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Adjusted Allocation | 0.00
Remaining            | -2,718,370.00
This Worthington School project aims to leverage mobile communication devices to elevate student engagement, achieve a reduction in spending and utilize a greater share of resources in the classroom by providing 1:1 mobile devices to students grades nine through twelve. The project will allow for differentiation in genuine ways for all students with the technology at students homes. Collaboration among students, students and parents who use technology every day in their collective pursuit of learning and increase the economic competitiveness of the region by preparing students for the technology saturated workplace. The project will reduce student failures in CORE subject areas of math, science, English, and social studies reducing costs associated with filling classroom seats with students repeating CORE courses to earn credits to graduate at the center of the learning experience, providing them with extended projects that require laptop use mirroring workplace assignments; and allowing students to be more organized and efficient (Weber, 2009) resulting in more student engagement and reduced behavioral referrals which cause less time in the learning environment for disruptive students. Worthington will use its Linworth Alternative School site as an early rollout site to provide data around use of devices, changes in classroom practice, and gather data to anticipate barriers to full rollout in our two large comprehensive high schools. Special attention will be paid to the level of support required for our teachers when students can experience ubiquitous use of technology instead of sporadic, occasional use and the change in planning behaviors required for such use in and out of the classroom. Students will have immediate access to new information for use in rich mathematical tasks and deeper and broader text dependent writing opportunities across the curriculum, as well as, greater opportunities to collaborate within and outside the physical school facility. Our teachers will become more connected, learning from a global network of educators and transcending current limits in their own professional development. In the long term, Worthington students will be better prepared for college and career next steps in the technology saturated learning and work environments.

### Application

**Application Number (258)**

<table>
<thead>
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<th>Applicant</th>
<th>First Name, last Name</th>
<th>Address</th>
<th>Email</th>
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<tbody>
<tr>
<td>Trent Bowers</td>
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<td><a href="mailto:tbowers@worthington.k12.oh.us">tbowers@worthington.k12.oh.us</a></td>
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#### PROJECT DESCRIPTION

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

- Student achievement
- Spending reductions in the five-year fiscal forecast
- Utilization of a greater share of resources in the classroom

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

- New - never before implemented
- Existing and researched-based - never implemented in your district or community school but proven successful in other educational environments
- Mixed Concept - incorporates new and existing elements
- Enhancing/Scale Up - elevating or expanding an effective program that is already implemented in your district

**11. Describe the innovative project**

> Worthington Schools will increase student engagement, significantly decrease student retention, raise test scores, and raise student attendance rates by providing personalized learner centered instruction based to individual student needs and tailored to the learning preferences and specific interests of different learners through a 1 to 1 device to student program in grades 9-12. Successful personalized learning helps students develop the desire to learn for the sake of learning. The whole idea of student centered pedagogy is that when students are engaged and interested in learning the content because they are doing something that they view as worthwhile it leads to greater intrinsic motivation. By providing devices to all students in grades 9-12 teachers will have the ability to meet the interests and the comfort level and what students expect in terms of using technology as a tool to help them learn. Worthington will create personalized learning plans for all students. Textbooks will be replaced with interactive, personalized digital curriculum. Students will access their digital content anywhere, anytime and will log in as often outside school as during school hours. Primarily the grant monies will be put directly into classrooms through equipment and through the professional development of the classroom teacher. We believe by equipping teachers with the resources they need to facilitate the learning of their students we will transform teaching practice and will better realize the goal of both the grant and our district of maximizing each students potential through personalized learning plans.
12. Describe how it will meet the goal(s) selected above. If school/district receives school improvement funds/support, include a brief explanation of how this project will advance the improvement plan.

Worthington's District Improvement Plan includes a goal of ensuring 100% of students pass end of course exams and accelerate their learning with post-secondary classes. This grant will strongly support both goals by providing the technology to ensure that all students can access the instructional resources and have the amount of time that all students need to ensure that they grow. The personalization enabled through the use of devices ensures that each child is operating in their zone of proximal development, and are provided extended time during the day and the year. Extended time is a well researched practice that accelerates academic growth particularly for English language learners, students with disabilities, and students of poverty. This grant will fully support both Worthington Schools improvement plan as well as the goals of the grant as described. The successful implementation of this grant should further save the district monies that currently spends on classroom teachers and reducing intervention teachers that would have been required to accommodate students who fail courses or will need intervention to pass end of course exams for graduation. Primarily the grant monies will be put directly into classrooms either through equipment and through the professional development of the classroom teacher. We believe by equipping teachers with the resources they need to facilitate the learning of their students we will transform teacher practice and better realize the goal of both the grant and our district of maximizing each student's potential through personalized learning plans. Teachers will be able to enhance their implementation of an use of NWEA, MAP, utilization of resources that access online learning, extend the learning day, and year, and better communicate with parents on student progress and needs.

13. Financial Documentation - All applicants must enter or upload the following supporting information. Responses should refer to specific information in the financial documents when applicable:

a. Enter a project budget
b. Upload the Straight A Financial Impact Template forecasting the expected changes to the five-year forecast resulting from this project. If applying as a consortia or partnership, please include the five-year forecasts of each school district, community school or STEM school member for review.

c. If subsection (b) is not applicable, please explain why, in addition to how the project will demonstrate sustainability and impact.

$2,971,370 - Capital Outlay - This will purchase 2,757 student devices and 312 teacher devices. Devices include charging stations and insurance. Each year incoming Freshman will be provided a device that should last 4 years. The ongoing projected cost is $511,000,060 - Instruction purchased services - Set up of the devices No reoccurring cost as they will then be maintained by the classroom teacher and our existing IT department after initial set-up. Professional Development purchased services - PD for the classroom teachers on the operation and instructional use of the devices. There will be no reoccurring cost as ongoing PD and PD for teachers new to the district will be provided by technology support staff, curriculum leaders and instructional coaches. $191,000 - Professional Development purchased services - to provide substitutes for teachers to participate in one full day of professional development on the operation and instructional use of the devices. $300,000 - digital textbooks for high school students that align with Common Core and new Ohio Learning Standards. This project is self-sustaining in that it will be supported and sustained by existing frameworks within the district. Our professional development and curriculum leaders will continue to support professional training in the best practices of intervention, instruction, and assessment. Our technology department and instructional coaches will support teachers with the implementation and access of the one-to-one technology. If awarded this grant, there would be a reduction in cost of instructional resources, technology resources and most importantly the potential to reduce total FTE of teachers to support students that have failed a class and need to make-up a credit. This project will have exponential impact well beyond the life of the grant because the project is sustainable through the existing frameworks that have been developed to support innovation in our district. Simply put, it is the frameworks of ongoing, site-based professional support, technology advancement and curriculum & instruction that will efficiently support an enhancement of intervention and implement one-to-one instruction and differentiation for students. We do not anticipate additional costs beyond the recurring cost of providing machines to incoming 9th grade students that go beyond the scope of this grant to ensure sustainability of the project. This has been planned for with intention by supporting the sustainability of the project through the existing personnel and organization leadership within the Worthington City Schools.

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

2,718,370.00 * Total project cost

* Provide a brief narrative explanation of the overall budget. The narrative should include the source and amount of other funds that may be used to support this concept (e.g., Title I funding, RTI money, local funding, foundation support, etc.), and provide details on the cost of items included in the budget (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc).

15. What new/recurring costs of your innovative project will continue once the grant has expired? If there are no new/recurring costs, please explain why.

$11,000.00 * Specific amount of new/recurring cost (annual cost after project is implemented)

* Narrative explanation/rationale: Provide details on the cost of items included in the budget (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.). If there are no new/recurring costs, please explain why.

16. Are there expected savings that may result from the implementation of the innovative project?

14,000.00 * Specific amount of expected savings (annual)

* Narrative explanation/rationale: Provide details on the anticipated savings (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.)

17. Provide a brief explanation of how the project is self-sustaining. If there are ongoing costs associated with the project after the term of the grant, this explanation should provide details on the cost reductions that will be made that are at least equal to the amount of new/recurring costs detailed above. If there are no new/recurring costs, explain in detail how this project will sustain itself beyond the life of the grant.

Worthington City Schools has budgeted $700,000 annually for new textbooks. $300,000 of this money is dedicated to high school textbooks which would be purchased with the devices and is included in that cost, so no longer be needed in the forecast. Furthermore, Worthington pays for 15 seats at Rockbridge Academy at a cost of $7,000 per seat. Rockbridge allows at-risk students to personalize their learning and work on an on-line curriculum at their own pace. By having a high school one to one program Worthington would be able to eliminate the need for this on-going cost saving permanently another $105,000 per year. In addition Worthington has budgeted for equipment. A portion of that budget would no longer be needed saving the school district $80,000 per school year. These total savings of $525,000 would be offset by the ongoing costs of $511,000 for new devices for incoming freshmen. Overall the project should save Worthington Schools $14,000 per year.

18. Fill in the appropriate dates and an explanation of the timeline for the successful implementation of this project. In each explanation, be sure to briefly describe the largest barriers that could derail your concept or timeline for implementation and your plan to proactively mitigate such barriers. In addition, the narrative should list the stakeholders that will be engaged during that stage of the project and describe the communication that occurred as the application was developed.

Describe the ongoing communication plan with the stakeholders as the project is implemented. (Stakeholders can include parents, community leaders, foundation support and businesses, as well as educational personnel in the affected entities.)

* Proposed Timeline Dates
Plan (MM/DD/YYYY): 12/12/2013

* Narrative explanation:

The district began its preparation for increased mobile use during the 11-12 school year. During the year wireless access was installed in all buildings and immediately made available for student and teacher use. Funds to accomplish the wireless were part of the 2006 Worthington Schools bond levy. On passage of the 2012 Worthington Schools bond levy work continued on expanding district infrastructure to prepare for curriculum delivery through mobile and online access. The district entered into an agreement during the e-rate process for the installation of a 10 Gb private...
network. Each elementary and middle school will have 10 Gb network speeds to one of three district hub sites. The three hub sites will interconnect with 100 Gb network speeds. All switches within the buildings have been upgraded to 10 Gb to complete the high speed network. The district purchased 16Gb internet access via MEC, its’ ITC, in January 2013. Additionally, the district is establishing access to local disaster recovery site through the 100Gb project, to gain access to the recovery site as well as all internet vendors that currently have a presence at the recovery location. This places the district in a good position to have quick access to additional internet access when needed and likely at a reduced cost due to close proximity to internet vendors. Additional projects supporting the infrastructure expansion included an electrical generator at the hub site which provides internet access and increased electrical access for the other two hub sites. The remaining portion of the build out to support this infrastructure building this phase, will likely access of 802.11ac protocol. The access point expansion is to ensure we are prepared to handle an increase number of mobile devices. We closely monitor all servers, switches, controllers, etc. to be proactive on any issues impacting user experience. All staff have access to enter help ticketing requests supporting technical or instructional. During the past year these processes with 2200 directly related to instructional requests using technology. With the infrastructure to support the project firmly in place through our Straight A project, we will develop a comprehensive phased-in communication strategy that engages multiple stakeholders throughout the process. This process is grounded in research from Harvard Business School and noted researchers, Kotter, Kanter and others. Phase 1: Awareness and Commitment-During this phase, we will build a plan that creates awareness and builds commitment for move to student centered, personalized instruction, and e-learning with one-to-one computing. This will allow us to answer the question “What do we want stakeholders to know, feel, and do as a result of this effort?” Phase 2: Developing Understanding-Phase 2 will focus on developing a deeper understanding of personalized learning and classroom practice of Worthington teachers among all stakeholders through building engagement using a combination of print, electronic, video, and social media communications. Phase 3: Implementation and Reflection-Phase 3 will focus on implementing the project during this phase, will conclude the plan, focusing on the communications and engagement strategy implemented in Phase 2. Phase 4: Building Capacity-Each step of the way, we will be utilizing our communications and engagement strategies to build capacity in our district to successfully implement our personalized learning proposal. By doing so, we will be keeping our focus on student achievement and reducing the administrative costs of the program, allowing us to return more dollars to the classroom.

Implement (MM/DD/YYYY): 01/15/2014

* Narrative explanation

Upon notification of the receipt of the grant purchase orders will be issued for all equipment, materials and services designated in the fund. The following timeline is anticipated: January 2014: Submit all purchase orders for devices and contracted services January 2014 - Schedule training for Worthington Schools staff and Contract for services of PD and set up of devices March 2014 - Early Roll out of 802.11ac at Worthington Schools and capacity for the August Roll Out of our large comprehensive high school April 2014 - Set up devices and continue communication with students and families and the Worthington Community May 2014 - Provide PD for teachers on care and use of devices August 2014 - Schedule device pick-up and set-up for all high school students August 2014 - Provide professional development for students and families on best practices and personalized learning.

Summative evaluation (MM/DD/YYYY): 08/30/2014

* Narrative explanation

The evaluation of this project within the grant life (January through August) includes monitoring processes for purchase of devices, set-up of devices, communication with students and families and impact of professional development on teacher planning. Additionally, through early roll out at Linworth Alternative School, we will be able to evaluate early impact of a digital learning environment on instruction as well as the impact on the teaching and learning experience shaped by the infusion of a standard device in the classroom. Our early roll out will allow us to plan for barriers which could be experienced in our early implementation in our two comprehensive high schools. Because the district has built a strong infrastructure in anticipation of one to one computing, the early roll out will also help to test our preparation and address any issues that happen over the summer prior to full roll out. The Educational Service Center of Central Ohio will provide evaluation services for evaluation during the grant life. In the summative observations, surveys, semi-structured interviews and focus groups to assess the quality of the student and family communication plan and the impact of professional development on the change in teacher planning and instructional behaviors. In the school year following the grant life (2014-15) the following research questions, piloted in the early roll out at Linworth Alternative School, will be used to monitor its longer term impact: 1) Identify the impact of a digital learning environment on instruction 2) Explore differences in the classroom experience with the shared devices and applications and learning environment shaped by the infusion of a standard device in the classroom 4) Understand the impact of digital learning on student engagement. The district will assume evaluation responsibilities for gathering data on the four research questions.

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

Expected changes in instructional practices include: differentiation in genuine ways for all students with teachers who mine just-in-time data about the effects of differentiated instruction (places students at different levels in the digital divide on the same content); 2) absorption of knowledge in the digital divide on the same content); 3) more constructivist teaching, student centered strategies (Babel & Kay, 2010) 4) increased interest in learning (Belbey & Kay, 2010) 5) increased engagement and reduced behavior referrals (Belbey & Kay, 2010) 6) increased attendance rate (Holcomb, 2009) 7) higher test scores for writing and higher quality of writing (Suroh, 2010) 8) better organized, more efficient (Weber, 2009) 9) more constructivist teaching, student-identified curriculum to meet diverse student needs (Weber, 2009) 10) more collaborative and engaging collaborative work (Rockman, 2000) 11) more collaborative and job-embedded professional development (Belbey & Kay, 2010)

20. Describe to what extent the project is expected to impact student achievement, spending reduction in the five-year fiscal forecast or utilization of a greater share of resources in the classroom.

Research supports that providing ubiquitous access to technology allows a transformation in the quality of instruction. Teachers report that when computers are in use, they use technology less often for instructional because of difficulty of scheduling time and moving equipment (Adelman, et al., 2002). Cognitive tools such as laptops that are holistically integrated into the teaching and learning processes of the school increase the organizational skills of students (Lowther et al., 2001). College and Career readiness skills will be enhanced in students who help troubleshoot routine problems in a “help center” setting supported by university media specialists and technology teachers (Slivern, & Harris, 2003). Increased student engagement, organizational skills and the move from whole class teacher centered instruction to collaborative student work are identified as factors that will improve student retention and achievement reducing costs for intervention personnel, disciplinary supervision and repeated assignment of core academic courses. Moving from the computer lab model to one computer per student greatly increases the share of resources into the classroom. Additionally, one to one computing at the high school will increase the economic competitiveness of the region by preparing students for the technology saturated workplace.

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

Yes

22. If so, how?

While the research shows that 1:1 computing has the greatest impact on student participation on college and career readiness, 1:2 12:1 1:1 computing models have considerable impact on student achievement. With the 4:1 model, districts could replicate this project at a considerably lower cost.

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

In Worthington we are committed to providing challenging activities that require skills, clear goals and feedback for every student in our system. We believe that this project will provide equal access, improve student learning and expand the learning environment for our students and our teachers. Student benefits: 1) increased interest in learning Belbey & Kay, 2010) 2) increased engagement and reduced behavior referrals (Belbey & Kay, 2010) 3) decrease in absentee rate (Holcomb, 2009) 4) higher test scores for writing and higher quality of writing (Suroh, 2010) 5) better organized, more efficient (Weber, 2009) Teacher benefits: 1) more student-centered strategies (Belbey & Kay, 2010) 2) individualized curriculum to meet diverse student needs (Weber, 2009) 3) more constructivist teaching, student-identified curriculum and collaborative work (Rockman, 2000) 4) more collaborative and project-based instruction (Belbey & Kay, 2010)

24. What are the specific benchmarks related to the fund goals identified in question 9 that 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 easy to measure.

Five Worthington Schools will see an increase in resources devoted to the classroom through the effective use of Instructional Technology and Personalized Learning for all students. The failure rates for high school students will be reduced by 50% allowing the school district to permanently reduce spending annually and Worthington Schools will be better prepared for success in the 21st Century by demonstrating they are College and Career ready through the PSAT and end of course exams.

25. Describe the plan to evaluate the impact of the concept, strategy or approaches used.

* 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 program’s progress.)

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

It is our goal for this technology to provide equal access, improve student learning and expand the learning environment for our students and our teachers. We know that the ubiquitous use of technology in the classroom will open avenues unavailable to our teachers in the past. With that opportunity comes an obligation for the district to provide job embedded professional development well beyond training on the use of the hardware and software. Our district designed Lab Classes will provide this professional development by using our in district exemplars in project based learning, rich mathematical tasks, close reading and text dependent writing as professional development support. The Educational Service Center of Central Ohio will evaluate the short term objectives achieved during the grant life (January through August). This evaluation will include monitoring compliance with the purchase, set up and professional development schedules. Surveys prior to and following the teacher professional development will gather data on the proficiency in the technical use of the labs as well as the attitudinal change toward lesson development. (Will it make learning more efficient/effective? Does it alter a past learning experience for the better? Will it create a meaningful learning experience otherwise not possible?) Additionally, in the early roll out school (Linworth Alternative) the use of the SAMR model developed by Dr. Ruben Puentedura will be employed during classroom observations. This model of technology integration measures two district integration concepts: 1) Transformation: Technology allows for the creation of new tasks, previously inconceivable and technology allows for significant redesign and 2) Enhancement: Technology acts as a direct tool substitute, with no functional change (digital textbooks, word processing). The method for gathering data among these observable characteristics will consist of classroom observations, student reporting and teacher reporting questions. Using these observations and self report data as a baseline, data will be gathered quarterly and additional supports and professional
Development will be provided to teachers who are unable to demonstrate laptop use as a direct tool substitute with functional improvement in classroom practices.

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 timeframe. The Governing Board of the Straight A Fund reserves the right to conduct evaluation of the plan and request additional information in the form of data, surveys, interviews, focus groups, and any other related data to the legislature, governor, and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant agency and/or all identified partners to abide by all assurances outlined in the Assurance section of the CCIP. In the box below, enter "I Accept" and indicate your name, title, agency/organization and today’s date.

I Accept

Trent H. Bowers, Ed.D. Assistant Superintendent Worthington City Schools October 23, 2013