Budget

Lorain County ESC (048108) - Lorain County - 2016 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (30)

U.S.A.S. Fund #: 466

Plus/Minus Sheet (opens new window)

| Object Code / Purpose Code | Salaries 100 | Retirement Fringe Benefits 200 | Purchased Services 400 | Supplies 500 | Capital Outlay 600 | Other 800 | Total |
|---|---|---|---|---|---|---|---|
| **Instruction** | 0.00 | 0.00 | 0.00 | 322,005.00 | 118,578.00 | 0.00 | 440,583.00 |
| **Support Services** | 217,579.00 | 131,679.00 | 0.00 | 0.00 | 0.00 | 0.00 | 349,258.00 |
| **Governance/Admin** | 60,000.00 | 18,000.00 | 85,500.00 | 0.00 | 0.00 | 0.00 | 163,500.00 |
| **Prof Development** | 0.00 | 0.00 | 33,000.00 | 0.00 | 0.00 | 0.00 | 33,000.00 |
| **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 |
| **Indirect Cost** | | | | | | 12,000.00 | 12,000.00 |
| **Total** | 277,579.00 | 149,679.00 | 118,500.00 | 322,005.00 | 118,578.00 | 12,000.00 | 998,341.00 |
| | | | | | | **Adjusted Allocation** | 0.00 |
| | | | | | | **Remaining** | -998,341.00 |

Application

Lorain County ESC (048108) - Lorain County - 2016 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (30)

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

**A) APPLICANT INFORMATION - General Information**

1. Project Title:
Transforming Lives Through TLC-STEM

2. Project Summary: Please limit your responses to no more than three sentences.
The Lorain Co STEM Consortium (TLC-STEM) is committed to the success of a foundational Middle School STEM career pathway program.

*This is an ultra-concise description of the overall project. It should only include a brief description of the project and the goals it hopes to achieve.*

3. Estimate of total students at each grade level to be directly impacted each year.

*This is the number of students that will receive services or other benefits as a **direct result** of implementing this project. This does not include students that may be impacted if the project is replicated or scaled up in the future. It excludes students who have merely a tangential or indirect benefit (such as students having use of improved facilities, equipment etc. for other uses than those intended as a part of the project). The Grant Year is the year in which funds are received from the Ohio Department of Education. Years 1 through 5 are the sustainability years during which the project must be fiscally and programmatically sustained.*

Grant Year

| | | | | |
|---|---|---|---|---|
| Pre-K Special Education | K | 1 | 2 | 3 |
| 4 | 5 | 265 6 | 250 7 | 280 8 |
| 9 | 10 | 11 | 12 | |

Year 1

| | | | | |
|---|---|---|---|---|
| Pre-K Special Education | K | 1 | 2 | 3 |
| 4 | 5 | 265 6 | 250 7 | 280 8 |
| 9 | 10 | 11 | 12 | |

Year 2

| | | | | |
|---|---|---|---|---|
| Pre-K Special Education | K | 1 | 2 | 3 |
| 4 | 5 | 265 6 | 250 7 | 280 8 |
| 9 | 10 | 11 | 12 | |

Year 3

| | | | | |
|---|---|---|---|---|
| Pre-K Special Education | K | 1 | 2 | 3 |
| 4 | 5 | 265 6 | 250 7 | 280 8 |
| 9 | 10 | 11 | 12 | |

Year 4

| | | | | |
|---|---|---|---|---|
| Pre-K Special Education | K | 1 | 2 | 3 |
| 4 | 5 | 265 6 | 250 7 | 280 8 |
| 9 | 10 | 11 | 12 | |

Year 5

| | | | | |
|---|---|---|---|---|
| Pre-K Special Education | K | 1 | 2 | 3 |
| 4 | 5 | 265 6 | 250 7 | 280 8 |

| 9 | 10 | 11 | 12 |
|---|---|---|---|

4. Explanation of any additional students to be impacted throughout the life of the project.
*This includes any students impacted or estimates of students who might be impacted through future scale-ups or replications that go beyond the scope of this project.*

The TCL-STEM program will reach 265 6th, 250 7th, and 280 8th graders each year of the project in 2 early adopter school districts in Lorain County. The impact will be 3980 students in Amherst and North Ridgeville. over the 5 year grant period. Using the program, "If I Had A Hammer", we will be exposing over 4,000 6th graders in all 14 Lorain County School Districts to foundational STEM math, measuring, and design curriculum. Supported by the North Coast Building Industry Association (NCBIA), this program teaches the basics of construction and design, which are foundational components of any STEM program. It is our hope that this early exposure to STEM will create greater interest and awareness in our county for TLC -STEM to be replicated . In addition, the proposed Fab Labs will be used for after school and during Summer Academy programs serving 100's of additional students.

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

First and last name of contact for lead applicant
Moira Erwine

Organizational name of lead applicant
Educational Service Center of Lorain County

Address of lead applicant
1885 Lake Avenue

Phone Number of lead applicant
4403245777

Email Address of lead applicant
erwine@esclc.org

*Community School Applicants: After your application has been submitted and is in Authorized Representative Approved status an email will be sent to your sponsoring entity automatically informing the sponsor of your application.*

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 (vendors, service providers, sponsors, management companies, schools, districts, ESCs, IHEs) 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. The following questions will address specific outcomes and measures of success.*

a. The current state or problem to be solved; and

Currently, Lorain Co students and high school graduates do not have the required skill sets for the growing number of STEM skill jobs in our region. This is reflected the large number of unfilled STEM jobs in our market, even though we have a 6% unemployment rate (15% higher than the current Ohio average). Further, none of our consortium schools currently offer any STEM related industry based Certifications. The Lorain Co Chamber of Commerce, P-16 REACHigher Council, Lorain County Community College, Lorain County Manufacturing Council, and the North Coast Builders Assoc. all concur that 1,000s of STEM skill level jobs will be available in our area over the next 5-10 years, and the current labor force is not prepared to fill those good paying jobs. With a rich history in automotive and manufacturing, major area employers including Beckett, Ford Motor, Pace Manufacturing and Nordson Manufacturing have shared their specific employability and skill needs with our STEM Consortium. LinkedIn reveals that of 7,940 currently available jobs in Lorain Co., 2,709 (34%) are in IT, 1,358 (17%) are in technology, and 918 (12%) are in manufacturing. When using the combined search words "IT, Manufacturing, and Technology", fully 3,934

jobs appear. This represents 49.5% of all current job openings in Lorain County! We have a serious technology workforce skill gap which will impede the economic prosperity of our community. Our employers have also confirmed that this skill gap is not just academic, but reflects real hands-on skill deficiencies which can be demonstrated by industry based certifications. We have also identified that our students are not aware of these current and future employment opportunities and that we do not have a well-defined or consistent pathway for students to build their skills from middle school to high school to postsecondary education options.

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

Our proposed innovation to address these needs, as developed by the TLC-STEM Consortium, will create an academic and skill based Middle School STEM program, which will serve as a foundation for students to follow a pathway through high school and postsecondary education. Along this pathway, they will earn the academic skills sought by employers (as documented by transcripts and credits), and employability and technical hand-on STEM skills (as documented by industry based certifications). Our model is being designed holistically with input from local employers, industry council's, k-12 educators, career center (vocational) educators, and postsecondary educators in our region. The focus of all of this work is to truly prepare local students for current and future family income sustainable local employment. We see this initiative as both transformational for our local educational system, but also as a critical component of our community economic development efforts. The transformational educational impact of this initiative is further defined by the use of blended, experiential, facilitated, project based learning (LJCreate curriculum), integrated employability/soft skills training, early college credits, and waiving of coursework for students with demonstrated competency. Additionally, all the existing resources of all of the partners will be leveraged and coordinated to benefit student learning. Examples of this include sharing the ESC STEM teacher with all county 6th graders to support a pathway to Lorain Co JVS programs or into a high school STEM pathways, and comprehensive career exploration for 6-8 grade students by the Community College and JVS. Career exploration will include campus visits, use of postsecondary counselors, Ohio Means Jobs online, and field trips to area employers. Our innovation includes integrated middle school STEM scientifically based curriculum (SBR), LJCreate, which covers Design in 6th grade, Building and Fabrication in 7th grade, and Systems/Automation in 8th grade, and is aligned with Common Core, and both Ohio State Science and ITEEA Tech literacy standards. North Ridgeville and Amherst middle schools will be provided with equipment for 1 FAB Lab to implement these programs. Fab Labs are like the "central Library" of resources to effectively teach technology today. Our Fab Labs will feature subject matter learning kits in 12 technology modules, basic hand and power tools, 3D printers, laser engravers, SketchUP Pro (CAD), and CNC Modeling Machines. Students will learn about sensors, motors, gears, modeling, and by 8th grade, will be familiar with basic mechatronics including fluid power, mechanical and electrical systems. 9th graders can then pathway into Project Lead the Way (PLTW) pre engineering, another nationally recognized SBR program which is currently offered in our consortium schools, or take college prep/AP/ advanced placement math and science classes in high school. 10th and 11th graders will have the pathway option of attending the Lorain Co JVS to enroll in any of their 5 STEM related tech programs including Computer Design/Drafting, Digital Media, Network Comm, Precision Machining, or PLTW-Pre-Engineering. Lorain Co Community College is further aligned in the STEM pathway for related Associate Degrees.

9. Select which (up to four) of the goals your project will address. For each of the selected goals, please provide the requested information to demonstrate your innovative project. - (Check all that apply)

☑ a. Student achievement

i. List the desired outcomes.
*Examples: fewer students retained at 3rd grade, increase in graduation rate, increased proficiency rate in a content area, etc.*

Student achievement will be the primary goal of TLC-STEM, and will be captured by 3 measures: academic achievement, Certifications earned, and continuation to high school in a STEM pathway. Academic achievement will be measured by gains in math, English/language arts, and science as assessed by tests administered by the State of Ohio. First, we will capture student academic performance with the Ohio State Test at the end of 7th grade in math and English/language arts. We will use the same Ohio State Test at the end of 8th grade for math, English/language arts, and science. Based on our proposed STEM program intervention, we expect students who complete the STEM curriculum in 6th and 7th grades will achieve the following average scale score gains: Math +20% , English/language arts +20%. Those students who complete the 8th grade STEM curriculum are expected to realize gains of Math +25%, English/language arts +25%, and Science +25%. As not all students in 7th and 8th grade will participate in the STEM program, we will have comparative non participant test scores to measure the impact of the STEM program, as well as comprehensive baseline data for year 1 and beyond. In addition to the Ohio State Tests, our external evaluator will conduct semi-annual surveys with parents, students and teachers for qualitative feedback and to focus on continuous improvement opportunities. Second, we will measure student success by industry credentials earned. The grades 6-8 STEM curriculum can lead students to earn an industry-based FabLab Tool Certification. Our goal is for 80% of STEM students to earn the FabLab Tool Certification by the end of 8th grade. For our third measure of student achievement, we expect at least 75% of our middle school STEM students to continue on a STEM pathway into high school or the JVS. This will be determined by evaluating 9th and 10th grade student STEM related enrollment/program choices.

ii. What assumptions must be true for this outcome to be realized?
*Examples: early diagnosis and intervention are needed to support all children learning to read on grade level; project-based learning results in higher levels of student engagement and learning, etc.*

There are 4 primary assumptions for the proposed student academic gains to be realized. First, is our implemented STEM curriculum is aligned with Ohio State Test assessment to provide students with the knowledge to earn higher test scores. Second, has the Professional Development (PD) been effective in preparing instructors to deliver this new content? Third, is the classroom instructor implementing the facilitated learning, project based program as designed. Our final 4th assumption is that students have an interest in STEM careers. Just because good paying jobs are plentiful, do the students really want to pursue this pathway? We have seen a similar trend in recent years with Advanced Manufacturing. "Manufacturing" has been stigmatized by the loss of related jobs by immediate family members, who encourage their children to pursue other careers. Our proposed career exploration efforts will need to address these concerns for students and their families.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

Each of these 4 assumptions have been carefully researched. First, our LJCreate curriculum is aligned with Common Core Math and English Language Standards, ITEEA Technology Literacy Standards, and the Next Generation Science Standards (NGSS). The program

includes over 3000 lesson objectives including 12 engineering project modules/kits. The second and third assumptions can be addressed together; our proposed professional development (PD) fully aligns with the curriculum presented, includes teacher guide books, and offers STEM Teacher instructional support that is ongoing for the life of the project. External evaluator surveys of teachers, parents and students should flush out any delivery or comprehension issues, which we can then resolve. As for the 4th assumption regarding student interest in STEM, Lorain County has a 5 year history of implementing and delivering Project Lead the Way (PLTW) , a nationally recognized SBR program. Serving the 9th grade level, this program has been delivered to 100s of local students. Building on this success, combined with the full support of our community based board, proposed field trips, ESC sponsored annual STEM Fairs, Fab Lab open houses, and enhanced career exploration activities provided by our JVS and Community College partners, we expect to have genuine interest in STEM careers and education from both our students and their families.

iv. List the specific indicators that you will use to measure progress toward your desired outcome.
*These should be measurable changes, not merely the accomplishment of tasks. Example: Teachers will each implement one new project using new collaborative instructional skills, (indicates a change in the classroom) NOT; teachers will be trained in collaborative instruction (which may or may not result in change).*

This student achievement in STEM disciplines can best be captured three measures: academic achievement, Industry Based Certifications earned, and continuation to high school in a STEM pathway. Academic achievement will be measured by gains in math, English/language arts, and science as assessed by tests administered by the State of Ohio. In this regard, we will capture student academic performance with the Ohio State Test at the end of 7th grade in math and English/language arts. We will use the same Ohio State Test at the end of 8th grade for math, English/language arts, and science. In addition to the Ohio State Tests, our External Evaluator will conduct semi-annual surveys with parents, students and teachers for qualitative feedback and to focus on continuous improvement opportunities. Additionally, we will measure student success by industry credentials earned. The grades 6-8 STEM curriculum can lead students to earn the nationally recognized FabLab Tool Certification. We expect an 80% Industry Certification award rate by the 8th grade. Finally, as a third measure of student achievement, we expect at least 75% of our middle school STEM students to continue on a STEM pathway into high school or to the JVS. This indicator will be measured by evaluating student class/course schedules as they enter 9th and 10th grade.

v. List and describe pertinent data points that you will use to measure student achievement, providing baseline data to be used for future comparison.

Pertinent data points to measure student achievement will include the Ohio State Test at the end of 7th grade in math and English/language arts. We will use the same Ohio State Test at the end of 8th grade for math, English/language arts, and science. In addition to the Ohio State Tests, semi-annual surveys (pre and post school year) will be conducted with parents, students and teachers for qualitative feedback and to focus on continuous improvement opportunities. Additionally, we will measure student success by industry credentials earned. The grades 6-8 STEM curriculum can lead students to earn the nationally recognized FabLab Tool Certification. We expect 80% of participating students to earn this certification by the end of 9th grade. Finally, as a third measure of student achievement, we expect at least 75% of our middle school STEM students to continue on a STEM pathway into high school or the JVS. This indicator will be measured by evaluating student class/course schedules as they enter 9th and 10th grade.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

All evaluation materials and test results will be shared with the TCL-STEM Consortium Board. The ESC will provide a 25% FTE as staff for this Board. The Board is composed of public school and JVS educators and administrators from each of the participating schools, businesses, trade groups and post-secondary educational organizations. They will meet at least quarterly during the 5 year program, and will focus on continuous improvement efforts, and program sustainability, based on the qualitative and quantitative data collected. Collectively, this Board will have the expertise, knowledge, and authority to recommend and implement continuous improvements which are intended to positively effect the Key Performance Indicators spelled out for this project. They will also take the lead in communicating aggregate program results to their respective appointing Boards or leadership. Considerable care will be taken not to release any individual student specific data.

☐ b. Spending reductions in the 5 year forecast

i. List the desired outcomes.
*Examples: lowered facility cost as a result of transition to more efficient systems of heating and lighting, etc.; or cost savings due to transition from textbook to digital resources for teaching.*

ii. What assumptions must be true for this outcome to be realized?
*Example: transition to "green energy" solutions produce financial efficiencies, etc.; or available digital resources are equivalent to or better than previously purchased textbooks.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. List the specific indicators that you will use to monitor progress toward your desired outcome.
*These should be specific dollar savings amounts. THESE MUST MATCH THE COST SAVINGS AS PROJECTED IN THE FINANCIAL IMPACT TABLE (FIT).*

v. List and describe pertinent data points that you will use to measure spending reductions, providing baseline data to be used for future comparison.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

☐ c. Utilization of a greater share of resources in the classroom

i. List the desired outcomes.
*Example: change the ratio of leadership time spent in response to discipline issues to the time available for curricular leadership.*

ii. What assumptions must be true for this outcome to be realized?
*Examples: improvements to school and classroom climate will result in fewer disciplinary instances allowing leadership to devote more time to curricular oversight.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. Please provide the most recent instructional spending percentage (from the annual Ohio School Report Card) and discuss any impact you anticipate as a result of this project.
*Note: this is the preferred indictor for this goal.*

v. List any additional indicators that you will use to monitor progress toward your desired outcome. Provide baseline data if available.
*These should be specific outcomes, not just the accomplishment of tasks. Example: fewer instances of playground fighting.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

☐ d. Implementing a shared services delivery model

i. List the desired outcomes.
*Examples: increase in quality and quantity of employment applications to districts; greater efficiency in delivery of transportation services, etc.*

ii. What assumptions must be true for this outcome to be realized?
*Example: neighboring districts have overlapping needs in administrative areas that can be combined to create efficiencies.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, data analysis etc), or how these are well-supported by the literature.

iv. List the specific indicators that you will use to monitor progress toward your desired outcomes.
*These should be measureable changes, not the accomplishment of tasks.*
*Example: consolidation of transportation services between two districts.*

v. List and describe pertinent data points that you will use to evaluate the success of your efforts, providing baseline data to be used for future comparison.
*Example: change in the number of school buses or miles travelled.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

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

☐ a. New - Never before implemented

☐ b. Existing - Never implemented in your community school or school district but proven successful in other educational environments

☐ c. Replication - Expansion or new implementation of a previous Straight A Project

☑ d. Mixed Concept - Incorporates new and existing elements

☐ e. Established - Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership

**C) BUDGET AND SUSTAINABILITY**

11. Financial Information: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 12-19.

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

Enter Budget

b. If applicable, upload the Consortium Budget Worksheet (by clicking the Upload Documents link below)

c. Upload the Financial Impact Table (by clicking the Upload Documents link below)

Upload Documents

*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 of the workbook. Applicants must submit one Financial Impact Table with each application. For consortium applications, please add additional sheets instead of submitting separate Financial Impact Tables.*

998,341.00 12. What is the amount of this grant request?

13. Provide a brief narrative explanation of the overall budget.
*Responses should provide a 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.*

To achieve the TLC-STEM stated student achievement goals, grant funds will be invested as follows: Instruction-Supplies: Software and supplies including Solidworks Design (CAD) software for 5 years with upgrades, "If I Had a Hammer" curriculum for +4000 6th grade students county-wide, Exploring STEM software site licenses for 5 years including upgrades, 60 Eco-Sol Max printer cartridges, and media materials (vinyls, static clings etc) $322,005. Instruction-Capital: Fab Lab equipment for each of the 2 middle school sites to include (2) 3D printers, 3D scanners, HX/50 laser engravers, Inkjet printer cutters, and CNC Milling machines with attachments $118,578. Support Services-Salary and Fringe Benefits: One FTE STEM Instructor, employed by the ESC, for grant year and year 1 program setup and implementation. This teacher will be shared by the 2 sites. Staff also includes one FTE ESC Instructor to cover years 1-5 of the "If I Had a Hammer" 6th grade county-wide STEM program. Total Salary $217,579 Fringe $131,679. Governance/Admin-Salary and Fringe Benefits: ? of ESC Director to provide implementation oversight, Board support, and teacher evaluations for grant year and first 2 years of sustainability. ESC will provide years 3-5 of these services as in-kind. Total 3 year Salary $60,000 Fringes $18,000. Governance/Admin-Purchased Services: Experienced STEM consultant to assist with grant year implementation $7,500 and external evaluator services as per evaluation design specifications at $13,000/year x 6 years=$78,000 Total for the Governance/Admin-Purchased Services line item is $85,500. Professional Development-Purchased Services: Complete vendor provided STEM PD for 5 years including on-site technical support $33,000. Indirect Cost-Other: ESC Fiscal management services for implementing the grant including bidding and purchasing $12,000. The total requested grant to implement our TLC-STEM initiative is $998,341.

14. Please provide an estimate of the total costs associated with maintaining this program through each of the five years following the initial grant implementation year (sustainability costs). This is the sum of expenditures from Section A of the Financial Impact Table.

90,296.00 a. Sustainability Year 1

57,452.00 b. Sustainability Year 2

55,192.00 c. Sustainability Year 3

55,129.00 d. Sustainability Year 4

62,097.00 e. Sustainability Year 5

15. Please provide a narrative explanation of sustainability costs.
*Sustainability costs include any ongoing spending related to the grant project after June 30, 2017. Examples of sustainability costs include annual professional development, staffing costs, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in this 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.*

Sustainability costs will include the cost of the STEM instructor, maintenance of the FAB Labs, and career development services provided as in-kind by the Lorain Co. Community College and Lorain Co. JVS. By far, our greatest sustainability cost will be for the shared STEM Instructor. While the grant year and year 1 of the project are developmental/implementational in nature, years 2-5 of the sustainability period must be funded by the consortium. During years 2-5, these Instructor costs will be shared equally by the consortium Districts. The Instructor will be employed through the ESC. FAB Lab maintenance is estimated at $1,000 per year per site by the vendor. This cost will be covered by reductions in required books and materials in science curriculum /resources/books, which will now be provided with the Fab Lab program. Finally, the cost of Career Exploration will be provided as an in-kind contribution by both the JVS and Community College, as they both have a vested interest in promoting STEM educational pathways and careers to support their respective enrollment strategies.

100 16. What percentage of these costs will be met through cost savings achieved through implementation of the program?

*Total cost savings from section B of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table. If the calculated amount is greater than 100, enter 100 here.*

17. Please explain how these cost savings will be derived from the program.

*Applicants who selected spending reductions in the five-year forecast as a goal must identify those expected savings in questions 16 and 17. All spending reductions must be verifiable, permanent, and credible. Explanation of savings must be specific as to staff counts; salary/benefits; equipment costs, etc.*

As the largest expense is the STEM Instructor as noted above, each district will show staff reductions in their general fund budgets to cover this increased cost. Each consortium member has agreed to eliminate a .5 FTE or .75 FTE from existing staff, to cover the new sustainable cost of a shared STEM Instructor. These savings are in the form of salary and benefits, which are significant. Based on the submitted District 5 Year Financial Plans, combining the salary and fringe benefit savings from the partners, year one staff cost saving is $78,296, and reduces slightly each year, for a year 5 savings of $50,097 (Salaries and Wages and Fringe Benefits). These staff reductions will be achieved via attrition or retirements in their respective science and/or math departments. The FAB Lab cost of maintenance will be offset by a $1,000 per year per District savings in Professional Development expenses (Purchased Services). Additional savings will be realized by $20,000 ($10,000 year 1 and $10,000 year 5) savings in the purchased books and materials for science and math curriculum, which are now included in the FabLab package at each Middle school site (Supplies and Materials). These professional development and purchased services savings may actually prove to be higher, but the Treasurer's wanted to be conservative in their estimates. In summary, as documented on the Financial Impact Tables, cost savings derived from the TLC-STEM project are show in the categories of salary, fringe benefits, purchased services, and supplies/materials. The participating District treasurers have confirmed in their 5 Year Forecasts that these savings are verifiable, permanent, and credible.

0 18. What percentage of sustainability costs will be met through reallocation of savings from elsewhere in the general budget?

*Total reallocation from section C of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table*
*Note: the responses to questions 16 and 18 must total 100%*

19. Please explain the source of these reallocated funds.
*Reallocation of funds implies that a reduction has been made elsewhere in the budget. Straight A encourages projects to determine up front what can be replaced in order to ensure the life of the innovative project.*

100% of the sustainability cost will be covered through cost shifting within the same categories in the general budget. These cost shifts shall include savings from reduction in staff (salaries and fringe benefits) via attrition (we will not lay anyone off of their jobs), savings in collaboratively delivered professional development (purchased services), and from eliminating duplicative books and classroom materials (supplies and materials). These saving are documented in the Financial Impact Tables.As the largest expense is the STEM Instructor as noted above, each district will show staff reductions in their general fund budgets to cover this increased cost. Each consortium member has agreed to eliminate a .5 FTE or .75 FTE from existing staff, to cover the new sustainable cost of a shared STEM Instructor. These savings are in the form of salary and benefits, which are significant. Based on the submitted District 5 Year Financial Plans, combining the salary and fringe benefit savings from the partners, year one staff cost saving is $78,296, and reduces slightly each year, for a year 5 savings of $50,097 (Salaries and Wages and Fringe Benefits). These staff reductions will be achieved via attrition or retirements in their respective science and/or math departments. The FAB Lab cost of maintenance will be offset by a $1,000 per year per District savings in Professional Development expenses (Purchased Services). Additional savings will be realized by $20,000 ($10,000 year 1 and $10,000 year 5) savings in the purchased books and materials for science and math curriculum, which are now included in the FabLab package at each Middle school site (Supplies and Materials). These professional development and purchased services savings may actually prove to be higher, but the Treasurer's wanted to be conservative in their estimates. In summary, as documented on the Financial Impact Tables, cost savings derived from the TLC-STEM project are show in the categories of salary, fringe benefits, purchased services, and supplies/materials.

**D) IMPLEMENTATION**

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

*This response should include a list of qualifications for the applicant and others associated with the grant. Please list key personnel only. 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 Key Personnel information by clicking the link below:

Add Implementation - Key Personnel

*For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.*

*A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.*

21. Planning

a. Date RangeOctober 2015-November 2015

b. Scope of activities - include all specific completion benchmarks.

October 2015 OHMakers Conference and LCCC revealed the manufacturers need for STEM experienced employees. Researched existing Middle School options and Buckeye Educational Systems program for grades 6-8th. Consulted with Dean of Science and Math at LCCC, Lorain County JVS, interested districts. Selected external evaluation team who are best suited for this project, Visobe Welch has 16 years of experience and will be our lead External Evaluation Specialist. Garnered support from North Coast Builders Association and Lorain County Community College. Met with REACHigher P-16 Council for support. Met with Buckeye Educational to ensure program will support need for

Amherst, N.Ridgeville and 6th graders in Lorain County. Planning team collaborated and submitted Straight A Grant on time.

22. Implementation(grant funded start-up activities)

a. Date RangeSpring 2016-September 2016

b. Scope of activities - include all specific completion benchmarks

We will utilize the Plan, Do, Study, Act cycle throughout the 5 years. Spring 2016- Fall 2016 Do Phase Create Action Register detailing tasks, persons responsible and time lines Purchasing equipment and supplies for Amherst and North Ridgeville Fab Lab Hire ELCLC STEM Teacher Train ELCLC STEM Teacher Schedule STEM teacher into Amherst and N.Ridgeville for 6-8th grade courses. Coordinate External Evaluation Team visits with N. Ridgeville and Amherst Schedule Quarterly STEM Consortium Board Meetings to meet all assurances.

23. Programmatic Sustainability (years following implementation, including institutionalization of program, evaluation and communication of program outcomes)

a. Date RangeOctober 1- December 2022

b. Scope of activities - include all specific completion benchmarks

Schedule Quarterly Consortium Board Meetings to Review progress and make adjustments over the 5 year period to meet all assurances. Report Progress on Implementation North Ridgeville and Amherst Develop Marketing to 6th Grade "If I had a Hammer" program Schedule 6th Grade "If I had a Hammer" programs for Lorain County Build capacity among other Math and Science teachers in Amherst and North Ridgeville to integrate STEM library into units based on curriculum maps. Schedule Showcase opportunities for the communities in Amherst and North Ridgeville as well as opportunities for our 6th graders involved in "If I had a Hammer" Program Evaluation Team Benchmarks Year 1 - Data collection-tracking student/teachers data to understand who is participating (demographics) Scheduling onsite focus groups Provide reports to ODE per assurances Year 2 - Data collection, analysis and continued feedback quarterly Consortium Board meetings Year 2 status evaluation report Provide reports to ODE per aussrances Year 3 - Data collection, analysis and feedback quarterly Consortium Board meetings Year 3 status evaluation report Provide reports to ODE per assurances Year 4 - Data collection, analysis and feedback quarterly Consortium Board meetings Year 4 status evaluation report Provide reports to ODE per assurances Provide reports to ODE per assurances Year 5 - Data collection, analysis and feedback quarterly Consortium Board meetings Year 5 2022 final evaluation report Provide reports to ODE per assurances

## E) SUBSTANTIAL IMPACT AND LASTING VALUE

24. 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 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 TLC-STEM program will reinforce the need to transition our instructional practices from a general lecture format, to facilitated, experiential, project based teaching and learning. The professional development offered as a part of this project will be extended to 140 math and science teachers throughout the consortium schools, in an effort to both focus attention to STEM, and to extend these innovative and Scientifically based researched proven teaching and learning methods of instructional delivery. In addition to this impact, the TLC-STEM effort will also be relevant in that it will focus more attention to college and career readiness. At the core of TLC-STEM is a recognition that our local educational institutions must refocus our teaching and learning efforts toward the "real world" needs of regional employers. This is especially true as we are focusing on higher wage, family income sustainable employment opportunities related to STEM occupations. We expect that this new college and career readiness approach will become the mantra of all educators in our County.

25. Please provide the name and contact information for the person and/or organization who will oversee the evaluation of this project.

*Projects may be evaluated either internally or externally. However, evaluation must be ongoing throughout the entire period of sustainability and have the capacity to provide the Ohio Department of Education with clear metrics related to each selected goal.*

Please enter your response below:

The evaluation for TLC STEM will be conducted by the Public Services Institute (PSI) at Lorain County Community College. The Public Services Institute and its research arm, the Joint Center for Policy Research (JCPR) have been in existence for more than 20 years and have provided research assistance to numerous organizations throughout the state of Ohio. PSI serves government and not-for-profit organizations exclusively. While they work in numerous policy areas, their expertise is in education, public health, social services delivery, workforce development, economic development, and intergovernmental relations. They tailor research objectives of clients to different research approaches. They have extensive expertise in program evaluation. Shara L. Davis, Dean of Research, Institutional Effectiveness and Public Services will provide consultation and be responsible for all aspects of project administration. Ms Davis has served as chief evaluator for numerous grants and projects.

26. Describe the overall plan for evaluation, including plans for data collection, underlying research rationale, measurement timelines and methods of analysis.

*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 shortfall. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio. Note: A complete and comprehensive version of the evaluation plan must be submitted to ODE by all selected projects.*

The overall purpose of the evaluation is to assess the impact of the TLC-STEM for program years 2016-2022. Data/information will be gathered and analyzing through multiple approaches to assess activities and effectiveness as well as develop baseline for future evaluations. Numerous constituencies will be targeted for the assessment including students, parents, teachers, school administrators, and STEM Council/advisory members. The evaluation will include both process and outcome evaluation. The evaluation not only will measure the impact the program has on participant outcomes but also will assist in verifying that implementation occurred as planned and guide the program in improving services to become more efficient and cost effective. Data Collection and Methods: PSI will develop a data collection system that is standardized to ensure all the partnering schools are providing information in a consistent manner. Four evaluation components are envisioned for this project: Component (1)-Baseline and Secondary data analysis. As the first step to program evaluation the Public Services Institute will gather and compile baseline data for the identified indicators, for example Ohio State Test score results (2014-15). Data related to students (demographics, standardized test scores, retention rate, graduation rate, post-secondary enrollment) will be provided by each of the 2 participating school districts through their existing data collection systems. Component (2)-The second component will consist of survey research with students, parents and teachers at the 2 participating schools during program years 2016-2021. The survey research is intended to measure student interest in STEM related careers, perceived overall impact of the TLC STEM project and student and their parents' satisfaction with the program. Focus groups research will provide qualitative data and enhance the interpretation of outcomes, supplementing quantitative data findings by providing context from participant perspectives. Component (3)-Key informant interviews. PSI will conduct interviews of key TLC STEM personnel and stakeholders. For example, input will be solicited from administrators, teachers, STEM Consortium Board members, etc about ways in which the program can be strengthened and their perception about extent to which the program has succeeded in developing an effective service delivery network. In addition, survey research will be used to assess professional development experiences for teachers and to assess changes in instructional practices as a result of professional development/trainings. Component (4)- Not all students will participate in the TLC STEM program, a quasi- experimental design with program participants and control group will be employed to determine program impact. Students participating in the program will be compared to non-participating students on program outcomes. Analysis: Exploratory analyses using both quantitative (means, ranges, standard deviations) and qualitative methods (i.e., coding of main themes from open-ended questions in the surveys, focus groups) will be used. Findings will be provided in written and graphic format to the Board at prescribed intervals. Finally, as per grant requirements, a status report will be submitted at that time. The STEM Consortium Board will be responsible for sharing evaluations findings and lessons learned with other educational providers and community at large for example, at Board Meetings, open houses at the school sites, and via news media coverage. Data collection efforts will be ongoing through the sustainability and impact phases (years 1-5). And through regular feedback, the evaluation will provide useful information to program partners (stakeholder team), and program staff to inform continuous improvement. After the grant has been awarded, a comprehensive evaluation plan, including a logic model, will be developed and provided as per requirements.

27. Please describe the likelihood that this project, if successful, can be scaled-up, expanded and/or replicated. Include a description of potential replications both within the district or collaborative group, as well as an estimation of the probability that this solution will prove useful to others. Discuss the possibility of publications, etc., to make others aware of what has been learned in this project.

*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 this 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 noted here.*

As the demand for higher level math and science skills is evident across Ohio, and ODE is financially supporting higher level vocational and career tech training at the middle school level, replication of this project is not only feasible, it is inevitable. Additionally, ODE is working on creating a new Honors STEM Diploma. As ODE advances this effort, TLC-STEM will formally integrate this new Honors STEM Diploma into our STEM middle school to high school pathway. Further, as noted earlier, the FabLab concept is the "central library" for technology and STEM related training. Our model can be expanded locally to the 12 other Lorain Co School Districts not participating in our model demonstration project, and/or across Ohio. We will share our student performance results, program model detail, and lessons learned with our Consortium Board, ESCs statewide, and with the State of Ohio. Further, we are exploring the opportunity to present our efforts at the State School Board Association Conference, share our model and story with Teaching Institute of Excellence in STEM (TIES), or coordinate with the Battelle for Kids communications network. Any combination of these communications options will effectively share our TLC-STEM efforts with others throughout Ohio and beyond.

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 Moira Erwine, agree, on behalf of the Educational Service Center of Lorain County 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 outline in the Straight A Assurances. The Governing Board of the ESC of Lorain County was informed of this grant application on at the regular November 2015 Board Meeting.

Consortium

Lorain County ESC (048108) - Lorain County - 2016 - Straight A Fund - Rev 0 - Straight A Fund

Sections

| Consortium Contacts | | | | | | | |
|---|---|---|---|---|---|---|---|
| First Name | Last Name | Telephone Number | Email Address | Organization Name | IRN | Address | Delete Contact |
| Moira | Erwine | 4403245777 | erwine@esclc.org | Lorain County ESC | 048108 | 1885 Lake Ave, Elyria, OH, 44035-2551 | |
| Michael | Molnar | (440) 988-4406 | mike_molnar@amherstk12.org | Amherst Exempted Village | 045195 | 185 Forest St, Amherst, OH, 44001-1605 | |
| David | Pritt | 440-353-1111 | davidpritt@nrcs.k12.oh.us | North Ridgeville City | 044537 | 5490 Mills Creek Ln, North Ridgeville, OH, 44039-2339 | |

Partnerships

Lorain County ESC (048108) - Lorain County - 2016 - Straight A Fund - Rev 0 - Straight A Fund

Sections

| Partnerships | | | | | | | |
|---|---|---|---|---|---|---|---|
| **First Name** | **Last Name** | **Telephone Number** | **Email Address** | **Organization Name** | **IRN** | **Address** | **Delete Contact** |
| Visobe | Welch | 440-366-7416 | vwelch@lorainccc.edu | Lorain Co Community College | 063297 | 1005 N Abbe Rd, Elyria, OH, 44035-1613 | |
| Jason | Hoffman | 419-566-8758 | jhoffman@buckeye-edu.com | Buckeye Educational Systems | | 150 Industrial Drive, , Lexington, Ohio, 44904 | |
| Glenn | Faircloth | (440)774-1051 | GFaircloth@lcjvs.net | Lorain County JVS | 051227 | 15181 State Route 58, Oberlin, OH, 44074-9753 | |
| Rosa | Rivera-Hainaj, Ph.D. | 440-366-7132 | rhainaj@lorainccc.edu | Lorain Co Community College | 063297 | 1005 N Abbe Rd, Elyria, OH, 44035-1613 | |
| Michael | Molnar | (440) 988-4406 | mike_molnar@amherstk12.org | Amherst Exempted Village | 045195 | 185 Forest St, Amherst, OH, 44001-1605 | |
| David | Pritt | 440-353-1111 | davidpritt@nrcs.k12.oh.us | North Ridgeville City | 044537 | 5490 Mills Creek Ln, North Ridgeville, OH, 44039-2339 | |
| Moira | Erwine | 4403245777 | erwine@esclc.org | Lorain County ESC | 048108 | 1885 Lake Ave, Elyria, OH, 44035-2551 | |

Implementation Team

Lorain County ESC (048108) - Lorain County - 2016 - Straight A Fund - Rev 0 - Straight A Fund

Sections

| Implementation Team | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| First Name | Last Name | Title | Responsibilities | Qualifications | Prior Relevant Experience | Education | % FTE | Delete Contact |
| Jason | Hoffman | Vice President of Buckeye Educational Systems | Project Management and Professional Development using the STEM Library is a major piece of Jason's role. Purchasing equipment and supplies including installing and technical assistance to Amherst and N.Ridgeville. Training of the ESCLC STEM teacher. Buckeye Educational Systems has a team of experts that will assist in each phase of the project from tech support with the STEM library to coordinating Professional Development with Andrew Gilles. 3D printer support with Alec Broderick. Alec has a computer design degree from North Central State College. Staff Certification will be included to properly run, maintain and operate each machine safely and effectively. This curriculum prepares students for the CSWA associates. | 25 years experience with Buckeye Educational Systems. | STEM projects have been successfully implemented in several districts across ohio including but not exlusive to the following; Wickliffe, Port Clinton, Princeton, Piqua, Troy Local Schools North Central State College Case Western Lakeland Community Coll\ege Columbus State Community College Sinclair Community Collge | Associates in Business Management with North Central State College, Ohio | 20 | |
| David | Pritt | Director of Curriculum and Instruction | Implementation Team | Oversee curriculum and instruction for the district PK-12 | Experience: Building principal, assistant principal and teacher Education: | Associates LCCC, Bachelors Baldwin Wallace, Masters | 15 | |

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| | | | | | | Baldwin Wallace, Post masters Baldwin Wallace and Cleveland State University | | |
| Shara L. | Davis | Dean of Research, Institutional Effectiveness, and Public Services | Administrative oversight for the evaluation | Shara provides leadership for the Public Services Institute, the Joint Center for Policy Research, and the office of Institutional Effectiveness and Planning. She is Chair of the College's Continuous Quality Improvement Council and Institutional Planning Council. She serves on the Administrative Leadership Team, Human Resource Development Committee, Curriculum Council, Deans Council, and other committees. Shara manages the College's operational system review and academic program review processes. Prior to her tenure with Lorain County Community College, Shara served as Assistant Director for Research for the Center for Urban Studies at the University of Akron. She used her research expertise and experience to create and establish a full-capacity research | Marketing and policy research and has extensive experience in research design and application. She has broad knowledge of secondary data sources like Census Data and Labor Market Data. She has designed research studies using both quantitative and qualitative data collection techniques for more than 400 clients throughout Northeast Ohio over 25 years. She is well versed in outcome based program evaluation techniques and Shara used her research expertise to establish the information arm of the Public Services Institute at Lorain County Community College which she grew to a full service research center and cost recovery unit of the College in just four years. In addition to research expertise, Shara has strong process expertise. She has formal training in public deliberation or civic and leadership engagement by nationally known experts like The Harwood Institute, AmericaSpeaks, Public Agenda, The Kettering Foundation, and The National Issues Forum. | Masters Degree in Political Science | 10 | |

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| | | | | laboratory for the Center for Urban Studies between 1987 and 1991. During her eight years with the University of Akron, Shara also taught undergraduate courses including Introduction to Government and Politics, Current Policy Issues, and Intro | | | | |
| Visobe | Welch | Senior Research Project Manager, Evaluation Specialist | Visobe's primary role is the lead for the External project evaluation with responsibility for attending project meetings as required, all data collection, entry, analysis, interpretation, report writing, and reporting. As Senior Research Project Manager at Public Services Institute and Joint Center for Policy Research at Lorain County Community College, Visobe we be the lead evaluation specialist for this project. She will be communicating with Shara L. Davis is Dean of Research, Institutional Effectiveness, and Public Services at Lorain County Community College to utilize any or all members of the LCCC research team for the TLC-STEM project. | Master of Public Administration, Master of Business Administration, Bachelor of Business Administration While in the MPA program at the University of Akron, she worked as a Research Assistant for the Institute for Health and Social Policy. In addition to management of primary data collection efforts involving multiple research approaches for JCPR clientele, Ms. Welch has expertise in outcome-based program evaluation. In this capacity, she develops evaluation systems for JCPR clients and performs comprehensive impact analysis using quantitative and qualitative methods. Her ability to tailor evaluation systems and impact analysis to client | Research Assistant for the Institute for Health and Social Policy at the University of Akron, Ohio. In addition to management of primary data collection efforts involving multiple research approaches for PSI clientele, Ms. Welch has expertise in outcome-based program evaluation. She develops evaluation systems for PSI clients and performs comprehensive impact analysis using quantitative and qualitative methods. She tailors evaluation systems and impact analysis to client programs and services delivering customized evaluation services. Some of her accomplishments include the development and implementation of evaluation systems for several federally funded programs including Federal Drug Elimination Program administered by a Metropolitan Housing Authority; Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) program for Lorain City Schools; College and Career Transition Initiative (CCTI. State funded programs include a 21st Century Community Learning Centers, STEM Project of Excellence for a school district; Tobacco Use Prevention and Control Project, and several Ohio Commission on Minority Health funded prevention programs. | MPA, The University of Akron, MBA, Eastern University, BBA, The University of Zambia, | 25 | |

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| | | | | programs and services contributes heavily to JCPR's delivery of customized evaluation services | | | | |
| Michael | Molnar | Executive Director of Educational Services | Implementation Team | Michael oversees the Technology Department and Special Education Department and is directly responsible for Amherst's Gifted and Talented, Resident Educator, and Title I programs. Michael leads the district's Race to the Top Transformation Team and Appraisal Review Committee and manages the areas of curriculum and instruction, testing and assessments, and professional development. | Before coming to Amherst, Michael was the principal of Hilltop Elementary School in the Beachwood City School District for six years. He served as principal of Tennyson Elementary School in the Sheffield-Sheffield Lake City School District for four years and was a 2/3 Multiage Teacher at Crestwood Elementary School in the Elyria City School District for five years. | Masters degree in School Administration at Cleveland State University and is currently enrolling in Kent State University's Doctoral program | 15 | |
| Glenn | Faircloth | Superintendent | Consortium Board Member, meeting 4 times a year for the duration of the project to ensure the project is on target and compliant with assurances. | Dr. Glenn Faircloth currently serves as Superintendent of the Lorain County JVS. The district serves over 1,200 high school students and 3,000 adult learners. He is a strong advocate for career-technical education which helps students earn industry recognized credentials and college credit as they prepare to enter the workforce or continue their education and training. | Dr. Faircloth is a U.S Army veteran, with tours of duty in Panama (Operation Just Cause) and Saudi Arabia (Operation Desert Storm/Desert Shield). He overcame many challenges growing up, including homelessness, and earned a Bachelor's Degree in Science, a Master's Degree in Urban Educational Leadership and a Doctorate in Educational Leadership. Glenn's pride and greatest pleasure is his daughter, Nia. Hespends as much time as possible participating in her life's learnings. He believes that life is full of challenges, disappointments, celebrations, and spiritual epiphanies.. | EdD | 5 | |

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| Gregory | Ring | Superintendent of Educational Service Center of Lorain County | TLC-STEM Consortium Board meet quarterly over the next 5 years to ensure project is on target. | County Superintendent of Schools | REACHigher P 16 Council President, Local District Superintendent/Principal/Teacher | Masters +45 | 5 | |
| Rosa | Rivera-Hainaj,PhD | Dean of Science and Mathematics Lorain County Community College | TLC-STEM Consortium Board meet quarterly over the next 5 years to ensure project is on target. | Dr. Rivera-Hainaj is a champion of STEM education. Her current work includes the fostering of middle-skill STEM pathways to increase the number of students that join a middle-skill STEM career upon graduation. She is also a leader in the K-12 vertical alignment work with local high schools to decrease the need for remedial education at the college level. | Dr. Rivera-Hainaj has been the Dean of Science and Mathematics at LCCC since 2011. Prior to her appointment Dr. Rivera-Hainaj was associate professor of Chemistry at Purdue University North Central and an active researcher in the field of biochemistry. She has been awarded and supervised numerous grants by the National Science Foundation, NASA, the Indiana Department of Education, James Madison University, among others. In her current role, Dr. Rivera-Hainaj administers a budget of ~$4.5 million, serves as member of the Core Team of the Student Success Agenda and is a leader within LCCC and the community it serves. | r. Rivera-Hainaj earned a BS in Chemistry from the University of Puerto Rico - Mayaguez, PR and a PhD in Biochemistry from Case Western Rese | 5 | |
| Moira | Erwine | Senior Director of Curriculum, Instruction & Professional Development | Coordinating this project, hiring STEM Teacher and evaluation, and supporting the STEM Consortium Board | Moira has been and administrator for 11 years with the Educational Service Center of Lorain County as Professional Development Coordinator at SERRC, School Improvement Coordinator with State Support Team, and now Senior Director of Curriculum and Instruction & Professional Development. 4 years on REACHigher P16 Council presently Chair of Middle Grades. As a seasoned trainer, Moira incorporates 21st Century tools into trainings and | Having been an Ohio Improvement Process Consultant with the State Support Team, has offered experience in change, leadership and research based practices as well as supporting teachers with implementation. | M.A. Ed Supervision | 25 | |

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| | | | | utilizes blended learning through Eduplanet21 learning management system. | | | | |