

reVISION

Action Grant

2021-2022

Application

Submitted by:

Johnson Brock Schools

OFFICE OF CAREER, TECHNICAL, AND ADULT EDUCATION

NEBRASKA DEPARTMENT OF EDUCATION

500 S. 84th Street, Lincoln, NE 68510



Learning that works
for Nebraska



Section 1: Application Overview

Johnson Brock Public Schools is located in southeast Nebraska. We are a preschool through 12th grade school with a student population of approximately 337 students. In terms of Career and Technical Education programs, we currently have an Agriculture, Food and Natural Resources program (teacher is part time with middle school science), a Skilled and Technical Sciences program, and a combined Business, Marketing and Management program and Communication and Information Systems program.

During the local CTE reVISION assessment process, we found the following:

1. We could offer more technology classes (Element 3: Evaluation of Program Size, Scope and Quality and Progress toward Implementing CTE Programs of Study).
2. We could offer more regular, substantive, and effective professional development around CTE academic and technical instruction based on identified needs (Element 5: Evaluation of Recruiting, Retaining and Training CTE Educators).
3. We identified that resources for work related opportunities are not available (Element 6: Work Based Learning).
4. Of the 6 elements, we gave ourselves a 2 out of 4 on element 2 (Size, Scope, and Quality and Progress Towards Implementing CTE Programs of Study) and element 6 (Work Based Learning).

As a result, we are seeking a grant through the reVISION action grant program that would enhance our Skilled and Technical Sciences program. The current courses taught within the Skilled and Technical Sciences program include 7th Grade Shop (1 quarter) and 8th Grade Agriculture (1 quarter). The remaining courses are high school courses and include Woods (1 semester), Building Construction (1 semester), Welding (1 semester), Metals and Fabrication (1 semester), Small Engines (1 semester) and Robotics (1 semester). According to state reporting, we identified one Program of Study within this area – Manufacturing.

In order to enhance our Skilled and Technical Sciences program, we envision primary goals:

1. Increase the number of Programs of Study and career pathways supported, by expanding the course offerings within our Skilled and Technical Sciences program.
2. Increase the number of Work Based Learning opportunities for our students, by establishing an advisory council.
3. Create authentic professional development opportunities through externships for our Skilled and Technical Sciences teacher to equip her with the skills needed to prepare our students for our local workforce.

Our vision aligns with our local workforce labor market. According to Southeast Nebraska's H3 (High Wage, High Demand, High Skill) Report, eight of the top 25 occupations based on annual openings are within the Skilled and Technical Sciences program. These occupations combine for an approximate 259 annual openings. According to NEworks Long Term Industry Employment Projections (by 2028), the construction industry employment is estimated to increase by 7.54% with specialty trade contractors increasing 10.63%. In addition, Manufacturing employment is expected to increase by 2.46% and Repair and Maintenance employment is expected to increase by 7.69%.

In our local area, we have several businesses that hire students in the Skilled and Technical Sciences field. For example, Cooper Nuclear Station, located just 22 miles away, employs approximately 680 individuals. This includes engineers, welders, electricians, plumbers, and maintenance personnel. FAST Global Solutions, located just 10 miles away, employs approximately 110 individuals. AKRS Equipment is also located just 10 miles away. They employ approximately 18 individuals focusing on service, mechanics, and equipment technology integration. In addition, there are many more businesses in our area that need skilled workers in this industry such as Eggers Brothers, Bohling Builders, Bohling Construction, Southeast Plumbing, Teten Electric, Mellage Truck and Tractor, and many more.

We intend that through expanding courses to our middle school students and freshman students, we will be able to increase and advance the skills learned in our upper level courses. This will help to increase the knowledge and skill base that our students have upon graduation and help to ensure that our students are career ready according to our local industry needs. By creating an advisory council, we will be able to better stay connected with the individuals in our area that will hire our students as future employees. Through the externship experience, our Skilled and Technical Sciences teacher will be better equipped to teach curriculum that relates directly to our local workforce.

Section 2: Key Objectives

Objective 1 – In order to increase the number of Program of Study and career pathways supported by our program, our goal is to expand the course offerings within our Skilled and Technical Sciences program.

As outlined in Nebraska CTE's Perkins V Strategic Priorities, aligning CTE programs (strategic priority #1) and systemic career development (strategic priority #2) will be important to helping students identify post secondary opportunities that fit their strengths and interests but that are also available in our local labor market. In addition, enhancing Middle School CTE (strategic priority #8) will also be important so that students are exposed to career opportunities and transferable skills at a young age.

The southeast regional assessment identified developing transition activities and classes focusing on freshman and sophomores (element 1) and increasing access to and development of industry standard equipment (element 3) as action steps. As identified by our local assessment, Johnson Brock noted that we could work to offer more technology classes (element 3).

In order to expand the number of career pathways supported by our program, we will focus on increasing our course offerings to students in grades 7-9. This includes expanding the middle school courses from 1 quarter to 1 semester each and adding an Introduction to Skilled and Technical Sciences course for freshman students. Through expanding our Skilled and Technical Science courses, we will make more opportunities available for special populations of students – primarily focusing on economically disadvantaged and non traditional students.

One common barrier to implementing high quality CTE in small, rural schools is that there is typically only one teacher per program and only 7-8 class periods in a day to fit in all of the different areas. As of right now, students can only take Skilled and Technical Science courses for 3 out of their 4 years of high school. By adding the freshman level course, Introduction to Skilled and Technical sciences, and expanding the middle school courses, we will accomplish the following:

1. Students will be able to take a Skilled and Technical Sciences course all four years of high school, in addition to two semesters in middle school thus offering more opportunities to all of our students and helping to align our CTE programs.
2. Students will be exposed to more career areas as we will be able to add electrical wiring, hydraulics and plumbing to our curriculum. These career areas were previously left out of our program due to lack of course availability, time in the curriculum calendar, and lack of supplies. This will assist with creating a more systemic career development process for our students.
3. In addition to adding more complete Programs of Study within the Skilled and Technical Sciences area, we will also be adding content to support our Agriculture, Food and Natural Resources CTE program within the Power, Structural and Technical Systems career pathway.

Increasing the number of course offerings for our students in grades 7-9 assists with maximizing time, flexibility and course objectives in upper level courses as more skills will be taught in lower level courses. For example:

1. Teaching welding and metals in 8th grade and Introduction to Skilled and Technical Sciences will allow for the addition of GTAW in Welding 1, as well as additional out of position welds using the GMAW and SMAW processes. In addition, this may also allow for further exploration of dual credit opportunities in welding. Currently, our students can only take welding as a senior and it is our only welding course offered. Therefore, offering dual credit as a first year welding student is quite difficult. By exposing our students to welding skills at lower grade levels and for multiple years, we will be more likely to explore dual credit options for students through Southeast Community College in our upper level courses.
2. Teaching small engine parts in 8th grade and engine theory in Introduction to Skilled and Technical Sciences will allow time to teach small engine servicing in the Small Engines course. It would eventually provide time to learn more troubleshooting methods and run a small business for services such as oil changes and blade sharpening.
3. By teaching electrical wiring and plumbing in Introduction to Skilled and Technical Sciences, our Building Construction students will be able to utilize those previously learned skills when designing their mock buildings or sheds.
4. By moving other basic woodworking and metals skills to junior high courses, it will allow time for Introduction to Skilled and Technical Sciences to spend time learning the CNC process. Therefore, Robotics will be able to learn more advanced skills using the CNC routers and engravers as well as the 3D printers and plasma cutter. This would help to increase the technology skills as addressed in our local CTE assessment. In addition, this would allow more time for our students to run a school based enterprise with their designs.

Objective 2 – In order to increase Work Based Learning opportunities and other support for our students, our goal is to establish an advisory council.

As outlined in Nebraska CTE's Perkins V Strategic Priorities, increasing work based learning opportunities (strategic priority #5) will be increasingly important in the future to help students prepare for the constantly changing work environment. The southeast region local assessment identified expanding collaboration with local businesses via partnership, internships and exploration as a key action step in element 1 and then repeated it similarly in element 6. Developing systematic advisory boards was also listed as a key action step in element 5. Through our local CTE assessment, Johnson Brock identified that work related opportunities are not available. It was also noted that regular, substantive and effective professional development around CTE academic and technical instruction based on identified needs (element 5) was not provided as regularly as desired.

Through this objective and creating an advisory council, we will be able to network with current industry professionals to work toward several objectives.

1. This will help our instructor stay up-to-date on industry trends and norms. Oftentimes, a barrier to implementing high quality CTE in rural areas is that one teacher must cover many subject areas and cannot specialize in one area. Our advisory council will help our instructor stay current in all of the different sectors, as well as help guide our curriculum.
2. This will help identify guest speakers for not only our Skilled and Technical Science courses but also for our 8th Grade Careers course. Guest speakers can help students learn about occupations available in our local area. Those guest speakers can also be utilized to teach industry skills and give feedback on individual projects.
3. This will help to identify work based learning opportunities in our local area. We will be able to discuss the possibilities of job shadows, apprenticeships, internships and other forms of employment with those in our local area. We will also be able to use these council members as advisors for school based enterprises and Supervised Agricultural Experiences for our Agricultural Education students.

4. This will help to establish a line of communication in hopes of continued industry support for our program. A common barrier to implementing high quality CTE in rural areas can be funding for programs. Through the council, the community will be more aware of our needs and hopefully continue to help support our program through financial donations, equipment and supplies donations and in kind donations.

Objective 3 – In order to better equip our Skilled and Technical Sciences teacher to create curriculum relevant to our local workforce, our goal is to create authentic professional development opportunities through externships.

As outlined in Nebraska CTE’s Perkins V Strategic Priorities, quality instructor professional development is key to effective CTE programs (strategic priority #6). Instructor recruitment and retention is also a key component of effective CTE programs (strategic priority #7). Instructors that are prepared and knowledgeable in current industry skills are more likely to stay in the profession.

The southeast region local assessment identified training quality instructors, encouraging professional development, and expanding teacher externships as action steps in element 5. Through our local CTE assessment, Johnson Brock identified the need to offer regular, substantive and effective professional development around CTE academic and technical instruction based on identified needs in element 5.

Through this objective and creating an externship program, our Skilled and Technical Sciences teacher will be able to work toward several objectives.

1. Through networking with local industries, our instructor will be able to identify potential members for our advisory council, as guest speaker and for work based learning opportunities.
2. Through seeing current businesses while in operation, our instructor will be better able to identify work based learning opportunities and local career options and for our students.
3. Through working alongside local industry personnel and creating an authentic professional development experience, our instructor will learn to develop skills in these areas. This will allow her to be better equipped to create curriculum for our new expanded courses.

Examples of possible externship experiences are as follows:

1. Our instructor could work with an electrical business as she develops the curriculum for the new electrical unit in the Introduction to Skilled and Technical Sciences course.
2. Our instructor could work with a local mechanic as she develops the curriculum for the new hydraulics unit in the Introduction to Skilled and Technical Sciences course.
3. Our instructor could work with a local plumbing business as she develops the curriculum for the new plumbing unit in the Introduction to Skilled and Technical Sciences course. This knowledge will also be utilized to enhance the Building Construction course.
4. Our instructor could work with a lawn mower repair business as she develops the curriculum for the new lawn mower repair service unit in the Small Engines course.
5. Our instructor could work with a local construction contractor to further develop her skills and enhance curriculum taught in the Woodworking and Building Construction courses.
6. Our instructor could work with a local welder to develop her welding and metal fabrication skills to enhance the curriculum taught in the 8th Grade, Introduction to Skilled and Technical Sciences, Welding and Metals and Fabrication courses.

Section 3: Project Activities

Activity 1 – Increase the course offerings by expanding middle school courses from one quarter to one semester and initiating a freshman level Introduction to Skilled and Technical Sciences course

Activity #1 Narrative

As described in the Nebraska CTE Perkins V Strategic priorities, alignment of CTE programs and systemic career development, as well as enhancing Middle School CTE, is important to the formulation of a successful CTE program. The southeast regional assessment also designated an action step as creating more classes for freshman and sophomore level students. Our local assessment indicated the need to add more courses in order to build more complete programs of study and enhance career pathway exploration. In this activity, we will expand our middle school courses from one quarter to one semester and initiate a freshman level course called Introduction to Skilled and Technical Sciences. This will allow the addition of electrical, hydraulics and plumbing to our curriculum and also increase the amount of time to learn wood, metals, robotics, and small engines skills. In turn, it will provide more time and flexibility in our upper-level courses since students will already have experience with basic skills.

In addition, the southeast region local assessment identified training quality instructors and encouraging professional development as possible action steps. Our local CTE assessment identified the need to offer regular, substantive and effective professional development around CTE academic and technical instruction based on identified needs as an area for improvement. Therefore, our instructor will attend professional development trainings in order to increase her knowledge based in several Skilled and Technical Science areas. This will better equip her to write curriculum for the new and expanded courses.

Activity #1 Funding

Adding a course and more students to our program increases the need for more curriculum and equipment in order to ensure our students are learning on industry standard equipment and that we are being as efficient as possible. Because it also will create more time in upper level courses, we will need to add more advanced equipment for those courses. Equipment funding would include:

1. Curriculum Writing – Because a new course is being implemented, we will need our instructor to write new curriculum for the expanded middle school courses and the Introduction to Skilled and Technical Sciences course. In addition, she will need to adjust the curriculum calendar for the upper level courses and add additional lessons for the new equipment and supplies. Our instructor will collaborate with instructors at other schools to develop curriculum. In addition, she will utilize her experiences at her externship and professional development workshops as resources for curriculum development.
2. Gas Tungsten Arc Welding (GTAW) Welder – We currently do not have a method of teaching students to weld using the GTAW process on aluminum. This would allow students to learn the important process of using high frequency AC power to TIG weld on aluminum and other metals. GTAW is also an important welding process for students to learn as it is a major area of employment at Cooper Nuclear Station.
3. Tungsten Grinder – A sharp tungsten is vital to creating successful GTAW welds. While you can utilize a bench grinding wheel to sharpen tungsten, this takes a lot of time to get the correct angle. It also takes time away from someone else who may need to use the bench grinder for another reason. This will become increasingly important as we add GTAW to our welding classes.
4. Shielded Metal Arc Welding (SMAW) Welder – Our current welding machines cannot weld using 6010 electrodes. These electrodes are a common electrode that welders will see in the industry. It is also essential if we are able to offer college credit welding in the future through Southeast Community College, as well as for our FFA students to be prepared for the district and state Welding Career Development event. This would be beneficial to our welding units in 8th Grade and Introduction to Skilled and Technical Sciences but also utilized in our Welding and Metals and Fabrication course.
5. Ironworker – The addition of an ironworker to our program would increase our efficiency and also teach students about many different metal working processes. This ironworker would give us the ability to efficiently and safely shear, punch, and notch metal. It would give us the ability to be able to utilize more metal that we already have in the shop as well. It would also enable our students to create better projects because of the many different functions on an ironworker. Students would also be able to learn how to perform basic maintenance on a hydraulic machine. This would be beneficial to our welding units

in 8th Grade and Introduction to Skilled and Technical Sciences but also utilized in our Welding and Metals and Fabrication course. Eggers Brothers and FAST Global Solutions are two examples of local industries that use these processes.

6. Auto Darkening Welding Helmets – Auto darkening welding helmets are industry standard equipment that our students should be using when learning to weld. Passive lens helmets are rarely used in industry anymore. Because of the addition of welding to the middle school CTE courses and the freshman level course, we will need to purchase auto darkening helmets for our students so that more students can be welding at the same time in order to increase our efficiency.
7. Electrode Oven – The addition of an electrode oven to our program will help to ensure that we can be cost effective by buying our electrodes in bulk but also not wasteful by keeping our electrodes in good condition. This will also be an important process for students to learn as in industry, like at Cooper Nuclear Station, electrodes such as E7018 must be stored in electrode ovens or they have to be discarded after a certain amount of time. This would be beneficial to our welding units in 8th Grade and Introduction to Skilled and Technical Sciences but also utilized in our Welding and Metals and Fabrication course.
8. RealityWorks Electricity Kit – This kit allows students a safe way to practice wiring electrical outlets, lights, and switches. It provides all the necessary materials for wiring but also a device that students can connect to assess their wiring without having to make it a live circuit. This would allow for practice in the Introduction to Skilled and Technical Sciences course. As students develop their skills with this kit, they will also be more skilled and prepared for the electrical portion of Building Construction. In addition, this kit could be used by our FFA Agricultural Technology and Mechanics team in preparing for their district and state Career Development Events.
9. Electrical Wiring Textbooks – Since we are implementing a new course and new curricular topics, we currently do not have textbooks that cover electrical wiring. As we add an electrical wiring unit to our Introduction to Skilled and Technical Sciences course, this will be important resource for our students to utilize when wiring circuits, understanding electrical codes and reading schematics. These textbooks could also be utilized by our FFA Agricultural Technology and Mechanics team in preparing for their district and state Career Development Events.
10. Hydraulics Textbooks and Guide Package - Since we are implementing a new course and new curricular topics, we currently do not have textbooks that cover hydraulics. As we add a hydraulics unit to our Introduction to Skilled and Technical Sciences course, this will be important resource for our students to utilize when understanding hydraulic components, hydraulic theory, how to maintenance hydraulic systems and how to diagnose and test key hydraulic problem areas. These textbooks could also be utilized by our FFA Agricultural Technology and Mechanics team in preparing for their district and state Career Development Events. This package will include student textbooks, student guides, and an instructor guide.
11. Hypertherm PowerMax 65 Plasma Cutter – A manual or hand held plasma cutter will be utilized in 8th Grade, Introduction to Skilled and Technical Sciences and in the upper level welding courses to teach students about cutting metal and metal work. This is a more efficient and more precise process than oxyfuel cutting. In addition to teaching students how to plasma cut, it will help us to better utilize our scrap metal. A plasma cutter would also be necessary if we are able to expand to college credit welding courses in the future.
12. Laptop Computers – Although our students are currently 1:1 with Chromebooks, these do not support the design software needed for our 3D printer, CNC routers, or plasma cutter. The addition of laptop computers in our program would allow more students to be able to utilize the CNC software. Currently, we only have a couple of old desktop computers in the classroom so it can only be utilized by our upper level students in small classes. The addition of new laptop computers would allow our students to learn the design software in the freshman level course. In addition, this would allow us to offer Independent Study classes in the future as students could bring the laptop down to the metals or woods lab during another class. Currently this cannot happen due to the computers only being desktops. In terms of our

local and regional assessment, these would assist us with offering more technology courses to students as they would be learning the CNC software.

13. Briggs and Stratton Power Distributors Small Engines Professional Development Course – This training course is a 3 day workshop designed to help instructors teach Small Engines. It will take place in May of 2022. This training course will be valuable to teaching parts identification in 8th grade, small engine parts identification and theory in Introduction to Skilled and Technical Sciences and then moving the Small Engines course from basics to advanced by teaching more complex systems such as carburetors and ignition systems. It will allow our teacher to become more proficient in engine troubleshooting so that the upper level classes can tackle more complex projects. The course registration is \$500 and our instructor would be compensated for her time since it is outside of contract hours.
14. Summer Technical Workshops – Eric Knoll at the University of Nebraska Lincoln coordinates summer technical workshops each year. Our instructor would attend the Residential Wiring Workshop and the Plumbing Workshop in June of 2022. These courses will allow our instructor to work with professional educators in these respective fields. The intention would be that she can learn industry standard skills in residential wiring and plumbing. The knowledge gained in these courses will be implemented into the Introduction to Skilled and Technical Sciences courses as well as the Building Construction course. The registration for these courses is \$160 per course and our instructor would be compensated for her time since it is outside of contract hours.
15. Vectric/Axiom CNC Training – We currently have an Iconic CNC. Allowing our instructor the opportunity to complete the Vectric/Axiom CNC training will help to progress our skill level. The knowledge gained in this course will be utilized in the Introduction to Skilled and Technical Sciences course. Since the course will help our instructor dive deeper into the CNC process, Robotics students will also be impacted. This will also help progress toward our local assessment goal of including more technology classes. This is a 5 hour long virtual course. The registration is \$299 and our instructor will be compensated for her time since it is outside of contract hours.

Overall, this activity has two primary expense categories: equipment and professional development. The equipment described above will help us to work toward our goal of modernizing our shop so that students are learning on industry standard equipment. It will help us to integrate new machines and career pathways into our expanded and new courses but will also help to deepen the skills and knowledge learned in our upper level courses. This will help ensure that our students are ready to be employed in our local workforce as each piece of equipment can be connected back to a local industry. Professional development training and stipends will help us ensure that our instructor is well equipped to provide the highest quality education possible. The professional development trainings and workshops can all be connected directly to topics we will add into our new Introduction to Skilled and Technical Sciences course or to equipment that we will be purchasing to expand in the current courses we teach. We will then ensure that she has adequate time to prepare curriculum based on the knowledge gained during her professional development trainings.

Activity #1 Evaluation

In order to evaluate this activity, we will do the following:

1. We will compare our 2020-2021 curriculum calendar with our 2021-2022 and 2022-2023 curriculum calendar in order to track the number of skills learned and the grade level. This will help to ensure that our new courses are allowing for more skills learned in our upper level courses.
2. We will track the number of new lessons and/or labs our instructor is able to incorporate or create as a result of attending the Briggs and Stratton, Vectric training, and summer technical trainings.
3. We will track the number of students enrolled in Skilled and Technical Science courses to see if our efforts increase the number of students and the percentage of special population students.
4. We will track the number of projects that students are able to complete during the 2021-2022 school year. By increasing the number of classes at the lower grade levels, we will anticipate that more projects or more advanced projects will be created during the school year. This number should also

increase during the 2022-2023 school year as that is when students will have moved from the new lower level classes into the upper level courses with more advanced skills.

5. Through increasing these lower level courses, we should also be able to have more flexibility in our schedule, this will in turn allow us to document and report an increased number of Programs of Study in the 2021-2022 state report.

Activity #1 Sustainability

The funding for this activity will cover non-consumable equipment. There should not be any costs associated with maintaining this equipment in the near future. If there are mechanical or technical issues, we will work with Eggers Brothers, a local welding supply store, to help us troubleshoot. In order to keep up with any consumable costs associated with the equipment, we will continue to apply for other grants and utilize our local advisory council as a possible source of funding. Additionally, the electrode oven, ironworker, and plasma cutter will help us better conserve a lot of our current materials like electrodes and scrap metal making us more efficient in the long run. In addition, because we plan to teach more skills in our lower-level courses, our upper level courses should have more time for school based enterprises by utilizing our CNC router and plasma cutter in Robotics and Metals and Fabrication. We will utilize this income to help support our consumable costs. If needed, we will work to include other additional costs in our annual budget.

Activity 2 - Establish an advisory council for the Skilled and Technical Sciences program in order to gain support for our program and increase Work Based Learning Opportunities

Activity #2 Narrative

As evident in the Nebraska CTE Perkins V Strategic priorities, the southeast regional CTE assessment and our local assessment, it will be vital to establish connections in our local industry in order to build work based learning opportunities. In order to assist with this process, we will establish an advisory council for our Skilled and Technical Sciences program. Currently we have a list of approximately 25 possible stakeholders. From there, we will identify advisory council members. In addition, we hope to have 2-3 Johnson Brock students serve on the advisory council as well. We will ensure that the students that serve on the advisory board are a representative sample of our student population and that we are meeting the needs of all of our student and any underrepresented populations. It is our hope that by including students on our advisory council, we will help students feel more connected to our program, thus retaining more students.

Activity #2 Funding

We plan to host quarterly advisory council strategic planning meetings (spring, summer, fall, winter). Therefore, the grant will be used to fund three days (spring, fall, winter) of ½ day substitutes so that our instructor can host strategic planning meetings with the advisory council.

Activity #2 Evaluation

In order to evaluate this activity, we will do the following:

1. Prior to each meeting, we will work to establish an agenda. This will help ensure that we are covering all key points of discussion during our meetings. The agenda will include items such as: discussion of current shop curriculum and projects, student reports and/or student guided tours, industry representative reports, opportunities for class field trips and guest speakers, opportunities for work based learning activities and current needs of the program.
2. At each meeting, attendance will be recorded so that we have a record of stakeholders involved.
3. At each meeting, we will keep accurate minutes. This will ensure that we have an accurate record of what was discussed and accomplished.
4. We will share an annual calendar with our advisory council that will help us utilize our advisory council for events such as career fairs, judging contests, and other career development events.
5. We will use a form to help assign tasks to members of the advisory council if needed.

6. We will track student data associated with the benefits of starting an advisory council. These could include but are not limited to:
 - a. Number of guest speakers
 - b. Number of class field trips
 - c. Number of student job shadows
 - d. Number of student work based learning opportunities
 - e. Number of students enrolled in Skilled and Technical Science courses
 - f. Number of students with post secondary plans in the Skilled and Technical Sciences industry

Activity #2 Sustainability

This activity will be relatively low cost in the future. The substitute pay will eventually be budgeted for our in our school budget or we will use “in house coverage” for the substitute class periods. We envision that the relationship with local businesses on the advisory council will help to us to secure supplies and equipment in the future and therefore, the cost trade off will benefit us in the long run.

Activity #3 – In order to better equip our Skilled and Technical Sciences teacher to create curriculum relevant to our local workforce, our goal is to create authentic professional development opportunities through externships.

Activity #3 Narrative

As outlined in Nebraska CTE’s Perkins V Strategic Priorities, quality instructor professional development is key to effective CTE programs. The southeast region local assessment identified training quality instructors, encouraging professional development, and expanding teacher externships as possible action steps. Our local CTE assessment identified the need to offer regular, substantive and effective professional development around CTE academic and technical instruction based on identified needs as an area for improvement. Creating a local externship program for our Skilled and Technical Sciences teacher during the 2021-2022 school year will help to fulfill these action steps. During the summer of 2019, our instructor completed an externship (3 – ½ days) funded by the Auburn Economic Development Council. She reported a positive experience and we are confident that the outcome could be similar within our program.

Activity #3 Funding

It will be our goal to create at least 6 – ½ day externship experiences. The grant program would be used to fund a stipend for completing the externship program.

Activity #3 Evaluation

In order to evaluate this activity, we will do the following:

1. Our Skilled and Technical Sciences teacher will create an accurate log of her externships. This will include the date, time, business or industry, and a description of what was accomplished during the externship time.
2. Our Skilled and Technical Sciences teacher will modify or create new curriculum based on the externship experiences.
3. Our Skilled and Technical Sciences teacher will create a profile of each business based on her experiences so that students understand the local business and what opportunities exist.

Activity #3 Sustainability

In order to sustain this activity in the future if funds are not available, we will continue to seek additional funding. If the externship program is successful, we will look at collaboration with other schools in our local area, as well as our ESU. We will also look at additional funding sources and work with our advisory council to continue funding this experience if necessary.

Section 4: Commitment & Capacity

In terms of school leadership, the following individuals will assist with ensuring that our objectives are met.

Jeff Koehler – Johnson Brock Schools Superintendent; former Skilled and Technical Sciences Instructor

- As a former Skilled and Technical Sciences Instructor, Jeff will be an excellent resource to ensure that our equipment is industry grade and will help promote skill development. He will also be the lead of our fiscal leadership as the superintendent of Johnson Brock Schools. Jeff will approve all purchases made with this grant. As a long time community member with many connections, Jeff will also assist with developing our advisory council.

Lucus Dalinghaus – Johnson Brock Schools Principal

- As the principal of Johnson Brock Schools, Lucas will ensure that our curriculum is high quality and meeting state standards. He will assist with the day-to-day operations. He will also approve class field trips and work based learning opportunities for our students.

DeeAnn Richardson – Johnson Brock Schools Guidance Counselor

- As the school guidance counselor, DeeAnn will ensure that our new classes are placed in the school schedule for the 2021-2022 school year. She will ensure that students are informed about the course offerings through class meetings. She will also meet with special population students individually to discuss opportunities within our Skilled and Technical Sciences program, as well as all Career and Technical Education courses. She will also work to expand our Programs of Study for state reporting. In addition, she will communicate work based learning opportunities and other post secondary options with students as well.

Ashton Bohling – Johnson Brock Schools Skilled and Technical Sciences Instructor

- As the Skilled and Technical Science Instructor, Ashton will ensure that all equipment is ordered and maintained. She will take the lead on establishing the advisory council. She will identify potential council members, send invitations and plan meetings. She will ensure that the curriculum calendars are adjusted for the addition of the new classes, create the new curriculum, and teach students to utilize the new equipment. In addition, she will promote the new courses and meet with students to discuss opportunities within the program. DeeAnn and Ashton will meet regularly to discuss opportunities for marketing the Skilled and Technical Science courses to special population students, as well as retention efforts for the program.

Although we have not initiated an advisory council at this point, we will ask the following individuals to serve on our advisory council.

Chester Bohling – Bohling Builders

Eric Beethe – Lavon Beethe Carpentry, LLC

Tanner Goes – Goes Construction

Derek Eggers – Eggers Brothers

Pat Hahn – Cooper Nuclear Station

Lance Griepenstroh – Teten Electric

Andrew Krog – Southeast Plumbing and Heating

Caleb Carnahan – Carnahan Construction

Casey Bohling – Bohling Construction

Andy Carman – FAST Global Solutions

Derek Pfeiffer – Pfeiffer Welding and Machine, LLC

Leo Eden – Small Engine Repair and Service

Brett Wilson – Wilson Electric

In addition, we would like to have 2-3 Johnson Brock students serve on the advisory council each year.

The advisory council will review the Nebraska Perkins V Strategic Priorities, the southeast regional assessment and our local assessment. They will help to guide curriculum development by identifying skills necessary for students entering the workforce. The advisory council will then complete a local assets inventory to analyze what opportunities we have available for our students. They will help to make sure that our instructor is up-to-date and help to fill any skills gaps discovered. They will help to identify work based learning opportunities for our students as well as sources of equipment and supplies for our program. Finally, they will serve as possible externship locations for our Skilled and Technical Sciences teacher.

Section 5: Budget Proposal

Appendix A

Activity Budget: Activity #1		
Expenditure	Unit Cost	Total
Salaries – Specified by Position (Object Code 100)		
Curriculum Development – \$25.00 per hour – Qty 40 hours	\$25.00	\$1,000.00
Briggs and Stratton Small Engines Professional Development Workshop - \$25.00 per hour – Qty 24 hours (3 – 8 hour days)	\$25.00	\$600.00
Summer Technical Workshops 2022 – Residential Wiring - \$25.00 per hour – Qty 24 hours (3 – 8 hour days)	\$25.00	\$600.00
Summer Technical Workshops 2022 – Plumbing - \$25.00 per hour – Qty 24 hours (3 – 8 hour days)	\$25.00	\$600.00
Vectric/Axiom CNC Training - \$25.00 per hour – Qty 5 hours	\$25.00	\$125.00
	<i>Subtotal</i>	\$2,925.00
Employee Benefits – Specified by Position (Object Code 200)		
	<i>Subtotal</i>	\$0.00
Professional & Technical Services – (Object Code 300)		
Briggs and Stratton Small Engines Professional Development Workshop	\$500.00	\$500.00
Summer Technical Workshops 2022 – Residential Wiring	\$160.00	\$160.00
Summer Technical Workshops 2022 – Plumbing	\$160.00	\$160.00
Vectric/Axiom CNC Training	\$299.00	\$299.00
	<i>Subtotal</i>	\$1,119.00
Other Purchased Professional Services – (Object Code 400/500)		
	<i>Subtotal</i>	\$0.00
Supplies— including Operational Equipment - (Object Code 600)		
Miller Syncrowave 210 TIG Welder – Qty 1	\$3299.00	\$3299.00
Milwaukee Adjustable Power Point Cordless Tungsten Grinder – Qty 1	\$429.00	\$429.00
Lincoln Electric AC/DC 225/125 Stick Welder – Qty 1	\$651.71	\$651.71
Viking Black 1740 Series Auto Darkening Welding Helmet – Qty 15	\$87.52	\$1,312.80
Lincoln Electric HydroGuard Bench Welding Rod Oven – 115/120 V – Qty 1	\$1705.92	\$1705.92
RealityWorks RealCareer Electrical Wiring Kit – Qty 1	\$769.98	\$769.98
HP ProBook 450 GB 15.6” Notebook – Intel Core i5 (11 th Gen) i5-1135G7 Quad Core (4 Core) – 8GB RAM – 256 SSD – English Keyboard – Qty 8	\$799.99	\$6,399.92
House Wiring Simplified Textbook (Goodheart Wilcox) – Qty 15	\$33.00	\$495.00
Hydraulics Textbooks (John Deere) – Qty 15	\$52.95	\$794.25
Hydraulics Student Guide (John Deere) – Qty 15	\$30.95	\$464.25
Hydraulics Instructor Guide (John Deere) – Qty 1	\$38.95	\$38.95
Hypertherm PowerMax 65 Plasma Cutter – Qty 1	\$3,118.00	\$3,118.00
	<i>Subtotal</i>	\$19,478.78
Capital Assets– (Object Code 700)		

Piranha P50 Ironworker with 10 Piece Punch and Die Set and Single Phase Motor and 12" Bending Attachment	\$12,950.00	\$12,950.00
	<i>Subtotal</i>	\$12,950.00
	ACTIVITY TOTAL	\$36,472.78

Activity Budget: Activity # 2		
Expenditure	Unit Cost	Total
Salaries – Specified by Position (Object Code 100)		
	<i>Subtotal</i>	\$0.00
Employee Benefits – Specified by Position (Object Code 200)		
	<i>Subtotal</i>	\$0.00
Professional & Technical Services – (Object Code 300)		
Substitute Pay – ½ day pay at \$55; necessary 3 times	\$55.00	\$165.00
	<i>Subtotal</i>	\$165.00
Other Purchased Professional Services – (Object Code 400/500)		
	<i>Subtotal</i>	\$0.00
Supplies— including Operational Equipment - (Object Code 600)		
	<i>Subtotal</i>	\$0.00
Capital Assets– (Object Code 700)		
	<i>Subtotal</i>	\$0.00
	ACTIVITY TOTAL	\$165.00

Activity Budget: Activity #3		
Expenditure	Unit Cost	Total
Salaries – Specified by Position (Object Code 100)		
Externship Stipend – \$25 per hour; 4 hours each – Qty 6	\$100.00	\$600.00
	<i>Subtotal</i>	\$600.00
Employee Benefits – Specified by Position (Object Code 200)		
	<i>Subtotal</i>	\$0.00
Professional & Technical Services – (Object Code 300)		
	<i>Subtotal</i>	\$0.00
Other Purchased Professional Services – (Object Code 400/500)		
	<i>Subtotal</i>	\$0.00
Supplies— including Operational Equipment - (Object Code 600)		
	<i>Subtotal</i>	\$0.00
Capital Assets– (Object Code 700)		
	<i>Subtotal</i>	\$0.00
	ACTIVITY TOTAL	\$600.00

Budget Summary

Salaries (Object Code 100)		
Activity 1		\$2,925.00
Activity 2		\$0.00
Activity 3		\$600.00
	<i>Subtotal</i>	\$3,525.00
Employee Benefits (Object Code 200)		
Activity 1		\$0.00
Activity 2		\$0.00
Activity 3		\$0.00
	<i>Subtotal</i>	\$0.00
Professional & Technical Services (Object Code 300)		
Activity 1		\$1,119.00
Activity 2		\$165.00
Activity 3		\$0.00
	<i>Subtotal</i>	\$1,284.00
Other Purchased Professional Services (Object Code 400/500)		
Activity 1		\$0.00
Activity 2		\$0.00
Activity 3		\$0.00
	<i>Subtotal</i>	\$0.00
Supplies & Materials/Operational Equipment (Object Code 600)		
Activity 1		\$19,478.78
Activity 2		\$0.00
Activity 3		\$0.00
	<i>Subtotal</i>	\$19,478.78
Capital Assets (Object Code 700)		
Activity 1		\$12,950.00
Activity 2		\$0.00
Activity 3		\$0.00
	<i>Subtotal</i>	\$12,950.00
	Grand Total	\$37,237.78

Section 6: Supplemental Documents

Supplemental Document #1 – Lavon Beethe Carpentry Letter of Support

April 21st. 2021

Dear Nebraska reVISION Action Grant Committee,

I am a co-owner of Lavon Beethe Carpentry, LLC. We are a construction company located in Southeast Nebraska. As general contractors, we specialize in residential and small commercial projects.

As the years fly by, we continue to see the blue-collar construction work force grow older. The need for a fresh crop of workers increases every year. Southeast Nebraska's rural communities are in need of plumbers, electricians, and carpenters, just to name a few. I believe we can turn this around by exposing our youth to the trades at an earlier age. That is why my business supports the expansion of Johnson-Brock's Industrial Arts program's curriculum. By exposing our local youth to this industry while in junior high and high school, I believe that more students would consider pursuing a career in a skilled trade.

Sincerely,

Eric Beethe
Co-Owner Lavon Beethe Carpentry, LLC

Bohling Construction
630 Circle Drive
Tecumseh, NE 68450
402-335-7475

April 27, 2021

To whom it may concern:

My name is Casey Bohling and I am the owner of Bohling Construction of Tecumseh, NE. As an alumni of both Johnson Brock Schools and SCC Milford's Building Construction Technology Program I am in full support for the shop program of Johnson Brock School to receive a grant to better their education of the trades.

A 2012 statistic showed for every 3 tradesmen who retired, only one new tradesman would take their place. Nearly a decade later and I am sure the statistic is even more frightening. For this reason, students need more interest and better education opportunities at the high school level. This grant would achieve the better education opportunities that the students at Johnson Brock need.

Thank you for your time and consideration.

Sincerely,

Casey Bohling

Bohling Construction

Tecumseh, NE

402-335-7475

Supplemental Document #3 – Pfeiffer Welding and Machine Letter of Support

Nebraska reVISION Action Grant Committee

I am the owner and operator of a rural welding and machine shop that does all types of fabrication, repair, and custom machine work. I specialize in agricultural and heavy equipment repair. As time goes on I see a bigger and bigger push for the youth to be encouraged to pursue a standard 4+ year college degree. It seems to me there is very little mention of trade schools, while in fact the income potential is huge from many of the trade degrees! I follow many welding and machining pages on social media and there is a nation wide shortage of trade workers that is only going to get worse. Since the pandemic has hit I have seen my business greatly impacted. Many repair parts for equipment are no longer readily available. The equipment owners are then forced to either let the equipment sit, or find someone like myself, to repair the parts or build new. There are so few shops that do the type of work I do in this area that I'm beyond buried in work and constantly trying to prioritize the work I have to keep my customer's equipment running. I would hire 2 employees in a heartbeat if I could find the people that were the right fit, but it's hard to find people with the skills I need them to have to hire. I am excited to see someone like Mrs. Bohling that is willing to go the extra mile to help better the programs needed to expose the students to the trades, while teaching them life long skills.

Sincerely,

Derek Pfeiffer
Pfeiffer Welding & Machine LLC
63599 Hwy 67
Brock, NE 68320
cell: 402-297-2483

Supplemental Document #4 – FAST Global Solutions Letter of Support



April 28, 2021

To, Nebraska Revision Action Grant Committee

Hello, my name is Andy Carman, I am the Production Manager at FAST Global Solutions in Auburn, Nebraska. FAST Global Solutions is a manufacturer of durable steel products that specialize in assisting the commercial airline and parcel delivery industries. The skilled labor fields our company employs are metal fabricators, welders, machinists, robot programmers, tool and die makers, maintenance technicians, and powder coat painters. Our company has a vested interest in the content and success of the education programs at Johnson-Brock Schools.

I have had a long and successful working relationship with Ms. Bohling. Ashton is what I would consider a master of collaboration. She has been extremely resourceful in reaching out to local industries to make sure that the curriculum she is teaching meets the needs of the employers in the area. When she was the teacher of the FFA program in the Auburn Public Schools District the successful program that she was able to put together there turned out students with a skill set that made them employable directly after graduation. Our organization has hired several of her students for skilled labor roles over the years. Ms. Bohling has now taken that same drive to see her program and students succeed to the Johnson-Brock School District. I have no doubt that she will continue to build and refine the program at Johnson-Brock, and I have the highest confidence that any help or resources that your organization can give this program will be utilized to the fullest potential to help ensure the successful growth and development of the students and the communities in our area.

In closing I would just like to say thank you for your organization's consideration in investing in the program at Johnson-Brock.

Sincerely,

A handwritten signature in cursive script that reads "Andy Carman".

Andy Carman, Production Manager
2111 J Street
Auburn, NE 68305
402-274-8647

FAST Global Solutions Letter of Support



It is the policy of the Nebraska Department of Education not to discriminate on the basis of sex, disability, race, color, religion, marital status, age, national origin, or genetic information in its educational programs, admission policies, employment, or other agency programs.

This project was funded through the Strengthening Career and Technical Education for the 21st Century Act (Perkins V), administered through the Nebraska Department of Education. However, the contents do not necessarily represent the policy of the United States Department of Education, and you should not assume endorsement by the Federal Government.