

Budget

Canfield Local (048314) - Mahoning County - 2015 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (230)

U.S.A.S. Fund #:

Plus/Minus Sheet ([opens new window](#))

Purpose Code	Object Code	Salaries 100	Retirement Fringe Benefits 200	Purchased Services 400	Supplies 500	Capital Outlay 600	Other 800	Total
Instruction		0.00	0.00	11,000.00	7,250.00	98,100.00	0.00	116,350.00
Support Services		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Governance/Admin		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prof Development		0.00	0.00	8,625.00	0.00	0.00	0.00	8,625.00
Family/Community		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Safety		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facilities		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transportation		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	19,625.00	7,250.00	98,100.00	0.00	124,975.00
Adjusted Allocation								0.00
Remaining								-124,975.00

Application

Canfield Local (048314) - Mahoning County - 2015 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (230)

Please respond to the prompts or questions in the areas listed below in a narrative form.

A) APPLICANT INFORMATION - General Information

1. Project Title:
ElementarySchoolSTEM-AST2

2. Executive summary: Please limit your responses to no more than three sentences.

To increase student achievement by providing a shared resource of hands-on STEM manufacturing labs to elementary schools in the tri-county area for the next five years for individual districts and families on advanced industry equipment and materials. This project aims at replicating what Applied Systems and Technology Transfer (AST2) has done with their high school program, and adding additional instructional supports for the elementary level. AST2 develops and implements technology at the nexus of education and workforce development, advanced manufacturing and cloud computing, leveraging the synergistic opportunities of these areas.

This is an ultra-concise description of the overall project. It should not include anything other than a brief description of the project and the goals it hopes to achieve.

941 3. Total Students Impacted:

This is the number of students that will be directly impacted by implementation of the project. This does not include students that may be impacted if the project is replicated or scaled up in the future.

4. Please indicate which of the following grade levels will be impacted:

- | | |
|--|--|
| <input type="checkbox"/> Pre-K Special Education | <input checked="" type="checkbox"/> Kindergarten |
| <input checked="" type="checkbox"/> 1 | <input checked="" type="checkbox"/> 2 |
| <input checked="" type="checkbox"/> 3 | <input checked="" type="checkbox"/> 4 |
| <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| <input type="checkbox"/> 7 | <input type="checkbox"/> 8 |
| <input type="checkbox"/> 9 | <input type="checkbox"/> 10 |
| <input type="checkbox"/> 11 | <input type="checkbox"/> 12 |

5. Lead applicant primary contact: - Provide the following information:

First Name, last Name of contact for lead applicant
Alex Geordan

Organizational name of lead applicant
Canfield Local Schools

Address of lead applicant
100 Wadsworth St., Canfield, OH 44406

Phone Number of lead applicant
330-533-3303

Email Address of lead applicant
ageordan@canfieldschools.net

6. Are you submitting your application as a consortium? - Select one checkbox below

- Yes
 No

If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the educational service center.

[Add Consortium Members](#)

7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

Yes

No

If you are partnering with anyone, please list all partners by name on the "Partnering Member" page by clicking on the link below.

[Add Partnering Members](#)

B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

The response should provide a clear and concise description of the project and its major components. Later questions will address specific outcomes and the measures of success.

The current state or problem to be solved; and

Canfield Local Schools currently has very limited STEM opportunities for students at the elementary level. The goal is to get each student experience with science, technology, engineering, and math to build interest and excitement in these rapidly expanding fields.

The proposed innovation and how it relates to solving the problem or improving on the current state.

This initiative would address this deficiency by providing our students with STEM opportunities on a weekly basis and facilitate data collection to identify student interest in these fields. C. H. Campbell Elementary School will create a lab space for Hilltop Elementary School and other schools in the tri-county area for STEM initiatives. By partnering with AMI, we will be able to offer a STEM course to our students providing them with the opportunity to follow an idea through the process from conception to finished product. Other elementary schools will beBy providing access to curriculum in a collaborative online environment each student has a chance to get a familiarity with blended online learning. Also, each student receives hands-on and virtual experience utilizing tools used in industry to innovate, invent, create and model, thus incorporating 21st century skills into the curriculum. able to replicate these courses for a fraction of the cost by utilizing the C. H. Campbell lab space as a hub. Each lab space can be accessed by students virtually using cloud-based technology. Each lab will have 3D printers, a laser cutter, a vinyl cutter, scanners, and other manufacturing technologies.

9. Which of the stated Straight A Fund goals does the proposal aim to achieve? - (Check all that apply)

Applicants should select any and all goals the proposal aims to achieve. The description of how the goals will be met should provide the reader with a clear understanding of what the project will look like when implemented, with a clear connection between the components of the project and the stated goals of the fund. If partnerships/consortia are part of the project, this section should describe briefly how the various entities will work together in the project. More detailed descriptions of the roles and activities will be addressed in Question 16.

Student achievement (Describe the specific changes in student achievement you anticipate as a result of this innovation (include grade levels, content areas as appropriate) in the box below.)

Student achievement will increase in C. H. Campbell Elementary School, Hilltop Elementary School, and throughout the tri-county area because those participating will be provided with a curriculum rich in science, technology, engineering, and math. The STEM curriculum will demand the utilization of critical thinking and problem solving strategies. Teachers will have the resources and curriculum to create rigorous 21st century assignments and projects that students can access virtually. Classroom rigor, high-level interest content, and student expectations will increase; thus resulting in improved student achievement. Student achievement will be measured yearly using Value Added and performance index data. Student achievement will be progress monitored throughout the year using approved vendor assessments in mathematics, and Student Learning Objectives (SLO) tied directly to the Common Core State Standards and Ohio's New Learning Standards.

Spending reductions in the five-year fiscal forecast or positive performance on other approved fiscal measures (Describe the specific reductions you anticipate in terms of dollars and spending categories over a five-year period in the box below or the positive performance you will achieve on other approved fiscal measures. Other approved fiscal measures include a reduction in spending over a five-year period in the operating budget approved by your organization's executive board or its equivalent.)

Over a five year period, the anticipated spending reductions for the district total \$186, 740. This is achieved through the retirement of a teacher and hiring of a new teacher at a lower salary. The retiring teacher has a total salary of \$98, 797. (Salary- \$73, 466 + Benefits- \$11, 718 + Health Care- \$13, 613) A new teacher would have a total salary of \$46, 199. (Salary- \$34, 012 + Benefits- \$5,435 + Health Care- \$6,762) This equates to a savings of \$52, 598 per year. When the new and recurring annual costs of the project (\$15, 250 per year) are factored into the equation, the annual savings equals \$37,348. Over the length of the five-year fiscal forecast, this equates to a savings of \$186, 740.

Utilization of a greater share of resources in the classroom (Describe specific resources (Personnel, Time, Course offerings, etc.) that will be enhanced in the classroom as a result of this innovation in the box below.)

Districts in the tri-county area have demonstrated enormous interest in securing STEM courses for their students. Districts would like to offer these courses to their students; however barriers such as staffing, equipment costs, physical space, and securing necessary resources prevent them from pursuing STEM opportunities. Districts who participate as a hub can share credentialed staff while utilizing our equipment and resources, thus making this a financially feasible option for providing rigorous, STEM based courses to elementary schools in the tri-county area. Sharing resources would promote sustainability, while ensuring students in Mahoning, Trumbull, and Columbiana counties are provided with access to the STEM curriculum and its benefits. Elementary schools who participate will pay a nominal fee (\$10,000/year) as opposed to the enormous startup cost and sustainability concerns they would face to implement in individual districts. Management of the STEM lab being utilized as a hub and the STEM personnel hired to teach the new course offerings will be handled by the principal of C. H. Campbell Elementary School. The treasurer of Canfield Local Schools will handle all financial aspects of the program. All districts partnering with Canfield Local Schools will be responsible for teaching the curriculum in their respective buildings and submitting projects through cloud-based computing to the hub school's lab. Shipping of finished products will be handled through interoffice mail through the Mahoning County Educational Service Center.

Implementing a shared services delivery model (Describe how your shared services delivery model will demonstrate increased efficiency and effectiveness, long-term sustainability, and scalability in the box below.)

10. Which of the following best describes the proposed project? - (Select one)

New - never before implemented

Existing: Never implemented in your community school or school district but proven successful in other educational environments

Mixed Concept: Incorporates new and existing elements

Established: Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership

C) SUSTAINABILITY - Planning for ongoing funding of the project, cost breakdown

11. Financial Documentation: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 11-14.

* Enter a project budget in CCIP (by clicking the link below)

[Enter Budget](#)

* If applicable, upload the Consortium Budget Worksheet (by clicking the link below)

* Upload the Financial Impact Table (by clicking the link below)

* Upload the Supplemental Financial Reporting Metrics (by clicking the link below)

[Upload Documents](#)

For applicants without an ODE Report Card for 2012-2013, provide a brief narrative explanation of the impact of your grant project on per pupil expenditures or why this metric does not apply to your grant project instead of uploading the Supplemental Financial Reporting Metric.

The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab. Applicants must submit one Financial Impact Table with each application. For consortium applications, each consortium member must add an additional tab on the Financial Impact Tables. Partners are not required to submit a Financial Impact Table.

Applicants with an "Ohio School Report Card" for the 2012-2013 school year must upload the Supplemental Financial Reporting Metrics to provide additional information about cost savings and sustainability. Directions for the Supplemental Financial Reporting Metrics are located on the first tab of the document. If your organization does not have an "Ohio School Report Card" for the 2012-2013 school year, please provide an explanation in the text box about how your grant project will impact expenditures per pupil or why expenditure per pupil data does not apply to your grant project.

Educational service center, county boards of developmental disabilities, and institutions of higher education seeking to achieve positive performance on other approved fiscal measures should submit the budget information approved by an executive board or its equivalent on the appropriate tabs of the Financial Impact Table. Educational service centers should use the "ESC" tab and county boards of developmental disabilities and institutions of higher education should use the "non-traditional" tab.

12. What is the total cost for implementing the innovative project?

Responses should provide rationale and evidence for each of the budget items and associated costs outlined in the project budget. In no case should the total projected expenses in the budget narrative exceed the total project costs in the budget grid.

124,975.00 State the total project cost.

* Provide a brief narrative explanation of the overall budget.

Total Project Cost: \$124,975 In addition to the following brief narrative, a workbook is attached, containing 3 worksheets. The worksheets show costs associated with equipment and operating expenses associated with the implementation of the INVENTORcloud curriculum. Other items include 3D printers, 3D printer powder, vinyl cutter, laser cutter, cameras, laptops, printers, Creation Station software, Camera and STORM: Box Plus. General operating money will be used in FY '14 to fund the following: ? The salary for the teacher who will be instructing the INVENTORcloud curriculum (1 full time teacher) ? Wages for custodians and maintenance ? Electricity for operations

13. Will there be any costs incurred as a result of maintaining and sustaining the project after June 30th of your grant year?

Sustainability costs include any ongoing spending related to the grant project after June 30th of your grant year. Examples of sustainability costs include annual professional development, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in the narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.

Yes - If yes, provide a narrative explanation of your sustainability costs as detailed in the Financial Impact Table in the box below.

New/recurring annual costs: \$15,250 Beyond FY '14, in addition to the above-listed items, general operating dollars will be used to absorb the cost of: ? Maintenance of equipment and replacement of parts- \$4,250 ? Annual fees for curriculum and updates- \$8,500 ? Annual lease of zSpace equipment- \$2,500 Additional professional development as needed

No - If no, please explain why (i.e. maintenance plan included in purchase price of equipment) in the box below.

14. Will there be any expected savings as a result of implementing the project?

Yes

No

Applicants with sustainability costs in question 13 or seeking to achieve significant advancement in spending reductions in the five-year forecast must address this response. Expected savings should match the information provided by the applicant in the Financial Impact Table. All spending reductions must be verifiable, permanent, and credible. Applicants may only respond "No" if the project will not incur any increased costs as a result of maintaining and sustaining the project after June 30th of your grant year. The Governing Board will use the cost savings as a tiebreaker between applications with similar scores during its final selection process. Cost savings will be calculated as the amount of expected cost savings less sustainability costs relative to the project budget.

37,348.00 If yes, specify the amount of annual expected savings. If no, enter 0.

If yes, provide details on the expected savings (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.). If no, please explain

There will be expected annual savings in the amount of \$37,348 resulting from the implementation of this project. Through the retirement of a first grade teacher at Hilltop during FY'14 at \$98,797 and the hiring a teacher to replace her at \$46,199 the district will save \$52,598 annually. A teacher will be reassigned to fulfill the role of INVENTORcloud manager/teacher listed in the cost estimates document. This shift will result in no increase in cost or savings. After eliminating new/recurring costs in the amount of \$15,250, the total net expected savings would be \$37,348.

15. Provide a brief explanation of how the project is self-sustaining.

All Straight A Fund grant projects must be expenditure neutral. For applications with increased ongoing spending as documented in question 11-14, this spending must be offset by expected savings or reallocation of existing resources. These spending reductions must be verifiable, permanent, and credible. This information must match the information provided in your Financial Impact Table. Projected additional income may not be used to offset increased ongoing spending because additional income is not allowed by statute. Please consider inflationary costs like salaries and maintenance fees when considering whether increased ongoing spending has been offset for at least five years after June 30th of your grant year. For applications without increased ongoing spending as documented in questions 11-14, please demonstrate how you can sustain the project without incurring any increased ongoing costs.

For educational service centers and county boards of developmental disabilities that are members of a consortium, any increased ongoing spending at the educational service center or county board of developmental disabilities may also be offset with the verifiable, permanent, and credible spending reductions of other members of the consortium. This increased ongoing spending must be less than or equal to the sum of the spending reductions for the entire consortium.

Explain in detail how this project will sustain itself for at least five years after June 30th of your grant year.

The project is self-sustaining. The initial costs are associated with equipment, curriculum, installation, training, and operating costs. Recurring costs, sustained by the annual fees assessed to participating districts, include equipment and facilities upkeep, further training, and maintenance. Cost reductions after initial implementation will be instituted through the retirement of a first grade teacher at Hilltop during FY'14 at \$98,797 and the hiring a teacher to replace her at \$46,199 resulting in savings of \$52,598 annually. As part of the Canfield Local School District's Strategic Plan, the staffing committee has been charged with determining staffing needs in the upcoming years in order to meet 21st century learning demands and, in turn, to raise student achievement and ready students for college and career options. It has been determined that there is a significant need in shifting staff to meet these demands. Starting in FY '15, Hilltop Elementary School will eliminate one fourth grade teaching position. This teacher will be reassigned to an available teaching position. The INVENTORcloud manager/teacher position will be assigned to an existing staff member with a Computer/Technology K-12 endorsement. Although unnecessary for sustainability, during FY '15 through FY '18, participating schools will pay an annual fee of \$10,000 to participate in the program. The following goals have been set for the acquisition of participating schools: Fiscal Year '15: 5 participating schools for a total of \$50,000. Fiscal Year '16: 10 participating schools for a total of \$100,000. Fiscal Year '17: 12 participating schools for a total of \$120,000. Fiscal Year '18: 20 participating schools for a total of \$200,000. The combined income and staff cuts through the retirement of a first grade teacher at Hilltop during FY'14 at \$98,797 and the hiring a teacher to replace her at \$46,199 will allow for long-term maintenance and the self-sustainability of the program while still cutting costs for the district. With new/incurred costs of \$15,250 annually, this will result in a net annual savings of \$37,348 will allow the program to sustain itself well past the initial five years after the grant is awarded.

D) IMPLEMENTATION - Timeline, scope of work and contingency planning

16. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members and/or partners.

This response should include a list of qualifications for the applicant and others associated with the grant. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.

Enter Implementation Team information by clicking the link below:

[Add Implementation Team](#)

For Questions 17-19 please describe each phase of your project, including its timeline, scope of work, and anticipated barriers to success.

A complete response to these questions will demonstrate specific awareness of the context in which the project will be implemented, the major barriers that need to be overcome and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be outlined, including coordination and communication in and amongst members of the consortium or partnership (if applicable). It is recognized that specific action steps may not be included, but the outline of the major implementation steps should demonstrate a thoughtful plan for achieving the goals of the project. The time line should reflect significant and important milestones in an appropriate and reasonable time frame.

17. Planning - Activities prior to the grant implementation

* Date Range 8/1/14-8/31/14

* List of scope of work (activities and/or events including project evaluation discussions, communication and coordination among entities).

8/1/14 Staff Assignment A staff member will be reassigned into the INVENTORcloud teacher position. 8/1/2014-8/31/14 Training Training will have to be done with teachers on the INVENTORcloud hardware and software. Teachers will also need formal training in Problem and/or Project-based learning. Stakeholders include teachers, Youngstown State University, AST2, Illinois Mathematics and Science Academy (IMSA), Buck Institute for Education (BIE), and the Mahoning County Educational Service Center (MCESC). Extensive communication has occurred between Julie Michael Smith, Executive Vice President of AST2 and Canfield Local Schools. AST2 has previously collaborated with YSU, IMSA, and BIE to provide professional development. 8/1/2014-8/31/14 Set-up Equipment will be purchased and set up in the room. AST2 will set up an elementary school lab with all of the equipment and provide participating schools with access to communicate with the appropriate lab. Stakeholders include maintenance staff, technology support personnel, and administration. Communication has taken place with maintenance staff to secure a lab location and ensure adequate electrical wiring. The technology support personnel have evaluated the lab requirements to ensure that the room can be properly equipped.

* Anticipated barriers to successful completion of the planning phase

Staff Assignment-The largest potential barrier involves shifting staff into appropriate positions, to use the most qualified staff as part of the project. Training-The largest potential barrier involves coordinating with partners to provide professional development within the time frame available. Set-Up-The largest potential barrier will be ensuring that all wiring is able to be run within the time frame available.

18. Implementation - Process to achieve project goals

* Date Range 9/2/2014

* List of scope of work (activities and/or events, including deliverables, project milestones, interim measurements, communication, and coordination).

9/2/2014 Implementation Teachers will receive professional development through YSU and AST2 to navigate the components of the curriculum, learn how to connect to the lab virtually, and learn the requirements of the curriculum. Teachers will receive training from the Illinois Math & Science Academy (IMSA) on Problem-based learning or from the Buck Institute for Education (BIE) on Project-based learning. Stakeholders include Youngstown State University (YSU), AST2, IMSA, BIE, and the MCESC. AST2 has partnered with YSU, IMSA, and BIE to provide the professional development. Project milestones and measurements will include: Professional development provided to staff Setup of the lab and classroom Completion of first project by students Completion of courses first semester Completion of courses first year Increase in student achievement scores Addition of partnering schools and districts Completion and shipment of first partner school projects

* Anticipated barriers to successful completion of the implementation phase.

The largest barriers involved with sharing a lab with other schools would be ensuring enough planning time for the teacher to handle deliverables as more partners utilize the services provided by Canfield Local Schools. The number of partners would also potentially be an issue to providing students of Canfield with access to the equipment. These issues will need to be evaluated on an ongoing basis

19. Summative Evaluation - Plans to analyze the results of the project

* Date Range 6/2015-8/2015

* List of scope of work (activities and/or events, including quantitative and qualitative benchmarks and other project milestones).

6/2015-8/2015 A summary of expenditures and professional development will be completed. Stakeholders include administration, the superintendent, the treasurer, and the MCESC. The program will continue and be sustained by Canfield Local Schools Districts. The evaluation will include an analysis of student achievement data, surveys of student interest in STEM fields, surveys of partnering districts regarding the collaboration between themselves and Canfield Local Schools, classroom observations of teacher effectiveness, and parent and community surveys. Communication Plan: Information about the INVENTORcloud program will be posted on school websites. This will include samples of ongoing and completed projects. Stakeholders will be notified of the on-going status of this program through weekly emails and monthly newsletters. Communication will also be established between Canfield Local Schools and AST2 to continually evaluate the effectiveness of programming. A monthly survey will be sent out to education personnel in other affected schools and districts to evaluate the quality of service and the effectiveness of programming. The results of these surveys will be used to revise and improve the programs and services that are provided.

* Anticipated barriers to successful completion of the summative evaluation phase.

The most significant barrier to the evaluation of this program would include a lack of participation by the survey audience and any curriculum or staffing changes that may be necessary based upon student achievement results.

20. Describe the expected changes to the instructional and/or organizational practices in your institution.

The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant or duplicative processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.

Please enter your response below:

The elementary schools of Canfield Local Schools will be realigned to help facilitate the implementation of this STEM initiative. Both elementary schools currently serve students in grades K-4. Starting in FY '15 Hilltop Elementary School will be realigned to educate grades K-2 and C. H. Campbell Elementary School will educate grades 3-4. This expected realignment will provide all students with access to INVENTORcloud and help maintain the sustainability of the program through retirement cost savings. C. H. Campbell Elementary School will implement INVENTORcloud's Discovery Learning Program in grades 3-4. Hilltop Elementary School will implement a new curriculum in grades K-2 that is currently in development by INVENTORcloud for this proposal. The realignment will also provide collaboration time and facilitate curriculum alignment for teachers while allowing the district to reduce staffing costs by eliminating one licensed teacher position without effecting class size. Our district is situated in a community that receives minimal state funding and has great difficulty passing levies. As a result, the district has limited access to 21st century equipment and curriculum. Our elementary school is rich with students that have tremendous abilities and great prospects; however, we are financially unable to provide them with access to true project-based coursework. Awarding C. H. Campbell Elementary and Hilltop Elementary the grant would allow us to update our curriculum and technology while impacting the organizational structure of not only our physical school, but also over 74 other elementary schools in the tri-county area. Canfield elementary schools will utilize our current staff to provide project-based learning in a technology rich environment. INVENTORcloud will be offered as an integrated piece of the science and mathematics curriculum in grades K-4; therefore, every student enrolled in the district will be exposed to this rich environment. We will transform a vacant classroom (approximately 2,700 sq') into a thriving lab filled with laser cutters, 3D printers, working laptops, and students actively engaged in creating, innovating, and designing. Schools in the tri-county area will benefit not only from access to INVENTORcloud, but also from the use of our machinery and technology. Elementary schools in the tri-county region would utilize our equipment and collaborate with our staff to develop lessons and solve technical issues.

E) SUBSTANTIAL IMPACT AND LASTING VALUE - Impact, evaluation and replication

The responses in this section are focused on the ability to design a method for evaluating the project's capacity for long-term sustainable results. Therefore, the questions focus on the method of defining the problem(s) the project hopes to solve and the measures that will determine if the problem (s) have been solved.

21. Describe the rationale, research or past success that supports the innovative project and its impact on student achievement, spending reduction in the five-year fiscal forecast or utilization of a greater share of resources in the classroom.

The response should provide a concise explanation of items which provide rationale that will support the probability of successfully achieving the goals of the project. Answers may differ based on the various levels of development that are possible. If the proposal is for a new, never before implemented project, the response should provide logical, coherent explanations of the anticipated results based on some past experience or rationale. For projects that have been implemented on a smaller scale or successfully in other organizations, the response should provide the quantifiable results of the other projects. If available, relevant research in support of this particular proposal should also be included.

Please enter your response below.

Research shows that problem based, inquiry learning teaches problem solving, critical thinking skills, and disciplinary content. It also promotes the transfer of concepts to new problem questions, teaches students how to learn, and builds self-directed learning skills. Students develop ownership of their inquiry, which enhances student interest in the subject matter. Students will develop an interest in innovation, creativity, and collaboration to solve real-world problems. In INVENTORcloud, students have access to advanced technologies that allow them to communicate with students anywhere in the world, to use design tools, and to create solutions to real-world problems and challenges. Students will create 2D and 3D virtual models using rapid prototyping equipment and will remotely access digital manufacturing equipment to build and test their inventions. This program debuted in Fall 2013 at Youngstown City School District's Discovery at Kirkmere Elementary School, a new magnet school for grades 3 to 8, which focuses on six exploratory areas of study including investigative sciences and engineering. Perry Local School District, Lake County, is introducing the Discovery Learning Program at its middle school in November 2013 as it develops and implements an integrated STEM Program. INVENTORcloud is aligned to the Common Core State Standards and builds excitement in students in these crucial STEM areas. Implementation of this program will result in spending reductions in the five-year fiscal forecast. Through retirement cost savings, we will be reallocating funds to implement this program. The following research articles were reviewed in the development of this project: STEM as an emerging field: Singer, Susan Rundell. "STEM Education: Time for Integration." peerReview. www.aacu.org. AAC&U. Summer 2011. Inquiry-based Learning: Laboy-Rush, Diana. "Integrated STEM Education through Project-Based Learning." Learning.com. October 12, 2007. STEM: Center for the Study of Mathematics Curriculum. "The Future of STEM Curriculum and Instructional Design: A Research and Development Agenda for Learning Designers." Center for the Study of Mathematics Curriculum. 2011.

22. Describe the overall plan to evaluate the impact of the concept, strategy or approaches used in the project.

This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project's progress, success or failure. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio.

* Include the name and contact information of the person who will be responsible for conducting the evaluation and whether this will be an internal or external evaluation.

The following state measures will be utilized to evaluate the impact of the program: Value Added scores: Increased scores on Ohio Achievement Assessment (OAA)/grade level state exams (as measured by Performance Index): Increased growth in STAR Math test by Renaissance Learning: Student Learning Objectives (SLO) in Science will be evaluated: Student Interest Survey Travis Lavery will be

conducting internal evaluation of this grant.

* Include the method by which progress toward short- and long-term objectives will be measured. (This section should include the types of data to be collected, the formative outputs and outcomes and the systems in place to track the project's progress).

Value Added scores will be evaluated for growth at grade levels and at the individual teacher levels. Used diagnostically, adjustments will be made in instruction and curriculum. Value Added projections will be evaluated to determine if students are on the growth trajectory. Performance Index scores will be evaluated at the building and district level to determine if growth was made. Individual student scores will be charted and plotted to determine an achievement level increase. A larger percentage of students achieving at accelerated or advanced levels. Student growth in STAR Math will be evaluated by gathering data from three benchmarks given in August, January, and April. Growth will be evaluated by classroom, grade level, school to determine if increase growth has occurred. Student Learning Objectives developed by the district will be utilized to determine increased growth. Trend data will be collected on last year's SLO growth in Science. SLO pre-assessment and post-assessment data will be analyzed to determine increased growth in student achievement 1. A student interest survey will be developed to determine student interest in the STEM fields. A student interest survey will be administered at the beginning of the year to determine initial student interest. A second student interest survey will be administered at the end of the year to determine increase in student interest as a result of the program.

* Include the method, process and/or procedure by which the project will modify or change the project plan if measured progress is insufficient to meet project objectives.

If measured progress is insufficient to meet program objectives, the program curriculum will be reevaluated and revised by Applied Systems Technology Transfer (AST2) and Canfield Local Schools to ensure rigor and alignment to the Common Core State Standards. Additional professional development from Youngstown State University, AST2, Illinois Mathematics and Science Academy (IMSA), and the Buck Institute for Education (BIE) will be provided to staff to ensure proper training and facilitation of the program. Professional development will also be provided in the Common Core State Standards. If the teacher obtains a rating of ineffective under the Ohio Teacher Evaluation System (OTES) for two years, the teacher will be replaced. AST2 will evaluate the effectiveness of the lab compared to other labs located in Mahoning County. Any identified deficits will be evaluated and recommendations will be given to the school so adjustments can be made.

23. Describe the substantial value and lasting impact which the project hopes to achieve.

The response should provide specific quantifiable measures of the grant outcomes and how the project will lead to successful attainment of the project goals. Applicants should describe how the program or project will continue after the grant period has expired.

Please enter your response below.

This program will have lasting value and impact for students throughout the tri-county area. It has the potential to provide students with exposure to 21st century skills at an early age, which will develop an interest in the STEM curriculum at both the middle and high school levels. Students will learn problem solving and critical thinking skills as they work through the INVENTORcloud curriculum. We will inspire students to pursue careers in areas of high interest that will also benefit Ohio's future workforce and positively impact the financial future of Ohio. By partnering with AST2, a local agency, students will be exposed not only to a globally pertinent curriculum. They will also be afforded the opportunity to work with local agencies through internships. Our students will be provided with experiences and opportunities, which will help enable them to compete in a constantly changing global economy.

24. Describe the specific benchmarks, by goal as answered in question 9, which the project aims to achieve in five years. Include any other anticipated outcomes of the project that you hope to achieve that may not be easily benchmarked.

The applicant should provide details on the quantifiable measures of short- and long- term objectives that will be tracked and the source of benchmark comparative data points. Responses should include specified measurement periods and preliminary success points that will be used to validate successful implementation of the project. If a similar project has been successfully implemented in other districts or schools, identification of these comparable benchmarks should be included.

* Student Achievement

Student achievement will be measured yearly using Value Added and performance index data. Student achievement will be progress monitored throughout the year using approved vendor assessments in mathematics, and Student Learning Objectives (SLO) tied directly to the Common Core State Standards and Ohio's New Learning Standards. Benchmarks to show an increase in student achievement are: 1. Increased Value Added scores in Math: a. Students in the fifth quintile in third and fourth grade will demonstrate an increase in Value Added scores starting in FY '15. Starting in FY '16 students in the fifth quintile will demonstrate more than one year of growth. b. Gifted students in third and fourth grade will demonstrate an increase in Value Added scores starting in FY '15. Starting in FY '16 students in the fifth quintile will demonstrate more than one year of growth. 2. Increased scores on Ohio Achievement Assessment (OAA)/grade level state exams (as measured by Performance Index): a. C. H. Campbell Elementary School and Hilltop Elementary School will increase Performance Index scores to at least 110 by the end of FY '16. 3. Increased student growth in Mathematics achievement as demonstrated by STAR Math vendor assessment. a. C. H. Campbell Elementary School and Hilltop Elementary School will increase STAR Math growth scores by one group median SGP range by the end of FY '16. 4. Increased student interest in STEM fields as determined by student interest survey. a. Student interest will lead to increases in student achievement as demonstrated by Value Added, vendor assessments, and performance index scores.

* Spending Reduction in the five-year fiscal forecast

Benchmarks to show spending reductions in the five-year fiscal forecast are: 1. By the end of FY '15, through staff re-assignment and through the retirement of a first grade teacher at Hilltop during FY '14 at \$98,797 and the hiring of a teacher to replace her at \$46,199 the district will save \$52,598 annually. 2. After eliminating new/recurring costs in the amount of \$15,250, the total expected savings would be \$37,348 annually. 3. The cost of maintenance upkeep and repair will be collected through fees assessed to participating districts.

* Utilization of a greater share of resources in the classroom

Benchmarks to show utilization of a greater share of resources in the classroom: 1. Both elementary schools (approximately 1,000 students) will have access to new technology in their respective labs with C. H. Campbell Elementary School serving as the hub for participating schools. 2. Participating schools will be assessed a yearly fee which will cover the cost of maintenance, repair, and replacement of

equipment.

* Implementation of a shared services delivery model

* Other Anticipated Outcomes

25. Is this project able to be replicated in other districts in Ohio?

Yes

No

If the applicant selects "Yes" to the first part of the question, the response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from the proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be included here.

* Explain your response

Other schools in Ohio can easily replicate this project because it allows virtual, cost effective access to curriculum taught through project-based learning, which heightens student interest. To facilitate this program regions will need one school to serve as a hub. The hub school must commit to an initial investment in technology and machinery that will enable the students to see their designs through from development through fabrication. Other schools across the region, state, or country can virtually join the classroom. Projects from these virtual classrooms can be distributed through pick-up or mail services.

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

I agree

Sections 

Consortium Contacts

No consortium contacts added yet. Please add a new consortium contact using the form below.

Partnerships

Canfield Local (048314) - Mahoning County - 2015 - Straight A Fund - Rev 0 - Straight A Fund

Sections 

Partnerships

First Name	Last Name	Telephone Number	Email Address	Organization Name	IRN	Address	Delete Contact
Julie	Smith	(330) 727-6292	jmsmith@vistaast.com	Applied Systems & Technology Transfer, LLC		241 West Federal Street #508 Youngstown, Ohio 44503, , Youngstown, , Ohio , 44503	

Implementation Team

Canfield Local (048314) - Mahoning County - 2015 - Straight A Fund - Rev 0 - Straight A Fund

Sections 

Implementation Team						
First Name	Last Name	Title	Responsibilities	Qualifications	Prior Relevant Experience	Delete Contact
Don	Crum	Teacher	Don Crum Teacher, Canfield High School He will be available to help train the teacher selected to run the lab at C. H. Campbell and operate the lab equipment as well. His extensive experience with the INVENTORcloud curriculum will provide in-district support for our program and staff.	Canfield High School currently has a class dedicated to the INVENTORcloud program. Don Crum, a teacher with a vocational education and career and technical license, teaches this course. Mr. Crum is also the advisor for the J.E.T.S. club as well.	Canfield High School currently has a class dedicated to the INVENTORcloud program. Don Crum, a teacher with a vocational education and career and technical license, teaches this course. Mr. Crum is also the advisor for the J.E.T.S. club as well.	
Julie Michael	Smith	AST2, Executive Vice President	AST2 Julie Michael Smith AST2, Executive Vice President Executive Vice President with over 25 years' of experience in economic and program development including strategic planning, public relations and outreach, integrating numerous stakeholders including nonprofits, local, state, and Federal agencies. She received Masters in Business Administration from Youngstown State University.	AST2, Executive Vice President Executive Vice President with over 25 years' of experience in economic and program development including strategic planning, public relations and outreach, integrating numerous stakeholders including nonprofits, local, state, and Federal agencies. She received Masters in Business Administration from Youngstown State University.	AST2, Executive Vice President Executive Vice President with over 25 years' of experience in economic and program development including strategic planning, public relations and outreach, integrating numerous stakeholders including nonprofits, local, state, and Federal agencies. She received Masters in Business Administration from Youngstown State University.	
Travis	Lavery	Principal C.H.Campbell Elementary	Mr. Lavery will be responsible for overseeing the new program, installation of the equipment, hiring of the teacher necessary for the program, solicitation of partnerships with other districts, scheduling courses, and facilitating professional development for staff.	Travis Lavery has been the principal of C. H. Campbell Elementary School for three years. He has extensive experience with curriculum and holds a certificate as a Curriculum Director in the state of Pennsylvania (no corresponding certificate is available in Ohio).	He has implemented many initiatives within the district including a daycare for kindergarten students, reading workshops for parents, and many more	
Patti	Kesner	Treasurer, Canfield Local Schools	Mrs. Kesner will handle all financial aspects of the grant including payroll, budget, purchase orders, accounts payable, and oversight of all grant expenditures. Mrs. Kesner is responsible for ensuring the new program remains sustainable over the duration of the grant period and into the future.	Patti Kesner is the treasurer of Canfield Local Schools. She is responsible for managing all financial matters of the district including the development of the five-year fiscal forecast	Patti Kesner is the treasurer of Canfield Local Schools. She is responsible for managing all financial matters of the district including the development of the five-year fiscal forecast	
Joe	Maroni	Principal Hilltop Elementary	Mr. Maroni will be responsible for helping oversee staff, scheduling courses, solicitation of partnerships with other districts, and facilitating professional development for staff.	Joe Maroni has been the principal of Hilltop Elementary School for one year. He previously served as the principal of 7th and 8th grade at Canfield Village Middle School for 2 years.	Prior to his experiences in Canfield, Mr. Maroni served as an assistant principal for Boardman Local Schools	

new teacher	new teacher	INVENTORcloud teacher	INVENTORcloud teacher The teacher hired will be responsible for receiving professional development, instructing the curriculum, maintaining supplies, running the lab, and shipping products to partnering districts.	This position will be filled by transferring a current member. Qualifications will include a certification that encompasses kindergarten through fourth grade. It is recommended that the teacher also have an endorsement in Computer/Technology K-12.	This position will be filled by transferring a current member. Qualifications will include a certification that encompasses kindergarten through fourth grade. It is recommended that the teacher also have an endorsement in Computer/Technology K-12.	
Joe	Jeswald	AST2 Educational Consultant	AST2 Joe Jeswald As Education Consultant, he brings over 35 years' experience in secondary education and administration, STEM curriculum development and technology integration. He was awarded a Masters' in Education from Youngstown State University.	As Education Consultant, he brings over 35 years' experience in secondary education and administration, STEM curriculum development and technology integration. He was awarded a Masters' in Education from Youngstown State University.	As Education Consultant, he brings over 35 years' experience in secondary education and administration, STEM curriculum development and technology integration. He was awarded a Masters' in Education from Youngstown State University.	
Joe	Jeswald	AST2 Educational Consultant	The INVENTORcloud? Program, developed by AST2, is a comprehensive program that offers inquiry and problem based learning in a unique, technology-rich environment for students. INVENTORcloud utilizes hardware technology and software applications to integrate innovation, creativity and design thinking with 21st century career and life skills. INVENTORcloud challenges students, individually and as teams, to collaborate in problem-based activities to solve real-world challenges. Students apply the design process using computer design and visualization tools to create virtual prototypes, which are then produced with rapid prototyping equipment. INVENTORcloud, through virtual presence technology, enables students to remotely access STORM:Lab's rapid prototyping equipment such as 3D printers, laser cutters and mills to turn virtual prototypes into reality. INVENTORcloud curricula are digital courses for a digital classroom. Content is derived from relevant videos, articles and subject matter sources. The rich, dynamic content creates thought-provoking and interesting courses for a broad range of students. Courses are aligned with Common Core State Standards and select state career & technical education standards and are eligible for dual credit at the high school level. Partner Responsibilities The project will consist of partnerships with AST2, Youngstown State University (YSU), and our own high school students (as an internship for their STEM program). C. H. Campbell	As Education Consultant, he brings over 35 years' experience in secondary education and administration, STEM curriculum development and technology integration. He was awarded a Masters' in Education from Youngstown State University.	As Education Consultant, he brings over 35 years' experience in secondary education and administration, STEM curriculum development and technology integration. He was awarded a Masters' in Education from Youngstown State University.	

			<p>Elementary School will provide the space for the extended hubs to be located along with equipment for Hilltop Elementary School and partner schools throughout the tri-county area to utilize. AST2 will contract with the schools to provide the setup, maintenance of the equipment, software, and professional development required to run a course and support the lab space. YSU and Canfield High School will provide a pool of candidates looking for engineering intern experience to run the lab s</p>			
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