a "suggested area of focus," as it is the lowest score among the mathematics instructional areas.
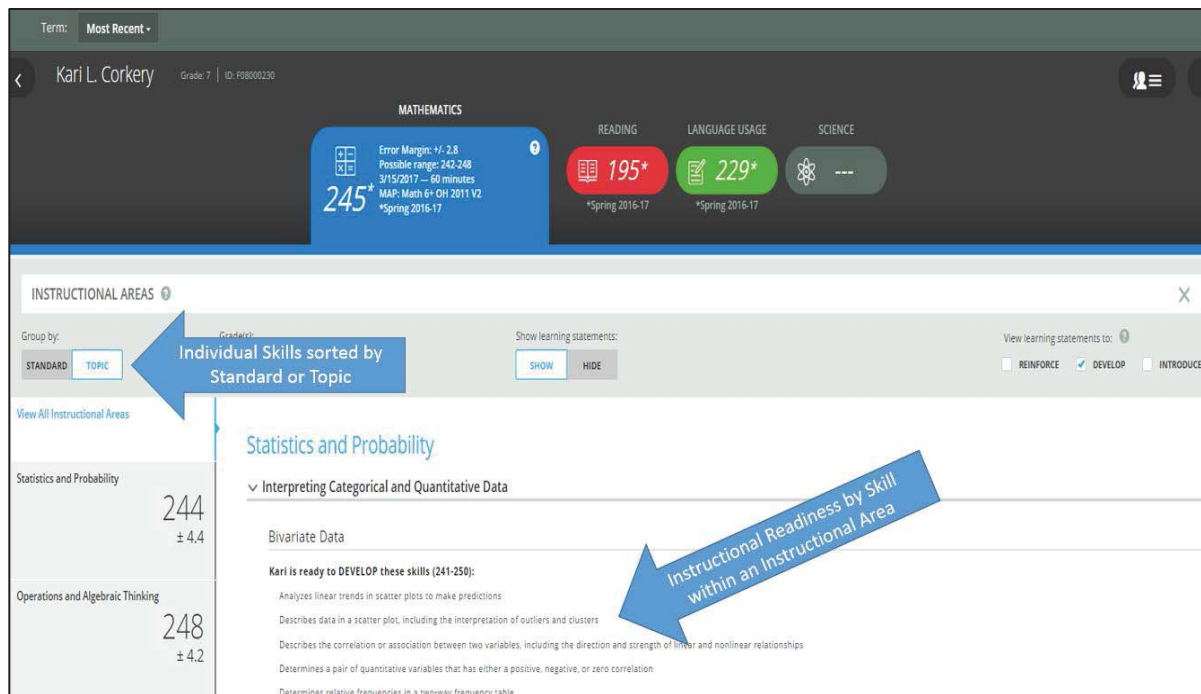
Figure 82: Suggested Areas of Focus. Drilling down through a Student Profile Report allows educators to see what students are ready to learn based on their MAP scores. This report may be sorted by standard or topic.

Similarly, the same student has a relative strength in Real and Complex Number Systems. By clicking on the area of focus, educators may then see areas of instructional readiness within an instructional area based on those results.

Please note that the MAP system does not provide item analysis reports. One of the advantages of adaptive assessments is that each student receives a unique test experience. Because of the adaptive nature of MAP tests, students in any one class may see between 200 and 300 different items, and the vast majority of items would be seen by only a few students. In the context of an adaptive test design, item analyses provide little instructional value.

During an adaptive test, each student sees test items that are at a difficulty level that is consistent with the student's performance to that point in the test. This means that, potentially, no two students would see the same item. In actuality, a few students may see a few common items. This can be easily understood when one considers that a typical item pool for an adaptive test contains 2,500 test items. If each test is fifty items long, each student is seeing two percent of all the items available. Traditional item analysis reports showing the percentage of students correctly answering each item would fail to yield any useful information. For these reasons, NWEA restricts the analysis of the performance of items to the goal level. These data present the performance of students in the same reporting unit (class, grade level in school, or grade level in a district) on sets of test items indexed to a common goal.

Aggregated and Disaggregated Data

The MAP system offers various detailed reports at the district, school, classroom, and group levels, including the examples that follow.

To help Nebraska district leaders assess performance trends by grade and school, we offer district-level reports. These reports present historical data for a particular school and are valuable in planning and monitoring school improvement plans. Figure 83 shows a sample Projected Proficiency Summary Report, which shows aggregated projected proficiency data so administrators can determine how a group of students is projected to perform on external tests, including the Nebraska Statewide Assessments and college readiness assessments.
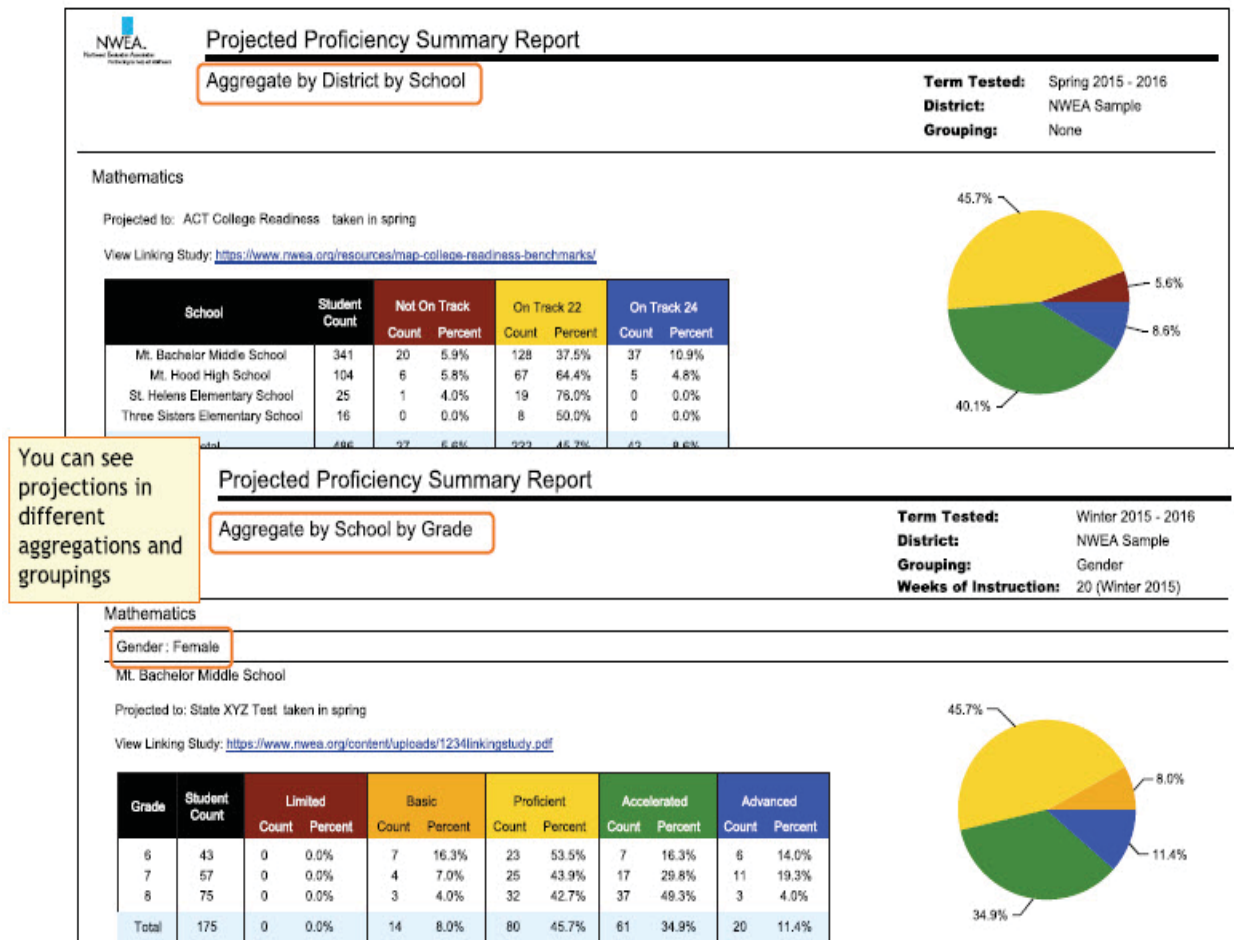
Figure 83: Projected Proficiency Summary Report. This report shares projected proficiency data on the ACT test. This report can also project proficiency on the Nebraska Statewide Assessments.

To help school administrators assess trends, identify areas of strength and weakness, and see the percentage of students meeting targets, we provide summary information in the form of grade-level reports.

One example is the Grade Breakdown Report (seen in Figure 84), which provides a single spreadsheet of student achievement (by both subject and instructional area) so educators and school leaders can flexibly group students – including by grade – from across a school. This report can be used to create subgroups, and has no limit on the number of students it can include.

	C	D	E	F	G	H	I	J	K	L	M
1	Student	M.I.	Term Tested	Term Rostered	School	Grade	Subje	Test RIT	10 Point Range	Assessment	Mathematics: Geom
2	Treavon	V.	Fall 2014-2015	Fall 2014-2015	Dill Middl	6	Math	165	161-170	MAP: Math	151-160
3	Imani	T.	Fall 2014-2015	Fall 2014-2015	Dill Middl	6	Math	157	151-160	MAP: Math	161-170
4	Lee	J.	Fall 2014-2015	Fall 2014-2015	Dill Middl	6	Math	164	161-170	MAP: Math	161-170
5	Antwain	M.	Fall 2014-2015	Fall 2014-2015	Dill Middl	6	Math	175	171-180	MAP: Math	161-170
6	Jalikka	D.	Fall 2014-2015	Fall 2014-2015	Dill Middl	6	Math	173	171-180	MAP: Math	171-180
7	Xavier	W.	Fall 2014-2015	Fall 2014-2015	Dill Middl	6	Math	176	171-180	MAP: Math	171-180

Figure 84: Grade Breakdown Report. This report can be used to create subgroupings at the grade level, such as creating student groups based on geometry performance, as seen here. Teachers might also use it to organize students into classes based on the previous year's data.

Please see Appendix GG, *MAP Reports Reference,* for more detailed information on our interim reports.

Interim Item Bank Integration Option

With the powerful reporting capability of TestWiz, educators can disaggregate data down to the individual student or learning standard. Student performance can be viewed longitudinally, for a student, class, cohort or custom sub group and interventions can be compared to see which are most effective. Reports can be customized to contain data from multiple assessments and can be grouped or filtered by any number of special codes assigned to a student including demographic variables, Response to Intervention (RTI) tiers, Adequate Yearly Progress (AYP) codes or other custom attributes. All reports can be exported in PDF, MS Word or MS Excel format. Commonly used reports can be saved as "Quick Reports" and shared for easy access for teachers and others.

TestWiz provides many different report types that can be aggregated by student, class, school and district. Table 44 below shows the report types and applicable aggregation levels.

Table 44: TestWiz Report Types

Report Type	Description	Student	Class	School	District
Student List or Profile Reports	Shows scores for each sub-section, raw score and percent correct.	X	X	X	X
List with Items	Presents a list of students and their choice for each item along with raw score, percent correct and the percent of students who answered each question correctly.		X		
Item Analysis	Presents student response to each item, percent correct, item description (with standard) and link to view item.	X	X	X	X
Item Analysis Graph	Graph representation of how the aggregate group of students performed for each item. Item description includes standard and link to view item. Can add gap score comparison groups to this report.		X	X	X
Objectives or Objectives Summary	Presents percent correct achieved for the student or aggregate group for each standard assessed.	X	X	X	X
Multi-Test Frequency Distribution - Graph	Track performance of a group or students or cohort across multiple assessments.		X	X	X
Multi-Test Summary Graph	Same as Multi-Test Frequency Distribution graph with all subsections and subtests shown on one report.			X	X
Multi-Group Frequency Distribution - Graph	Track performance of a group or students or cohort across multiple assessments with added comparison groups.		X	X	X
Multi-Test	Presents results for up to five tests on one report.	X			
Instructional Grouping	When an objective cutoff score is applied, this report lists students who did not achieve the cutoff score for the objectives assessed.		X		
Student Labels	Report formatted to be printed as labels that include the student's name and their assessment scores.		X	X	
Student Profile with Letter	Profile report that also includes a template to draft a letter to parents that prints on the report.	X			
Student Profile	Profile report that also includes objective summary.	X			

Table 44: TestWiz Report Types

Report Type	Description	Student	Class	School	District
Student Profile with Items	Profile report that shows the student's response to each item, standard and link to item.	X			
Item Analysis with Correlation Index	Item Analysis report that also includes the item to test correlation index (e.g., p/biserial).		X	X	X
Proficiency	When proficiency levels are defined for an assessment, this report provides a summary view of the students that have achieved each proficiency level.		X	X	X
Cross-Tab	Cross-tabulation report where up to two special codes can be shown.		X	X	X
Summary Reports	Shows summary of results for all classes within a school or all schools within a district for students who took the same assessment.			Class	School
Data Export	.csv formatted report for SIS export.				X

Any of the reports identified above can be exported in PDF, Microsoft Word® or Microsoft Excel format.

Additional functionality within the TestWiz reporting capability includes:

- Users can track cohorts on up to five different assessments at a time;
- Data may be viewed longitudinally, within the school year, or for multiple school years;
- Multiple types of assessments can be viewed on a single report;
- Users can filter for any single student, teacher or school (if they have the appropriate user permissions);
- Reports can be configured to reflect particular subtest areas, scores or within a specific score range, and students can be rank ordered by performance; and
- Comparison groups can be configured by users for their individual needs.

MAP as Nebraska's Interim Assessment

NWEA will expose Data APIs based upon an event based architecture that will readily support transformation into multiple formats including Ed-Fi, NEDS, and NWEA native format. The APIs will be SSL (https) based and further secured by the standard OAuth 2 client credentials flow. The APIs will be highly available and highly scalable capable with a target response time <1 second for individual student transactions and 99.9 percent availability.

NWEA will be prepared to update its integration via NEDS by June, 30 of each calendar year. The Data APIs will expose data within twenty-four hours of when it becomes available after assessments are completed.

Interim Item Bank Integration Option

Certica is an expert in Ed-Fi integrations and technology as a result of its July 2016 acquisition of Educuity, Inc., Ed-Fi pioneers based in Austin, Texas. Certica employs its Next Generation Data Architecture services with adoption of the Ed-Fi REST API, Ed-Fi XML and the Ed-Fi Operational Data Store.

Certica has adopted the Ed-Fi data model and technologies as a foundational element of its Certica Connect platform. Certica is also very familiar with the Nebraska DOE Ed-Fi implementation, and in particular the Nebraska Education Data Standard (NEDS).

As part of the proposed implementation of TestWiz, Certica will implement an integration between TestWiz and NEDS as well as support the Ed-Fi XML.

MAP as Nebraska's Interim Assessment

Our assessments operate on a user-friendly platform where users of all technical skill levels can easily access student data and assessment results. The administration and reporting center is available from any location with an Internet connection and, from it, users can perform the following administration tasks:

- Manage user, student, organization, program, and test data
- View on-demand reports, test results, comparative data, and operational reports
- Access instructional resources
- Create testing sessions and administer tests

Individual reports are available immediately after an assessment administration, although there might be a delay in aggregated reports as other students complete testing.

Interim Item Bank Integration Option

TestWiz provides direct username and password access to teachers and administrators. Access is limited to the user's level of responsibility. Users are allowed to access test items and item banks, as their permissions allow, for assessment creation and administration, and they are able to report on and analyze assessment data in their purview. For example, teachers can see their classes and students; school-level administrators can see their teachers, classes and students; and district-wide administrators can see the teachers, classes and students across the entire district. Special permissions can be configured for users who are responsible for students in various classes, such as an Academic Intervention Services (AIS) or a special education teacher. Users have access to the assessment data in TestWiz immediately after the assessment is scored (paper and pencil) or the students have completed taking the assessment online.

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d. All reporting should be scalable from classroom to state level for effective use. The reports should include a hierarchal structure that allows all users at higher levels to view and interact with reporting from lower levels. Levels should minimally include: teacher, school, district, and state. School level users should be able to view and interact with all associated reports at the teacher level. District users should be able to view and interact with all associated reports at the teacher and school levels. State level users should be able to view and interact with all reports from the other levels.

MAP as Nebraska's Interim Assessment

Our MAP reports can be aggregated from the individual student level through the district level, as described earlier in this section. While we do not have a report that disaggregates data from the State level down to the student level, we can provide the State with interim data in the form of our comprehensive data file (CDF).

Education Strategy Consulting (ESC) will provide a web-based visualization, The Matrix, to deliver the aggregated and hierarchal reporting. The Matrix, described in Section H for reporting of summative assessment results, will maintain the same feel and structure for reporting of interim assessments. Maintaining a consistent reporting platform and feel across both assessments will allow for easier access to information and exploration.

These web-based visualizations will be customized to provide the information and functionality desired. The same options offered for the summative assessments will be available for selection for the interim assessments. These include interactive time trends, RIT and subscore filtering, goal-to-actual viewing, demographic filtering, customized .csv files for export, save and print options for screen and plot views, mapping, and more.

The hierarchal structure will allow (a) teachers to identify areas of strength and weakness of individual students, (b) principals to evaluate targeted or school-wide interventions, (c) district administrators to tailor and evaluate district-wide professional development needs, and (d) state-level administrators to reflect on specific statewide policies. The interactive nature of The Matrix should lead to greater focus, planning, and action around two vital pieces of information needed for improved student achievement—interim and summative assessments.

Interim Item Bank Integration Option

Users are able to report on and analyze assessment data in their purview. For example, teachers can see their classes and students; school-level administrators can see their teachers, classes and students; and district-wide administrators can see the teachers, classes and students across the entire district. Special permissions can be configured for users who are responsible for students in various classes, such as an Academic Intervention Services (AIS) or a special education teacher. State level reporting is also supported across all districts.

e. The proposed system should be able to expand to additional content areas and types of questions. The proposal should include an option for such expansion and costs for each or an off-the-shelf solution.

MAP as Nebraska's Interim Assessment

Our off-the-shelf MAP assessments offer reporting options that include one or more content areas tested.

Interim Item Bank Integration Option

Leveraging the Navigate Item Bank will increase coverage of content areas by over 32,000 items in English language arts; 21,000 in mathematics; 10,000 in science and 3,000 in social studies. Navigate currently supports nine Item Types (Multiple-Choice, Multiple-Select, Inline Choice, Ordered Response, Drag and Drop, Hot Text, Hot Spot, Short Answer and Constructed-Response with Rubric).

Nebraska Coverage

The totals reflected in Figure 85 below represents the unique aligned items within the Nebraska learning standards.

English Language Arts		Mathematics		Science		Social Studies	
Grades/Course	Total	Grades/Course	Total	Grades/Course	Total	Grades/Course	Total
Kindergarten	899	Kindergarten	774	Grades: 3-5	1,515	Grades: 6-8	1,151
Grade 1	1,389	Grade 1	924	Grades: 6-8	5,877	High School	2,414
Grade 2	1,813	Grade 2	782	Grades: 9-12	3,108	Total	3,565
Grade 3	2,943	Grade 3	1,612	Total	10,500		
Grade 4	3,326	Grade 4	2,142				
Grade 5	3,548	Grade 5	1,444				
Grade 6	3,514	Grade 6	2,805				
Grade 7	3,028	Grade 7	3,131				
Grade 8	3,339	Grade 8	1,400				
Grades: 9-10	4,618	Grades: 9-11	5,136				
Grades: 11-12	4,045	Grade 12-Advanced Topics (AT)	903				
Total	32,462	Total	21,053				

Total Nebraska Aligned Items	67,580

Figure 85: Nebraska-Aligned Items. The numbers in this figure represent the number of items aligned to Nebraska's content standards in the Navigate Item Bank.

MAP as Nebraska's Interim Assessment

We recognize that Nebraska district leaders have expressed a high need for support "for systemic and systematic approaches to formative assessment and the desire for good professional development around assessment." Given our longstanding partnership with Nebraska educators, we are positioned well to help NDE connect assessment literacy professional development and high-quality assessment systems in Nebraska. We provide an extensive description of our proposed Professional Development program for Assessment Literacy in Section K.1, which supports a systematic professional development program across formative, interim, and summative assessments from a student centered and instructionally useful perspective.

Our current partnership in Nebraska includes implementing new assessments, expanding current products and services, training, twice-annual partner meetings, providing professional development through the State's certified facilitators or our own consultants, scoring and reporting, communicating, and solving problems.

To demonstrate our continued commitment to supporting Nebraska educators and students, we offer an experienced team who will work closely with the NDE to develop an effective and economical approach to professional learning that supports the instructional use of reports and data from our assessments.

Professional development for Nebraska will build upon the model that has been successfully applied in Nebraska since 2012. With Education Service Units (ESUs) around the state of Nebraska in the NWEA Certified Facilitator Program, NWEA has been able to partner with the Educational Service Unit Coordinating Council to provide a structure for ongoing professional learning across the state. In this program, we have provided focused professional development and robust, online resources for facilitators within each ESU. Upon completion of the certification process, each ESU facilitator trained by NWEA can tailor the training they offer to meet the specific needs of both large and small schools and districts within the ESU.

There are currently thirty-one ESU staff developers across the State of Nebraska, along with nine public school district leaders who are certified NWEA facilitators. Our familiarity with and support of Nebraska's professional development programs and structures will ease the transition of rolling out new assessments and expanding the reach of our current assessments within Nebraska. NWEA proposes to continue to leverage these certified facilitators, at NDE's discretion and preference, for delivery of new professional development across the state. This can include current MAP professional development workshops, and future professional development options for the Nebraska Statewide Assessments.

Please see our response to section K for further details on our professional development for the Nebraska Statewide Assessment, including descriptions of our Formative Assessment Series and our new Assessment Literacy workshops.

Interim Item Bank Integration Option

Certica proposes a professional development program that includes a combination of live instructional webinars and self-paced eLearning. Table 45 lists the training topics offered by Certica in both live

webinar form and self-paced eLearning form, and the suggested audience based upon typical user activity in TestWiz.

Table 45: Certica Proposed Training Topics for Nebraska

Course Catalog	Power Users [Trainers]	Assessment Specialists	Teachers	Principals	Data Managers
Getting Started	X	X	X	X	--
Item Bank Management	X	X	X	X	--
Learning Standards	X	X	X	X	--
Test Management	X	X	X	X	--
Test Administration	X	X	X	X	--
External Assessments	X	--	--	--	--
Reporting	X	X	X	X	--
Roster Management	X	X	--	--	X

Certica recommends a Train-the-Trainer model of instruction focused on building domain expertise with TestWiz for a select group of power users. Through the Train-the-Trainer learning program, district instructors will receive electronic instructional materials and can leverage self-service eLearning and access to live public webinars to train the teacher population. An appropriate schedule of Train-the-Trainer webinars as well as public webinars can be designed based on anticipated demand and district availability.

g. The system has interpretive materials for parents and schools/districts. The interpretive materials are provided in web-based format for posting on the NDE website. The proposal must include a description of the type of information to be included in such materials and methods to increase the usefulness of such materials.

MAP as Nebraska's Interim Assessment

NDE has demonstrated its commitment to involving parents and the community in Nebraska students' education. This includes keeping them educated and informed about why, how, and when their children will be evaluated. We share your commitment to involve parents in student learning.

To assist your educators as they talk to parents about our assessments, we provide parent-friendly results, reports, and resources that will be posted on portal used for other Nebraska-specific materials. These tools help parents understand their child's learning goals and progress, and help guide at-home activities to improve academic performance.

Educators use a variety of reports to communicate with parents about our current assessments. Reports most frequently shared with parents – samples of which can be found Appendix GG, *MAP Reports Reference* – include:

- **Student Progress Report:** This report includes a student's results for each test taken, and displays individual achievement level and growth over time. An additional Quick Reference page is often used to help parents interpret and understand their student's test results.

- **Student Goal Setting Worksheet:** Student goals and an action plan can be created, with student and parent input, using this report. It can later be updated and provided to parents to show where a student is now, where they were in the past, and where their goals will take them.

- **Student Profile:** The comprehensive Student Profile dashboard report shows a wealth of data – including current and past overall RIT scores, scores for instructional areas, growth information, and color-coded percentile comparisons – which educators can use to tell parents how their child scored on a single test administration and how he or she is growing over time.

A Parent's Guide to MAP

Nebraska parents can learn more about the vital role assessments play in teaching and learning through our guides and toolkits for parents. These resources explain what and how our assessments measure, and how teachers, schools, districts, and the NDE will use that data.

For our current interim MAP assessments, we have English and Spanish parent resources and more information, which we have included as Appendix HH, *MAP Parent Resources.* These are also available online at https://www.nwea.org/assessments/resources-for-parents/. We would work with NDE and your school districts to create similar parent resources for the Nebraska Statewide Assessments.

As NDE considers innovative reporting, we believe parents should be able to access and understand the insights we can provide from the measures within a balanced system of assessments.

Interim Item Bank Integration Option

TestWiz includes test result interpretation guides for teachers and parents that can be posted to the NDE website and downloaded for viewing off-line. Included in the guides are sample reports, instructions for interpreting the reports and descriptions of the scores included in each report.

K. Additional Components to Build Strength of Communication and Effectiveness of Assessment System

1. Professional Development/ Assessment Literacy/ Formative Assessment

a. NDE expects the Contractor to provide a plan for systematic and systemic professional development associated with assessment literacy that starts with the results of state testing and incorporates information and results from the interim system, but expands beyond those to include student-centered learning, strong local formative assessment practices, and support for districts in developing systematic approaches for the use of assessment to improve student learning.

b. The professional development will support the notion of summative testing as it balances with local assessment systems to promote effective assessments habits and the knowledge that all assessments should measure learning, that different assessments have different uses, and that curriculum, instruction, and assessment are the trifold support of student learning as they all relate to assessment literacy.

c. The professional development must include support for classroom formative assessment with a primary focus on grade level, classroom-level formative assessment pieces with support for educators in developing rubrics for evaluating these assessments.

d. In responses to the Evidence Based Analysis for the assessment tenet, an AQuESTT survey that was conducted in fall 2015, district leaders indicated a high need for support to schools/districts for systemic and systematic approaches to formative assessment and the desire for good professional development around assessment. NDE not only requests information pertaining to an interim system in this RFP, but also one that is coupled with strong professional development in order to engender assessment literacy and place the right emphasis/perspective on state summative tests.

e. NDE expects the Contractor to include in-person training and effective online training modules that support the in-person professional development with possible inclusion of a method for state and district administrators to track educators' participation

It is with great excitement that NWEA proposes to partner with the NDE in the commitment to address the need for assessment literacy. The request to develop a systematic and systemic professional development plan, aligns very well with our current approach to professional learning in general and to our expertise with assessment literacy in particular. Our proposal to support your educators in professional development for balanced assessment literacy will reach from formative assessment and instruction, through the interim and the summative assessment results. This comprehensive approach will help balance the variability in purpose, design, and data from each assessment type. Driving from purpose, we will ensure your teachers have the tools and understanding to the results and data for just the right emphasis on each – all with an intention around instruction and learning. This program, described below, will include multiple modalities of delivery, including in-person training and online modules.

Because successful implementation of the approaches and learnings from professional development requires an understanding beyond the classroom teacher and including administrators and key community stakeholders, NWEA will also provide training for educational leaders across Nebraska as well as supporting materials for communications with stakeholders in communities and state levels with the support of experts in educational leadership training from the Schlechty Center.

NWEA: A National Leader in Assessment Literacy

Professional development, specifically focused on assessment literacy and formative assessment practice in the classroom, is a top priority for NWEA. We bring a strong legacy of professional learning for educators that equips them with the tools, knowledge, and resources to effectively use a wide variety of assessment information to impact student learning, promote academic growth, influence instructional planning and guide system level improvements. Our commitment to this work is evidenced by our recent sponsorship of a national task force committed to participating in and improving the national dialogue around assessment literacy. The expertise of this task force as well as their important work, is captured at the following site: AssessmentLiteracy.org.

Our professional development proposal builds upon the work of the National Assessment Task Force to develop a comprehensive approach to the use of assessment data to inform, individualize, and improve instruction. This approach – linking assessment data to instruction and educational decision-making – has been a hallmark of NWEA professional development across our twenty years of service to educators, undergirding our many successful workshop offerings as well as our Data Dialogue and Assessment Program Alignment Coaching services. We believe that a comprehensive effort to understand and implement effective assessment practices will better support student learning and meaningfully strengthen educators' professional practice. NWEA proposes to bring an innovative approach to assessment literacy professional development that will help Nebraska lead the nation in student-centric, teacher empowering use of multiple assessment measures.

Longtime Partnership with Professional Development Facilitators in Nebraska

Our commitment to professional learning in Nebraska is evidenced by our current partnership with the Educational Service Unit (ESU) Coordinating Council to provide a structure for ongoing professional development focused on our MAP assessments through our NWEA Certified Facilitator Program. Over the past five years, NWEA has provided focused professional development and robust, online resources for certified facilitators in Nebraska. Equipped with the training and tools from this program, certified facilitators have been able to tailor the professional learning experiences of Nebraska teachers and administrators to meet the specific needs of both large and small schools as well as districts within the ESUs regional area. Our current NWEA certified facilitator group in Nebraska includes 31 ESU staff developers from across the state, along with nine public school district leaders. The rapid growth of this model in Nebraska is evidence of its effectiveness and the commitment and dedication of Nebraska educators to use assessment strategies and tools to positively influence teaching and learning. Evidence of this strong foundation is the coordinated efforts of the ESUs, districts, teachers and NWEA that has led to over 95 percent of NE districts using MAP and NWEA Professional Development.

We propose building upon the foundation of the current Certified Facilitator Program in Nebraska by building the capacity of ESU staff to deliver NWEA assessment literacy and formative practice professional development directly to the districts and school. As always, ESU staff participating in this program will have full access to the same resources as NWEA staff facilitators have as well as the benefit of our ongoing training and support. Our solution also includes regional leadership sessions on the role of leaders in an assessment literacy initiative – from communicating the value and essential elements of a balanced assessment system, to building a culture of collaboration and learning, and supporting best practices in the use of assessment data and formative practices in student-centered classrooms.

Using our current footprint in Nebraska as a foundation, we propose leveraging this model as a central component of a program that will build strong local support for the NDE assessment approach as well as provide a sustainable model in years to come. Our successful support structure for Nebraska's ESUs will

ease the transition to new assessments, accelerate the implementation of new assessment practices across the state, reach and influence the assessment practices of more Nebraska educators, and further enhance the skill set and knowledge based already established in Nebraska. Wherever Nebraska's educators are starting from when it comes to assessment use and literacy, we can help each of them get to a place where they feel confident and comfortable accessing, understanding, using, and sharing assessment data.

We believe in the effectiveness of our NWEA Certified Facilitator program in Nebraska and feel that it is a unique and powerful resource to guide a systematic approach to professional development. As a result, our proposed model has been costed using a combination of NWEA Certified Facilitators and NWEA professional development Consultant for Year One. In subsequent years, it is recommended that we continue development the capacity building of the NWEA Certified Facilitators and eventually phase out the need for NWEA staff consultants. At the preference of NDE, however, NWEA staff consultants are prepared to all provide services in regional settings. See Appendix II for a detailed professional learning schedule and alternative professional development delivery options.

NWEA Assessment Literacy Framework

We have framed our professional development offerings around three pillars:

- Understanding assessments
- Interpreting assessment
- Applying assessments

As illustrated in Figure 86, these pillars build upon one another and serve as a framework to increase the assessment literacy capacity of district and school leaders, teachers, students, parents and community members. Given that Nebraska is a pioneer in this work at a state level, we believe that a partnership between NDE and NWEA, organized around our assessment literacy framework and built upon our current Nebraska professional development resources, will evolve into a state level exemplar with the potential to transform assessment practices across the state.
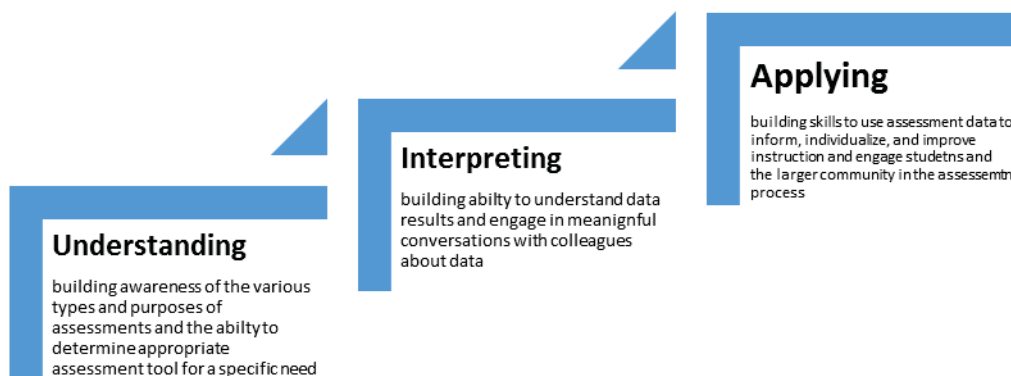

Figure 86: Assessment Literacy Framework. The three pillars build upon one another to allow for deepening understanding of assessment literacy.

Framework Description

Assessment literacy is developed as educators and community stakeholders gain an understanding of assessments, develop their ability to interpret the results, and ultimately establish a skill set to appropriately apply assessment information to influence and information educational decision making.

- **Understanding:** Foundational to building an assessment literacy professional development model are resources, materials, and capacity building targeting the basic understanding of assessment purposes and types.

- **Interpreting:** Equipped with a solid understanding of the types and purposes of assessments, educators are well prepared to engage in interpretation of assessment data to help inform instructional strategies, integration of data from multiple data sources, and engage in dialogue with colleagues about data inferences and trends.

- **Applying:** As educators become stronger consumers of assessments and assessment data, instructional practices become transformed. Educators are prepared to use appropriate assessment tools to guide data-based decision making. Assessment literate educators are equipped to strengthen the connection between assessment and instruction by empowering students as owners of their own learning and by integrating formative assessment practice into a seamless, growth-oriented classroom learning.

Our proposed model of professional development and supplemental supports provides a range of resources for all stakeholders to build their assessment literacy capacity. For teachers, our professional development focus is on moving teachers through structured learning experiences to support them as they deepen understanding, build capacity for interpretation, and begin to apply what they have learned to new practices that integrate evidence of learning from summative, interim and formative assessments.

For district leaders, our focus is on understanding and assessing current assessment practices and perceptions in the larger educational community as a beginning point to building a plan that strategically addresses assessment literacy needs and builds on local strengths. In our Taking Stock series, district leaders will be introduced to components of the framework and engage in guided, collaborative work sessions in which they will enhance their understanding and strengthen their capacity for interpretation and application of assessment results. Additionally, these leader sessions will equip them with resources to guide the development of assessment literacy in practice and to build healthy learning cultures. To achieve these goals, we propose a series of regional events co-facilitated by staff from NWEA and Schlechty Center that will leverage the Schlechty Center expertise in building leadership capacity to drive transformational change and our expertise in assessment literacy. These events will close with Community Advocacy sessions that utilize a customized version of the Schlechty Center's highly regarded engagement protocols. Parents and other community members will participate in guided dialogue and collaboration activities that build basic understanding of assessments and their uses and that foster advocacy for the NDE assessment plan as a critical tool for the success of students, teachers, schools and districts across the state.

As noted in Table 46 below, all professional development opportunities are supplemented with online resources that are designed to support the assessment initiative over time. Through our online learning platform, we will provide professional learning community (PLC) resources as well as on-demand content. In our online community space, we will encourage amplification of teacher voice pertinent to best practices in use of assessment data and formative assessment practice through moderated virtual collaboration and sharing opportunities.

Teacher Outreach

Table 46 summarizes the professional development opportunities designed for educators in Nebraska. A detailed description of each offering is provided below the table.

Table 46: Professional Development for Nebraska Teachers

Professional Development Offering*	Link to the PD Framework	Proposed Modality/ Frequency and Duration
Assessment Literacy for Teachers	Understanding	▪ Half-day workshop provided by NWEA professional development consultant(s) at five regional centers; up to forty teachers per session ▪ Quarterly virtual support sessions
Formative PD: Building Your Formative Practice	Understanding	Six-hour workshop provided by NWEA professional development consultant(s) at five regional centers; up to forty participants per session
Formative PD: Clarifying Learning	Applying	Two three-hour modules provided by NWEA professional development consultant(s) at five regional centers; up to forty participants per session
Formative PD: Activating Learners	Applying	Two three-hour modules provided by NWEA professional development consultant(s) or certified facilitator(s) at five regional centers; up to forty participants per session
Formative PD: Eliciting Evidence	Applying	Two three-hour modules provided NWEA professional development consultant(s) or certified facilitator(s) at five regional centers; up to forty participants per session
Formative PD: Providing Feedback	Applying	Two three-hour modules provided by NWEA professional development consultant(s) or certified facilitator(s) at five regional centers; up to forty participants per session
Formative PD: Activating Learners	Applying	Two three-hour modules provided by NWEA professional development consultant(s) or certified facilitator(s) at five regional centers; up to forty participants per session
Interim PD: **Online MAP Administration**	Understanding	Virtual workshop; unlimited number of participants
Interim and Summative PD: **Applying Reports**	Interpreting	▪ Virtual workshop (three two-hour webinars); unlimited participation for all Nebraska educators new to MAP) ▪ One face-to-face regional workshop in Lincoln, provided by NWEA professional development consultant(s) or certified facilitator(s); up to forty participants

Table 46: Professional Development for Nebraska Teachers

Professional Development Offering*	Link to the PD Framework	Proposed Modality/ Frequency and Duration
Interim and Summative PD: Informing Instruction	Applying	• Virtual workshop (three two-hour webinars); unlimited participation for all Nebraska educators new to MAP) • One face to face regional workshop in Lincoln, provided by NWEA professional development consultant(s) or certified facilitator(s); up to forty participants
Interim and Summative PD: Focusing on Growth	Applying	One full-day on-site workshop in Lincoln, provided by NWEA professional development consultant(s) or certified facilitator(s); up to forty participants
Learning Walk Protocols	Applying	Six-hour workshop provided by NWEA professional development consultant(s) or certified facilitator(s) at five regional centers; up to forty participants
All workshops include supplemental online resources for PLCs and access to the online teacher community		

Assessment Literacy for Teachers

In this half-day workshop, Nebraska educators will explore the best practices related to use of assessment for instruction and develop critical foundational knowledge and skills to fully understand and appropriately apply a variety of assessment data and resources, including those in the NDE assessment approach. Quarterly virtual support sessions will be provided to create a platform for discussion and questions. These sessions will be held at intervals specific to the NDE assessment calendar and will support teachers to accurately communicate about assessment results, set goals with students, and plan for instructional adjustments based upon relevant information from interim and summative measures.

In addition, supplemental online resources for PLCs will be provided. These resources allow for continuation of learning and collaboration as key principles are examined in the context of the teachers' work in the classroom. The resources will include guided practice activities which will offer teachers real-time application options, followed by debrief protocols for use with local ESU staff, PLC leaders, or school leaders.

NWEA will also provide an online teacher community platform for Nebraska educators where successes can be celebrated, individual learning objectives can be pursued and tracked for teacher continuing education renewal credits, and the NWEA community manager will highlight exemplary teacher posts and artifacts of practice in the classroom. The community will link to specific extended learning paths to allow for teacher choice in learning and amplify teacher voice through discussion strands related to the topical concerns and interests of community members.

Learning Targets for this blended learning experience include:
- Describe attributes of an assessment-literate educator
- Understand the purpose and application of the NDE assessment approach

- Reflect on key skills educators need to build assessment literacy
- Design a personal learning plan to implement assessment literate practices based on NDE and local assessments
- Identify and deploy structures to support assessment literacy in the classroom
- Design plans for communication with parents and students that promote their assessment literacy related to NDE and local assessments and that support student ownership of learning

Formative Assessment Professional Development

The formative assessment professional development offerings consist of 5 workshops designed to build upon one another and guide participants through the understanding, interpretation, and application of formative assessment tools.

Workshop #1: Building Your Formative Practice

In this practical introduction to formative assessment practice, Nebraska educators will develop an understanding of the role of formative assessment within a balanced assessment system. Participants will not only *learn about* but also *experience* these formative assessment practices during this workshop. Choosing from learning centers based on personal preference and goals, educators will review the research behind the practices, and plan specific next steps to apply the learning to their own instruction immediately.

Participants will learn the basics required to initiate the use of four foundational formative assessment practices in the classroom:
- Clarifying and sharing high-quality learning targets
- Eliciting evidence of learning on an ongoing basis
- Providing effective, learning-focused feedback
- Activating students as owners of their learning and resources for one another

Learning Targets for this workshop include:
- Recognize the place of formative assessment within classroom assessment
- Articulate the role of a growth mindset in activating students in the formative assessment process
- Assimilate basic research related to formative practices
- Identify characteristics of high quality learning targets and analyze samples for quality
- Outline ways to involve students with learning targets
- Apply diagnostic questions to identify common student misconceptions
- Plan ways to engage students with diagnostic questions
- Analyze characteristics of effective feedback
- Design a protocol for using feedback

Workshop #2: Clarifying Learning

Students make the best progress when they have a clear understanding of what they need to learn. In this workshop Nebraska educators will explore strategies for developing clear targets for learners from the standards they teach, and have hands on work time to construct an effective roadmap for the learning journey through well-aligned activities, practices and milestones.

This workshop is offered in the form of two three-hour modules to enable more flexible scheduling and to accommodate the specific learning readiness of the participating educators. The outcome for this workshop is for participants to develop plans that bridge current practice with effective integration of strategies to clarify learning. Below are the learning targets for each of the two modules.

Module 1: Developing Learning Targets and Criteria

- Understand the five key elements for effective learning targets
- Explore modality and presentation options to make targets clear for all learners
- Construct targets that help students to own their learning paths
- Examine exemplary targets to learn what makes them work

Module 2: Using Learning Targets for Classroom Success

- Explore classroom examples of rubrics and success criteria in use
- Translate standards into well-aligned instruction and assessment by employing clear targets and developing strong rubrics
- Align targets with worthwhile learning and connect learning to action in the classroom
- Explore the motivational benefits of clarifying learning

Workshop #3: Eliciting Evidence

This workshop is focused on cultivating teachers' questioning skills to amplify learners' success. Nebraska educators will practice strategies that increase the value and depth of classroom discussions and support making timely instructional adjustments based on student responses.

Beginning with greater insight into research around the what, how, and why of asking questions, educators will deepen their capacity to elicit evidence of learning in the moment for formative assessment practices, and discover and practice strategies that will increase the value of classroom discussions and allow for timely instructional adjustments based on student responses.

This workshop is offered in the form of two three-hour modules to enable more flexible scheduling and to accommodate the specific learning readiness of the participating educators. The outcome for this workshop is for participants to develop plans that bridge current practice with effective integration of strategies to clarify learning. Below are the learning targets for each of the two modules.

Module 1: Questioning for Learning

- Understand the importance of planning strategic and clear questions
- Explore sequencing and timing of questioning to maximize learner benefits
- Identify effective questioning methods and modalities for both teachers and students
- Activate student questioning to enrich the learning environment
- Leverage drill-down and scaffold-up questioning approaches
- Optimize wait time for better student engagement
- Expand questioning strategies to surface student thinking

Module 2: Engaging All Students

- Connect current practice to research to reveal the value of eliciting evidence of learning

- Identify elements of a successful classroom plan for engaging all students
- Evaluate multiple strategies for engaging all students in providing evidence of their learning
- Identify benefits of a variety of all Student Response Systems
- Explore continuums of practice for use of student engagement strategies and information
- Examine classroom examples of success

Workshop #4: Providing Feedback

In this workshop, Nebraska educators will explore highly effective feedback practices to maximize student learning. Beginning with an exploration of the relevant research findings, participants will explore strategies for improving feedback and investigate options to ensure that feedback provided in the classroom enhances student learning.

Educators will develop plans to incorporate feedback in multiple teaching and learning scenarios and to encourage forward-focused thinking as an essential part of the process. Through discussion and discovery, types and modalities of feedback will be examined and evaluated.

This workshop is offered in the form of two three-hour modules to enable more flexible scheduling and to accommodate the specific learning readiness of the participating educators. The outcome for this workshop is for participants to move from current practices into the development of highly effective peer-to-peer and teacher feedback strategies. Participants will plan to leverage these strategies to bridge gaps in student learning and strengthen a classroom culture of growth. Below are the learning targets for each of the modules.

Module 1: Learning-Focused Feedback
- Understand how feedback can bridge gaps in student learning
- Investigate approaches to feedback that maximizes learning
- Employ levels of feedback that accelerate learning
- Explore the use of feedback as an ongoing process
- Leverage feedback to scaffold thinking and learning processes

Module 2: Effective Feedback in the Classroom
- Recognize characteristics of quality learning-focused feedback
- Explore key factors that promote productive feedback in the classroom
- Optimize processes to develop feedback that moves learning forward
- Investigate tools that support quality feedback approaches
- Learn from classroom examples of successful feedback models
- Utilize strategies that enhance classroom learning culture

Workshop #5: Activating Learners

This workshop engages Nebraska educators in the exploration of strategies to engage students as evaluators of what they are learning to strengthen classroom practice. Participants collaborate to develop plans that facilitate student ownership of learning goals and strategies that lead to success.

Through collaborative, hands-on activities, participants will explore research findings and investigate strategies to motivate students to sustain learning based on their individual passions and goals.

Educators learn the value of individualized goal setting in the process of activating students and establishing lifelong student-directed learning. They will learn strategies that empower students to take initiative, and to identify their personal goals and targets.

This workshop is offered in the form of two three-hour modules to enable more flexible scheduling and to accommodate the specific learning readiness of the participating educators. The outcome of this workshop is for participants to develop plans that bridge from current practice to optimal integrated use of strategies that support a classroom culture which leverages both peer and self-assessment. Below are the learning targets for each of the modules.

Module 1: Peer and Self-Assessment
- Investigate the research basis for using peer and self-assessment strategies
- Connect current practice to research implications
- Identify benefits for developing peer- and self-assessment with the classroom learning team
- Develop a classroom culture that supports peer and self-assessment
- Examine best practice strategies and tools
- Identify priorities to plan for support of student success in peer- and self-assessment

Module: Student-Directed Learning
- Explore research findings on the benefits of student-directed learning
- Identify necessary elements to enable student ownership of his or her own learning path
- Understand the importance of student engagement in choices of learning goals and preferences
- Establish a learning environment that connects effort and growth with success
- Create opportunities for individualized context that drives accelerated learning
- Identify methods for students to use evidence of learning to monitor their progress and success

Interim and Summative Assessment Professional Development

Our interim system, MAP, is coupled with strong professional development meant to increase assessment literacy for all NDE staff and Nebraska educators. MAP Foundation Series workshops will allow Nebraska educators to connect MAP data to a variety of needs — instructional, programming, and planning — while suiting goals and schedules. We will incorporate the summative assessments into this professional development to demonstrate how interim and summative data can be interpreted and used to inform instruction and decision making. Nebraska educators will gain confidence and specific next steps needed to turn assessment results into insight and action. These workshops go beyond basic product training to concentrate on three key themes: applying your reports, informing instruction, and focusing on growth.

Online Assessment Administration

This online workshop teaches participants about implementing and administering MAP and the Nebraska Statewide Assessments. They will learn how adaptive testing can be used to screen students, measure student progress, and identify instructional needs, as well as meet the summative needs of the State. The capacity of this online workshop is unlimited.

Applying Reports

In this workshop Nebraska educators will learn how to access, interpret and apply MAP and the Nebraska Statewide Assessment data. The focus in on using data for goal setting with students and parents.

Informing Instruction

In this workshop Nebraska educators will explore ways to use the data to guide differentiation. Educators will develop their ability to design data based instructional plans and groupings

Focusing on Growth

This workshop will introduce educators to processes to use longitudinal data to identify trends, strengths and opportunities. Participants will learn how to use growth data to set goals at the student, class, school and district level.

Destination PD

Professional learning resources are available on-demand to all NDE staff and Nebraska educators, at all times, through our online learning platform, Destination PD. This platform incorporates a wide range of activities, from the basics of MAP assessments, to using data to support student learning, to extensive teacher toolkits for formative assessment practice.

Destination PD provides extended learning to support effective assimilation over time of new learning presented in our workshops and also offers collaboration space managed by an NWEA professional development specialist in which educators can pose questions, share ideas, and learn from peers. In Destination PD, teachers and leaders can also access transcripts for all course completion in Destination PD which may be used to earn continuing education units. Access to a Nebraska specific area in Destination PD is included for all districts as a component of the NDE contract.

Monitoring for Effectiveness

NWEA is committed to monitoring our professional learning outcomes for effectiveness through multiple measures as well. As a part of the professional learning plan, we will institute our Learning Walk protocols, a peer-to-peer observation and support process that examines evidence of teachers' new learning as it impacts students in the classroom. NWEA staff will work with ESU Certified facilitators or with teacher leaders at regional events to develop local capacity for implementing this powerful addition to effective professional learning practice. Evidence gathered through this process in an anonymized form will help to gauge the effect of professional development on new practices as teachers integrate them into the classroom and build new competencies. Additionally, we propose implementing annual Virtual Focus Group Feedback sessions to elicit input from teachers, students, and other stakeholders that will provide attitudinal and efficacy data for NWEA and NDE to use while making adjustments and resource decisions across duration of the project. We will also provide a method for state and district administrators to track the participation of educators who participate in Nebraska professional development.

See Appendix JJ, *NWEA Professional Learning*, for a description of NWEA workshops.

Educational Leader Outreach

The NWEA professional development proposal for education leaders has been designed to complement the capacity building sessions provided to teachers. Educational leaders will participate in onsite regional leadership and community outreach sessions focused on building assessment literacy across the education ecosystem. These regional events designed in partnership with the Schlechty Center are designed to ensure a systemic and integrated approach to developing broader and deeper understanding of the purpose and long-term learning benefits of NDE assessments across Nebraska.

Table 47 summarizes the professional development opportunities designed for educational leaders in Nebraska. A detailed description each offering is provided below the table.

Table 47: Professional Development for Nebraska Education Leaders

Professional Development Offering	Link to the Framework	Modality/ Frequency and Duration	Ongoing Support and Resources
Taking Stock: Assessment Literacy Audit and Planning	- Understanding - Interpreting - Applying	- Six-hour session for leadership teams provided by NWEA professional development consultant(s) and Schlechty Center - Five events held at regional centers in fall 2017 and spring 2018 - Maximum of fifty participants per session - Quarterly virtual support sessions	- Online leadership resources - Online leadership community
Community Advocacy Sessions	- Understanding - Interpreting - Applying	- Two-hour session for leadership teams and community members provided by NWEA professional development consultant(s) and Schlechty Center - Five events held at regional centers in fall 2017 and spring 2018 - Maximum of fifty participants per session - Quarterly virtual support sessions	- Online leadership resources - Online leadership community
Leadership Assessment Literacy Support	Understanding Interpreting Applying	- One-hour virtual sessions for leadership teams provided by NWEA professional development consultant(s) - Quarterly - Recordings of the sessions will be provided	- Online leadership resources - Online leadership community

Taking Stock: Assessment Literacy Audit and Planning Sessions

In these regional facilitated events, conducted jointly by the Schlechty Center and NWEA, school and district leaders will engage in a protocol to evaluate current capacity regarding assessment literacy among their staff, students, and in the local community. The emphasis will be on understanding the basics of assessment literacy, the role of leaders in assessment literacy, and the key elements of an

effective change process. NDE staff and Nebraska school and district leaders will participate in hands on work to identify resources needed and to develop a continuous improvement plan for the schools and districts.

In the initial Taking Stock session, participants will collaborate to develop clear communication processes and plans for local professional learning and community engagement regarding the NDE assessment approach. Each spring thereafter, Taking Stock sessions will focus on building leadership skills to support a learning organization, and on tracking the progress of plans and monitoring results over time. Leaders will engage in analysis of evidence of progress and in dialogue regarding strategies to support the development of a sound local foundation in assessment literacy for all stakeholders and increasing staff capacity to utilize results of NDE assessments and local assessments to strengthen teaching and learning.

These events will be supplemented by online leadership resources and virtual collaboration in the online leadership community. Additionally, leaders will be invited to participate in quarterly virtual check-ins to support the implementation of district and school plans over time.

NWEA has budgeted to hold Taking Stock sessions for Nebraska leaders twice in Year One and annually in each subsequent year of the contract.

Community Advocacy Sessions

In these regional facilitated events, conducted jointly by the Schlechty Center and NWEA, local educators and NDE staff will participate in a facilitated dialogue focused on developing support and advocacy with parents, school board members, students, and other key community stakeholders, and NDE staff. Based on the roles of participants, the initial session will include a structured discussion of the components of a balanced assessment system and discovery activities related to the value that each component of the system provides toward the goal of building stronger schools and successful students. Basic assessment literacy information and resources will be identified, and facilitation will be focused on building consensus related to the educational aims of the local community and the value of the NDE assessment approach to support the attainment of these goals.

Subsequent sessions will include solicitation of input from the community, assimilation of new participants, and continuing interaction focused on building understanding of the important role of each stakeholder group plays in the implementation of the NDE assessment system. These sessions will result in a process to focus on the success of students and schools as they monitor the evidence of learning and adjust for the specific needs of local students. Students accompanied by parents or guardians will be encouraged to attend and participate.

Leadership Assessment Literacy Support

The events described above will be supplemented by online leadership resources and virtual collaboration in the online leadership community. Additionally, leaders will be invited to participate in quarterly virtual check-ins to support the implementation of district and school plans over time.

Professional Development for Alternate Assessments

Dynamic Learning Maps provides fifty professional development modules, including twenty focused on English language arts instruction, twenty-five focused on mathematics instruction, and five others that address individual education programs. The modules are available in two formats: self-directed and

facilitated and are accessed at http://dlmpd.com. Science professional development modules are currently in development; however, eight model science instructional activities are available to support teachers during instruction. There are two to three activities for each grade span (elementary, middle, and high school) at http://dynamiclearningmaps.org/sci_resources.

The self-directed modules have been designed to meet the needs of all educators, especially those in rural and remote areas, to offer educators with just-in-time, on-demand training. The self-directed modules are available online via an open-access, interactive portal and combine videos, text, student work samples, and online learning activities to engage educators with a range of content, strategies, and supports, as well as the opportunity to reflect upon and apply what they are learning. Each module ends with a post-test, and educators who achieve a score of 80 percent or higher on the post-test receive a certificate via email.

The facilitated modules are intended for use with groups. This version of the modules has been designed to meet the need for face-to-face training without requiring a train-the-trainers approach and without requiring the facilitator to have deep knowledge of the content and the population. Instead of requiring trainers to master content related to academic instruction and the population of students with significant cognitive disabilities, the facilitated training is delivered via recorded video. Facilitators are provided with an agenda, a detailed guide, handouts, and other supports required to facilitate a meaningful, face-to-face training. By definition, they are facilitating training developed and provided by members of the DLM professional development team.

To support state and local education agencies in providing continuing education credits to educators who complete the modules, each module also includes a time-ordered agenda, learning objectives, and biographical information regarding the faculty who developed and deliver the training via video.

Standard DLM services include monthly state-level reports summarizing educator completion of self-directed modules. Districts typically monitor completion of self-directed training by having teachers provide copies of their completion certificates. DLM and NWEA will work collaboratively to ensure ease of professional development for all teachers as well as clear communication back to NDE.

In partnership with NWEA, DLM staff will develop up to two additional modules on assessment literacy, effective use of assessment data, and formative assessment practices. These would supplement the NWEA Assessment Literacy module library and be tailored to the use and results of the DLM assessment system with a focus on formative practices for students with significant cognitive disabilities.

f. NDE expects the Contractor to propose a solution for collaboration between the Contractor and NDE to provide a professional development component of Nebraska's assessment system.

NWEA is committed to collaboration with NDE to ensure that a well-designed and effective professional development solution is in place to support the NDE assessment approach. We look forward to leveraging the many strengths we have built through relationships in the state and existing local capacity to execute on an innovative approach to assessment literacy with NDE's guidance and input. An NWEA professional development team will be assigned to the initiative and will collaborate with NDE staff to ensure that the professional development plan is continuously monitored and adjusted for success.

As each section above indicates, NWEA offers a wide range of content which is designed intentionally to be incorporated into a customized plan to meet the specific learning needs and scheduling challenges of educators. NWEA is confident that in collaboration with NDE, we can customize this plan to meet the specific needs of NDE and the regions and districts of Nebraska. NWEA professional development brings a sophisticated system for learning that includes over 8,000 workshops delivered in the last five years in the United States and internationally, staffed by a team made up of nearly eighty consultants and designers.

Our professional development team understands educators because we *are* educators; the average NWEA professional development staff member has twelve years of teaching experience, seven years of administrative experience and six years' experience doing consulting in K - 12 education. We stand by the NWEA history of quality and innovation, and we offer years of deep experience in supporting educators in the meaningful and productive use of assessment data. We are proud to propose a plan offering robust and varied options for content, format, and delivery that can be crafted to provide NDE with professional learning that will exceed expectations and stand out as a sound investment in Nebraska education.

2. Branding of State Test

The current logo/brand for the state testing program is [as shown in the RFP].

NeSA was developed to represent "Nebraska State Accountability." Nebraska now has a full accountability system, Accountability for a Quality Education, Today and Tomorrow (AQuESTT). NDE requests that, in responding to this RFP, the Contractor show capacity and experience in order to develop an assessment name that aligns with the vision of Assessment within AQuESTT, available at www.aquestt.com. Coordination with the NDE Communications office is required. NDE expects the Contractor to propose a solution for collaboration between the Contractor and NDE to provide this component of Nebraska's assessment system.

NWEA employs a group of marketing professionals with extensive brand experience – from rebranding 50,000-employee global companies to product naming strategies to visual design. We would be happy to work with NDE and the Communications Office to design a brand and its attributes that fit with your overall vision.

This collaborative process would be completed in tandem with our work on a communications strategy, ensuring a cohesive brand and message. We would work with you to determine metrics for success, process and timelines.

Key elements of a brand design include:
- Working with NDE to determine needs, key audiences and success metrics
- Stakeholder audit
- Review of existing brand guidelines and assets
- Research to determine issues, challenges, opportunities (many organizations can provide this information already)
- Brand attributes (what do you want your brand to stand for?) workshop
- Brand design options/mood boards
- Create communications strategy that includes internal and external audiences
- Determine what collateral materials are needed (fact sheets, brochures, website copy, social media)

- Finalize design elements
- Internal and key external stakeholder communications
- Create brand guidelines
- Launch new brand
- Review metrics
- Continue communications

To most effectively collaborate on this component, NWEA will leverage the planning, communication and escalation protocols implemented by the Project Director and Project Manager. This will ensure that contact points are clearly established, deliverables are defined and Branding work is included in the overall schedule for this program.

3. Strong Communication Materials/Public Relations

a. NDE expects strong communication to be built around its assessment system, such as brochures written succinctly and accessibly for parents, students, patrons, and schools.

Effective and consistent communication to a variety of stakeholders is essential for a successful assessment system. Our commitment to building effective strategies for communication is evidenced by our partnership with the Schlechty Center, a highly regarded consulting group, (schlechtycenter.org). The Schlechty Center's mission is to positively transform educational systems from bureaucracies to learning organizations by developing strong communication channels between educators, students, parents and the larger community. As described in Section K1, we developed this partnership to co-facilitate training sessions for educational leaders on developing communication strategies to build assessment support and advocacy with parents, school board members, students, and other key community stakeholders. These sessions will be held at regional locations designated by Nebraska.

NWEA will lead this effort by establishing a communication plan designed to inform educators, parents, students, and community members about the assessment system. Feedback and information gathered at our professional development offerings will help shape the communication plan and the resources provided to districts and schools.

We envision a communication plan that outlines specific resources to build stakeholder understanding of the assessment system. Suggested materials include:
- Three template district level press releases (maximum two pages in length each), released at various times throughout the contract (i.e. fall, winter, spring)
- Three communication templates and three corresponding template PowerPoint® presentations for districts to use when communicating to parent groups and school boards – released at various times throughout the contract (i.e. fall, winter, spring)
- A maximum ten-page electronic report delivered in June 2018 summarizing the findings of the focus groups and user feedback on professional development
- Four brochures developed to describe the assessment system, one for parents, one for students, one for educators, and one for community members (delivered electronically in February 2018)

The template materials will allow districts and schools to customize the information with logos and district or school specific information. Similarly, all materials will be designed to include specific

information about using assessment results to inform and guide instructional decision making for a wide range of student including students with disabilities, students with 504 plans, English language learners, and students at risk. For example, the communication templates and PowerPoints will include placeholders for achievement gap analysis and materials will include parent friendly descriptions of universal design principles used in item development as well as a description of the tools and resources embedded in the system to support a wide range of learners.

As our professional development plan is executed over Year One of the contract, NWEA in collaboration with NDE may make adjustments to the communication materials to better meet the needs of stakeholders.

Communication Materials for Alternate Assessments

The DLM Consortium provides numerous materials that have been vetted by member states that include documentation to inform states, districts, and parents about the DLM alternate assessment processes and procedures. NDE may choose to make available a consortium resource or customize the resource before sharing. One convenient location for distributing these resources with districts and schools is on each state's DLM state webpage. The following link provides an example of the webpage created for Missouri: http://dynamiclearningmaps.org/missouri. DLM will also collaborate with NWEA to ensure information about alternate assessments is included in materials developed by NWEA regarding Nebraska's overall assessment system.

b. Deeper documents are also requested that include topics on the rationale of state testing, ways that state testing can improve student learning, ways that state testing can support strong classroom instructional practices, explanation of a balance between state testing to improve student learning and for use in accountability, communication of the limitations of statewide summative assessment, and support of a balanced assessment.

The Nebraska Statewide Assessments communication plan will guide the assigned project director and NWEA project team to harness collective expertise to create documents that provide a deeper understanding of state testing. This plan can be customized to the needs of Nebraska's community as well as informed by the focus group and survey work to ensure engagement and encourage support and advocacy with key stakeholder groups.

Key aspects will include:
- Involving and communicating with students
- Demonstrating the value of the Nebraska Statewide Assessments to Nebraskans at large
- Informing parents about the assessments their children are taking and developing assessment literacy basics for them as a key stakeholder group
- Keeping educators and administrators updated with access to a range of materials and resources
- Collaborating with the NDE, and keeping State contacts informed on all aspects of the assessment system and communication and engagement plans

We hope this proposal demonstrates our profound commitment to improving student learning, supporting strong classroom instructional practices and balancing the role of state testing. We welcome the opportunity to collaborate with NDE on this thought leadership documentation to support the Nebraska Statewide Assessments.

NWEA will work closely with NDE to ensure that key communications are reviewed and approved prior to distribution to Nebraska school districts, students and patrons. Using the Project Plan and a robust Communications Plan, we will define the deliverables, establish review cycles and ensure that Nebraska-specific content is appropriately included. We have included below stakeholder examples to consider.

Involving and Communicating with Students

We communicate with and listen to students, including them in important conversations and incorporating their feedback. The NWEA approach will provide appropriately focused resources to build basic understanding for students about the purposes and value of the state's assessment plans and our formative assessment practice professional development offerings which will engage students in appropriate ownership of their data, goal setting, and progress as learners. Additionally, our focus group activities with the Schlechty Center will engage students as a key source of essential feedback on the success of the assessment plan.

Immediate Feedback for Students

We believe in providing students with immediate information on their assessment results whenever possible. For our computer adaptive interim assessment, MAP, we provide scores immediately upon completion. As we focus on instructional insights and ways to truly empower students and engage them in their own learning, innovations in student-specific feedback will be helpful. For example, with individualized learning plans, we can help students see where they are in their own learning and provide shared information for conversations between students their teachers, and their families.

Informing the Public

In addition to the online videos and social media channels, we have Marketing and Public Relations teams dedicated to communicating both broadly to announce information for public consumption and within states or regions to keep the interested public informed about the important assessments being administered in their neighborhood schools.

Our organization will work closely with NDE on desired public communications. These can include announcements on your Department website or a dedicated NDE-branded assessment page, to provide comprehensive information about the Nebraska Statewide Assessment.

Communicating with Parents

NDE has demonstrated a commitment to involving parents and the community in Nebraska students' education. This includes keeping them educated and informed about why, how, and when their children will be evaluated. We will also provide appropriately focused resources to build basic understanding for parents about the purposes and value of the state's assessment plan. We share your commitment to involve parents in student learning.

To assist your educators as they talk to parents about our assessments, we provide parent-friendly results, reports, and resources. These tools help parents understand their child's learning goals and progress, and help guide at-home activities to improve academic performance.

Communicating with Teachers, Administrators, and School Personnel

To provide quick access to communication and documents related to the program, we can provide a custom web-based portal for the Nebraska Statewide Assessments.

This portal, which we would create at NDE's discretion, would enable NDE and NWEA to share the following information with your district and school stakeholders, as well as parents and others interested in the Nebraska Statewide Assessments:

- Ancillary Materials
- Training materials
- Calendar of events and testing windows
- System maintenance announcements
- Other useful or desired information

This site will be branded for NDE and will include any relevant links to other sources of information such as NDE's website or links to other Nebraska assessments.

We will work with the NDE to develop an overall communications strategy that ensures understanding and, ultimately, advocacy and support from key audiences, through the methods detailed above and others we determine collaboratively. This strategy will incorporate the branding of the Nebraska Statewide Assessment.

L. Exit Strategy

The Contractor shall be responsible for end of contract activities at the completion of the contract to ensure that the transition from Contractor operations by the successor Contractor, or the State, occurs smoothly and without disruption to the NDE. End of Contract Transition activities will include planning, timely transfer of data and documentation specifically for NDE. The Contractor is required to give NDE nine (9) months' notice of intent to not renew the contract. NDE will only notify the Contractor at least nine (9) months prior to expiration of the current contract if it intends to enter into negotiations to renew the contract.

End of Contract Transition Responsibilities:

1. Provide a draft detailed Turnover Plan prior to contract termination.

2. Modify the Turnover Plan based upon the results of NDE review.

3. Transfer data, assessments, reports and other applicable materials in a format prescribed by NDE.

4. Provide technical and professional support to NDE and/or a successor Contract in support of the turnover.

5. Prepare and submit initial draft through final deliverables for NDE review, comment and approval.

NDE will receive efficient and effective service to smoothly transfer from a previous vendor and when appropriate, to an incoming vendor. We will adhere to all required documentation standards throughout the life of the program in order to ensure that there is no disruption in operations to NDE or Nebraska stakeholders.

Transitioning from a Previous Vendor to NWEA

Upon award of a new program, we will work closely with NDE to transition all needed information from the state (or your previous vendor) to NWEA. This might include information such as state-owned items (and all associated metadata and file layout details), prior version of manuals/materials, previous test forms for breach use, historical data on help desk calls, policy details, lessons learned, and prior schedules. Depending on the requirements and preference we can funnel all requests and information through the state, or if preferred we can plan a virtual meeting between NWEA, NDE and the prior vendors for alternate, summative, and interim.

Transitioning from NWEA to a Different Vendor

While we hope to have a partnership with NDE for many years, we understand that contracts will eventually come to an end and in this case, the contract is for one year with four renewable years. We commit to being a collaborative partner as you transition to a new vendor. Your success both with NWEA and future vendors remains important to us.

Upon notification (nine months prior to the contract end for that year), NWEA and NDE will begin to collaborate on transition plans to the next vendor. Part of this transition will be agreeing on the specific artifacts/documents that need to transition over, provided those do not violate NWEA regulations on intellectual property, trademarks, or copyrights, agreement on the mechanism for transitioning as well as a schedule for transition.

Upon transition notification, our schedule will be modified to include a specific section for transition that we will determine with NDE. The schedule will include milestone level tasks to ensure we are providing all transition materials to your new vendor when needed.

Turnover Plan

We will create a draft Turnover Plan, that will provide both NDE and your future contractor the details of the program. This plan outline will consist of various components, and the details around each of those components (non-proprietary) that we will work with NDE on identifying prior to the draft of the turnover plan. For example, the technical support section of the turnover plan will consist of call volumes, call types, and summary help-desk reports from the prior administration.

- Program Management
- Training
- Professional Development
- Technical Support
- Psychometrics
- Content Development
- Scoring/Reporting

We will share this turnover document with NDE for review, comment and approval. The final mutually agreed upon document will be delivered to NDE for signoff, and to share with the incoming contractor(s).

Transfer Data, Assessments, Reports, and Other Applicable Materials

Included in the transition discussions will be the identification of the data, assessment, reports and other materials that NDE wishes us to transfer to them. This could include items and associated

metadata source files for all materials specifically created for Nebraska (i.e., manuals), scale score tables and of course both student level and summary data files. We will work with NDE on the mechanism for securely transferring any data containing PII information (i.e., student level results). All sensitive data will go directly to NDE.

Provide Technical and Professional Support to NDE and/or Contract Successor

Throughout the transition process NWEA will provide both technical and professional support to ensure a smooth transition. We can have conference calls with the appropriate incoming vendor(s) and NDE to answer any specific questions they may have, we can share lessons learned through our management of the program, along with collaborate with them on timelines and handoffs.

Lastly, we will maintain a transition tracker that lists all required deliverables and the date materials were transferred, the mode by which they were transferred and whether they went to NDE or to the new vendor directly. This tracker will act as an appendix to the transition plan and be available in a quick, "at-a-glance" format.

Table 48 shows a sample excerpt from a transition tracker.

Table 48: Sample Transition Tracker Excerpt

Item	Date Due	Date Delivered	Format	Delivered to	Method for Delivery
TAM Source file	6/15	6/9	Microsoft Word	Name at NDE with a cc to Name of Vendor	Email
State Level Reporting File	9/1	9/1	ASCII file	Name at NDE	Posted to SFTP site

Exit Strategy for Alternate Assessments

NWEA and subcontractor The University of Kansas, Center for Educational Testing and Evaluation (CETE), will coordinate closely on a transition plan at the end of the contract. The DLM project manager will contribute to the turnover plan and provide technical and professional support related to the turnover to NWEA, NDE and/or a successor vendor. CETE will give materials developed specifically for NDE during the contract to NWEA for their inclusion in the full set of materials to be transferred. DLM Consortium materials are excluded from this list.