

**U.S. Department of Education - EDCAPS  
G5-Technical Review Form (New)**

Status: Submitted

Last Updated: 09/23/2013 04:48 PM

## Technical Review Coversheet

Applicant: Carroll County Schools (U411C130025)

Reader #1: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Summary Statement</b>		
<b>Summary Statement</b>		
1. Summary Statement	0	0
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	35	35
<b>Quality of Project Design</b>		
1. Project Design	25	23
<b>Quality of the Management Plan</b>		
1. Management Plan	15	14
<b>Quality of Project Personnel</b>		
1. Personnel	10	10
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	15	0
<b>Total</b>	100	82

# Technical Review Form

Panel #6 - i3 Development - 6: 84.411C

Reader #1: \*\*\*\*\*

Applicant: Carroll County Schools (U411C130025)

## Questions

### Summary Statement - Summary Statement

#### 1. Summary Statement (Optional)

##### General:

Peer reviewer comments are linked to factors in each section and are identified by the numbers that precede the comment(s).

Reader's Score: 0

### Selection Criteria - Significance

#### 1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(2) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

(3) The extent to which the proposed project will substantially improve on the outcomes achieved by other practices, such as through better student outcomes, lower cost, or accelerated results.

##### Strengths:

1. Page 3 The applicant presents a novel approach to Science, Technology, Engineering, and Math (STEM) education that consists of STEM coursework and career training through academic classes and work shift options in a single facility from 8 a.m. to 9:30 p.m., five days a week. All coursework is hands-on within the manufacturing plant and enables students to have real world experiences. The program provides support services—tutoring, mentoring and work supervision. Students are apprentices under the supervision of experienced STEM staff and develop technical and leadership skills needed for employment. This innovative program proposes to revise curriculum to draw closer correlations between STEM content and work within the facility that is aligned with Common Core State Standards. Instructors and school district science and math teachers would receive STEM professional development, along with new equipment and technology that will positively impact student achievement, engagement, and access.

2. Page 4 /5 The applicant presents evidence that the 12 for Life program, which extends STEM education, is advancing theory, practice and knowledge in Georgia and beyond. The 12 for life program is already in use in a small districts in Georgia and the proposed program proposes to expand it to several more counties, bringing more participants to advance practices in the field. Evidence of the possibility of replication is presented in the form of three businesses (Hon furniture, Carroll County Water Authority and Carroll Electric coop) that have implemented the model. The applicant presents further information that the program can be adapted to different businesses on a nationwide basis and contribute to practices.

3.

The applicant presents evidence from studies from the University of Georgia (2011) and the University of West Georgia (2012) demonstrating that the proposed program instituted on a smaller scale has a positive effect on graduation rates, rates of employment, and post-secondary enrollment (Page 6). The evidence shows that a hands-on approach with real world experiences, on-going professional development, connections to STEM mentors, outreach to underrepresented populations, and state of the art equipment will produce gains in measurable outcomes.

3. Page 15 It is expected that academic achievement will rise, graduation rates will increase, and the number of students enrolling in post secondary education will rise.

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 35**

**Selection Criteria - Quality of Project Design**

1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(3) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

**Strengths:**

1. Page 8 The applicant fully addresses Absolute Priority 3. The proposed project will refine and disseminate a STEM curriculum, incorporating rigorous STEM content in a real-world manufacturing setting. The program incorporates strong STEM professional development for educators and supportive technology. The goal is to positively effect student achievement and engage students. The applicant proposes instituting an Engineering Maintenance Program (Page 11) to give students hands-on experience with the repair, function and usage of industrial equipment. This will reinforce inquiry-based instructional techniques that are effective in developing STEM knowledge. The applicant also suggests that the program will address reading and comprehension difficulties by implementing a reading and language arts course and instructor to help students build comprehension of texts, a skill necessary for advancement in STEM.

2. Page 14 The applicant presents clear goals with a cogent plan and logic model to achieve the desired results. There are three main goals that include formalizing and enhancing the STEM focused applied learning model for replication, increasing student engagement and achievement in STEM areas; and ensuring that students graduate with the skills necessary to succeed in STEM careers or college study in STEM. Each of the goals is accompanied by clearly delineated strategies that will lead to the expected outcomes.

Page 15 The applicant presents a clearly delineated set of goals with strategies to achieve them. The strategies involve a

curriculum guide with realigned curriculum, and strong professional development for instructors (online or in-person).

Page 12 The applicant outlines the 12 for Life professional development plan which consists of online tools and training programs and a weekly STEM Professional Learning Community (PLC) forum where best practices are shared and its members are from the manufacturing site as well as teachers to provide for linkages between activities.

3. Page 16 The applicant discusses the barriers to success and strategies for mitigating those issues. These are discussed in the proposal and possible solutions to mitigate them are addressed. It is especially commendable that non-academic needs are addressed. The applicant realizes that success can only be achieved if challenges to personal needs are addressed. Consistent with this is the provision for various work shifts and addressing the need to earn money for daily subsistence. It is clear that the applicant understands and is considerate of the student body, providing supportive structures to deal with each barrier.

#### **Weaknesses:**

3. Page 9 The applicant indicates that the project will rely on a STEM Curriculum Development Specialist who will align STEM courses with activities in the factory setting and the Common Core State Standards. Although a list of courses for redesign is given (page 10), a more detailed discussion of the enhanced curriculum would be helpful.

Page 7/8/9 The applicant discusses the use of technology enabled pedagogy as a strategy for enhancing student engagement, increasing student achievement, and increasing student capacity to succeed in STEM college and careers. However, it is unclear what technology will be used beyond “state of the art technology” (page 7) and how it will produce the outcomes desired. A more detailed discussion of the types of technology proposed would be helpful.

**Reader's Score: 23**

#### **Selection Criteria - Quality of the Management Plan**

**1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.**

**(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project's long-term success.**

**(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.**

#### **Strengths:**

1. Page 17 The applicant presents a comprehensive timeline with milestones and responsibilities of personnel. The timeline links milestones to dates, responsibilities, and objectives. The metrics to determine if the goals are being met are given and are well defined (Page 15). The applicant describes metrics and performance targets that will be used to determine progress on a year-by-year basis and these are well defined well thought out.

2. The applicant presents letters of commitment from the four main partners (Appendix G).

Page 18 The applicant adequately describes the role of each of the partners. The primary partner, Southwire will assist in

the development and dissemination of the 12 for Life program. They benefit by encouraging a skilled workforce for their facility. Southwire provides financial assistance and facility space and equipment. Harralson County Schools (HCS) provides valuable student information for evaluation as well as new 12 for Life Board of Directors members to provide feedback on the program. They benefit from the services of the program to reach their needy students. West Georgia Technical College provides post-secondary support for students by offering part time employment to students in dual enrollment opportunities. Georgia Department of Community Affairs (DCA) will disseminate the 12 for Life program throughout the state through a curriculum guide and improve student outcomes.

3. Page 19 The applicant describes an Advisory Board that is made up of leaders from 14 community based organization, such as representatives from businesses, government, nonprofits, and financial institutions. The 12 for Life Board monitors and provides oversight to the program. Embedded in the logic model is a space for a feedback loop to program leaders on what works, what does not, and why. This will in effect monitor the program and allow for continuous improvement. The board meets quarterly to review the project and determine if it is meeting its goals, and examine evaluation findings. They will also develop corrective action and a plan for replication. Changes to the logic model will be the responsibility of the STEM Development Specialist. Information shared during the weekly STEM PLC meetings will contribute to the monitoring of the project.

**Weaknesses:**

1) Page 17 The applicant delineates a comprehensive timeline, however, it is confusing as to when the target dates are since only the start dates of milestones are given.

**Reader's Score: 14**

**Selection Criteria - Quality of Project Personnel**

**1. In determining the quality and personnel for the proposed project, the Secretary considers the following factor:**

**(1) The adequacy of the project's staffing plan, particularly for the first year of the project, including the identification of the project director and, in the case of projects with unfilled key personnel positions at the beginning of the project, that the staffing plan identifies how critical work will proceed.**

**Strengths:**

1. Page 20/21 The applicant presents a set of key personnel who are well equipped in experience and education to manage and drive a program of this type. The applicant has identified [REDACTED] as the project director. He has been serving in this capacity for 5 years and has led the 12 for Life program through an expansion that doubled its participants. He exhibits appropriate educational background (Doctorate in School Improvement) and has extensive experience in supervision.

Appendix F The applicant has submitted resumes of key personnel in the positions of Instructional Facilitator, Community Liaison, Plant Operations Manager, Science Instructor and Math Instructor, all of whom have strong qualifications in content area, education and experience in their fields. They are all currently working in designated

positions in the 12 for Life program. The applicant has presented qualifications and requirements for the positions that are not filled. The strong existing staffing plan assures that the project will be able to begin the critical work will proceed smoothly till additional hires are completed.

Appendix F The applicant has strong support from community partners who are already involved in similar projects. These partners will be available and prepared to work at the initiation of the project, during the time when additional personnel is hired.

**Weaknesses:**

No weaknesses noted.

**Reader's Score: 10**

**Selection Criteria - Quality of the Project Evaluation**

1. In determining the quality of the project evaluation to be conducted, the Secretary considers the following factors:

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measureable threshold for acceptable implementation.

**Strengths:**

N/A

**Weaknesses:**

N/A

**Reader's Score: 0**

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**Status:** Submitted  
**Last Updated:** 09/23/2013 04:48 PM

Status: Submitted

Last Updated: 09/24/2013 11:11 AM

## Technical Review Coversheet

Applicant: Carroll County Schools (U411C130025)

Reader #2: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Summary Statement</b>		
<b>Summary Statement</b>		
1. Summary Statement	0	
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	35	34
<b>Quality of Project Design</b>		
1. Project Design	25	22
<b>Quality of the Management Plan</b>		
1. Management Plan	15	13
<b>Quality of Project Personnel</b>		
1. Personnel	10	10
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	15	0
<b>Total</b>	100	79

# Technical Review Form

Panel #6 - i3 Development - 6: 84.411C

Reader #2: \*\*\*\*\*

Applicant: Carroll County Schools (U411C130025)

## Questions

### Summary Statement - Summary Statement

#### 1. Summary Statement (Optional)

General:

Reader's Score:

### Selection Criteria - Significance

#### 1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(2) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

(3) The extent to which the proposed project will substantially improve on the outcomes achieved by other practices, such as through better student outcomes, lower cost, or accelerated results.

#### Strengths:

While at a glance the project appears to have components that might not be considered unique, it is in the way that the component parts have been integrated along with the customized support services for teachers and students, and the unique infrastructure that make this program a novel and powerful approach to serving this type of student population as they achieve success as high school students and develop into career ready STEM workers. The creation of a new Curriculum and Replication Guide for distribution at 5 additional school districts and/or businesses will assist the project's expansion into new and different settings leading to project evaluation data that will inform best practices and research in the field.

The 12 for Life model uses high school Science, Mathematics, Engineering, and Technology (STEM) coursework, work-based learning methods, and applied technology in a way that engages and prepares students to enter STEM fields at the manufacturing level right out of high school. Data presented in Appendix C page 5 shows that an impressive 77.8% of participants of the 12 for Life program graduate from high school as compared to the national average that is about 50%. In addition, 35% of graduates went on to study STEM fields in college and 40% entered the military. Data on Carroll County Schools (appendix C) shows significant improvement in End of Course Tests in the areas of mathematics, biology, physical science, reading and writing. These are impressive figures that if repeated in expanded programs will help ensure more high school graduates and an increase in STEM workers in the manufacturing field.

The 12 for Life program was designed in 2004 and first implemented in 2007 and has been expanded to new regions, including new partners, since then. This expansion into new regions, including new partnerships demonstrates the growth of a successful program that is built on past success.

The proposed expansion of the program and its new features (professional development for teachers and redesigned

curriculum) in a district that already has infrastructure in place focused on student achievement in STEM subjects helps ensure the project's success.

The project offers a novel approach because of the increased frequency of exposure to STEM coursework and career training; the integration of curricula and hands-on activities at the plant; the customized and strength-based support services in the form of tutoring, mentoring, and work supervision; and the keen focus on working with a cohort of students that are at high-risk of dropping out and share a number of academic and life challenges. These strategies, if successful, will improve student graduation rates, improve STEM achievement and help prepare students for careers in STEM. Data and lessons learned from the implementation of this "STEM Immersion" program may lead to successful replication in new settings.

Table 1 on pages 6-7 identifies 4 key factors (community partner's shared vision; youth-centered environment; access to caring adults; reciprocal benefits for partners) that are incorporated into the 12 for Life program. How these factors will contribute to the program's success and inform best practices is clear, comprehensive, and based on research. Table 2 (page 7) illustrates research-based strategies and measures of impact that will enable project personnel to determine progress on anticipated outcomes for the project and lead to replication on a larger scale.

The theoretical foundation for the twelve different components of the 12 for Life model is clearly presented in Figure 1 (page 9) and shows strong alignments with curriculum redesign, technology enabled pedagogy, STEM professional development and applied learning supports.

#### **Weaknesses:**

The project is unique, because it will redesign curriculum by including applied learning activities as 25% of the instructional content for each course and this will be facilitated by a STEM Curriculum Development Specialist. A table is offered (page 10) that presents courses, common core standards and applied learning, however, details on a specific course, say Chemistry I, and how the applied learning will be integrated are not provided. Giving examples of how the applied learning topics will be integrated and aligned to specific content in a given course would have strengthened the proposal.

**Reader's Score: 34**

#### **Selection Criteria - Quality of Project Design**

**1. In determining the quality of the proposed project design, the Secretary considers the following factors:**

**(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.**

**(2) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).**

**(3) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.**

#### **Strengths:**

The project will engage students and increase student achievement in STEM content through a redesigned curriculum that increases the amount of applied learning activities for each course (page 10) will enable students to get hands-on experience in research and development; learn about materials in science and engineering; and develop confidence in

working with the production enterprises, robotics, and automated systems that are integral in the field of manufacturing. Participation in these types of learning activities will better ensure greater student achievement for students. Exposure to these features of the program will also prepare students for post high school certificate programs or college.

The project design includes training for 12 for Life teachers and the establishment of a professional development learning community that will encourage collaboration between the teachers and Southwire staff to ensure classroom learning is aligned to applied lab experiences at the plant. This will provide continuity for students and help ensure higher achievement, a goal of the project.

The goals and objectives are clear, explicit, linked to research-based strategies, and measurable, allowing for project personnel to monitor and assess progress over time and a logic plan is included.

Examples of how the curriculum redesign will help students in lab settings (page 18) include the addition of an Engineering Maintenance Program and an Extrusion Line Learning Lab that will allow students to gain valuable experience in modernized product design and fabrication as they are engaged in STEM product development.

Potential risks have been considered, identified, and are addressed in the narrative and Table 6 on page 16. Potential barriers are listed with reasonable, targeted, and comprehensive strategies for mitigation that will ensure that these special challenges are met and overcome in the project.

#### **Weaknesses:**

It is unclear from the proposal how the use of tablets (as referenced on pages 4, 5, 10, 12, and Appendix D pages 3 and 4 of 14), and other on-time online learning devices that will allow students to remain engaged in their work anywhere, anytime, are specifically related to the Technology Enabled Pedagogy and how the use of these devices will increase students' achievement in STEM content.

The proposal includes a logic model on page 14 that includes general inputs, strategies, short- and long-term outcomes, but the model is general and does not show specific alignment to the three goals of the project.

**Reader's Score: 22**

#### **Selection Criteria - Quality of the Management Plan**

**1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:**

**(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.**

**(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project's long-term success.**

**(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.**

#### **Strengths:**

Start dates, clear goals, and objectives that are aligned with goals, milestones, and the person responsible are well presented in the proposal on table 7 (page 17) and will assist with managing the project in a way that keeps all stakeholders informed.

The proposal identifies and demonstrates that key partnerships exist among the school districts, West GA Technical

College, the Georgia Department of Community Affairs, and Southwire demonstrating that an infrastructure and essential operations have already been established and implemented and this will reduce start-up time for the project. It also shows that a strong commitment from all partners exists.

The addition of a full time Academic Counselor (page 13) whose role includes assisting students in setting goals, mentoring, coaching, and monitoring academic performance will help offset the many challenges faced by this group of at risk students as they participate in the program.

A strong partnership between the school districts and local business partner, Southwire led to the creation of the 12 for Life program in 2004 that has graduated 635 students. This mutually beneficial partnership has been nurtured over time and shows a commitment from business and industry towards educating and mentoring young students along the STEM pipeline. This is highly commendable and should be emulated throughout the country. Businesses, schools, communities, and students all benefit when business and industry leaders work with educators and provide more hands-on experiences, internships, and mentoring for high school students who are interested in science, mathematics, engineering and technology.

The advisory board, including members from 14 community-based organizations is a powerful way to promote the program, advocate for this particular population of students, share best practices, and provide oversight.

**Weaknesses:**

The management plan includes milestones, start dates, and responsibilities that are clearly linked to the three major goals and objectives of the project, however, end dates, annual targets, and deliverables are not included and this will make it difficult to monitor and make adjustments as needed.

As stated on page 19, the advisory board plans to meet quarterly to review evaluation findings provided by The Evaluation Group (TEG), however, this may not be an adequate plan for ensuring continuous improvement for a project of this scope. More specifics on communications and the use of evaluation data and feedback would have strengthened the proposal.

**Reader's Score: 13**

**Selection Criteria - Quality of Project Personnel**

**1. In determining the quality and personnel for the proposed project, the Secretary considers the following factor:**

**(1) The adequacy of the project's staffing plan, particularly for the first year of the project, including the identification of the project director and, in the case of projects with unfilled key personnel positions at the beginning of the project, that the staffing plan identifies how critical work will proceed.**

**Strengths:**

Major positions are clearly stated in the proposal and selected personnel, including an identified project director, possess high levels of experience, expertise and qualifications that will enable them to perform their responsibilities in a way that will help the project be successful.

The new academic advisor will possess an advanced degree and have at least three years of experience working in a similar capacity; thus, ensuring that targeted students will receive strong guidance as their customized programs and studies are determined.

**Weaknesses:**

No weaknesses found.

**Reader's Score:** 10

**Selection Criteria - Quality of the Project Evaluation**

1. In determining the quality of the project evaluation to be conducted, the Secretary considers the following factors:

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measureable threshold for acceptable implementation.

**Strengths:**

Not scored.

**Weaknesses:**

Not scored.

**Reader's Score:** 0

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**Status:** Submitted

**Last Updated:** 09/24/2013 11:11 AM

Status: Submitted

Last Updated: 09/23/2013 10:21 PM

## Technical Review Coversheet

Applicant: Carroll County Schools (U411C130025)

Reader #3: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Summary Statement</b>		
<b>Summary Statement</b>		
1. Summary Statement	0	
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	35	35
<b>Quality of Project Design</b>		
1. Project Design	25	22
<b>Quality of the Management Plan</b>		
1. Management Plan	15	12
<b>Quality of Project Personnel</b>		
1. Personnel	10	10
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	15	0
<b>Total</b>	100	79

# Technical Review Form

Panel #6 - i3 Development - 6: 84.411C

Reader #3: \*\*\*\*\*

Applicant: Carroll County Schools (U411C130025)

## Questions

### Summary Statement - Summary Statement

#### 1. Summary Statement (Optional)

General:

Reader's Score:

### Selection Criteria - Significance

#### 1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(2) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

(3) The extent to which the proposed project will substantially improve on the outcomes achieved by other practices, such as through better student outcomes, lower cost, or accelerated results.

#### Strengths:

The proposal addresses an area of remarkable need by engaging students with high-needs in an immersion experience with STEM (Science, Technology, Engineering, and Mathematics). Experiences of students in classes and apprenticeships may provide interesting suggestions for enfranchising the most high-need students in productive educational experiences that lead to STEM-focused employment and educational outcomes. Developing a model for direct pathways from work-based curriculum to careers is timely, particularly in one that anticipates maintaining a rigorous STEM preparation (page 9) for students who often receive less rich mathematics and science preparation. The discussion on page 9 supports the redesign plans that engage students in applied learning and in content rigor during the connection to work-based learning.

The 12 for Life initiative is a model for reaching high-need students that shows evidence of success (page 3, Appendix C). The opportunity to explore the scalability of the model, including creating, evaluating, and disseminating materials for replication, is a worthy activity, providing potential for significantly improving student outcomes by efficiently addressing coherence in the school to career transition.

#### Weaknesses:

None noted.

### Selection Criteria - Quality of Project Design

1. In determining the quality of the proposed project design, the Secretary considers the following factors:

- (1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.
- (2) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).
- (3) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

#### Strengths:

The theoretical foundation of this project (page 9) demonstrates the balance between STEM curriculum, technology, external supports, and professional development for teachers. Attending to all of these features results in a redesign of STEM curriculum, appropriate for Absolute Priority 3. The project components represent initiatives that possess potential for positively impacting students, as demonstrated by the proposers with other student populations.

Because of the applicant's prior experience with organizing these approaches, the design of the project, including activities and goals, is cohesive and well-described. The theoretical foundation (page 9) differentiates effectively between the components of the project, but the narrative of activities in the project demonstrates thoughtfulness in considering how these pieces come together to ultimately accomplish the work of the project. The logic model (appendix D) also provides a complete view of project partners, strategies, and their intended outcomes. The strategies selected, aligned with the theoretical foundation, are also aligned with the intended outcomes. Risk mitigation is presented briefly in a table that matches barriers with project solutions (page 16).

#### Weaknesses:

A centerpiece of the project is the effective use of professional development, a necessary part of replication of this project. However, a clear description of how the components of professional development, including the trainings, professional learning communities, and STEM conference, fit together would strengthen the reader's understanding of the design and sustainability of this part of the project. Some research is presented to clarify the success factors of the 12 for Life project (page 10, Appendix D), but the description does not clarify the professional development provided to teachers and other education stakeholders.

### Selection Criteria - Quality of the Management Plan

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

- (1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.
- (2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project's long-term success.
- (3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation

of the proposed project.

**Strengths:**

Roles are presented briefly (page 21), though the work of each role is apparent from the narrative and prior tables. Several roles are unfilled and dependent upon funding, but qualifications are provided in job descriptions (Appendix F) that also clarify responsibilities of different roles.

The proposal includes a timeline (pages 15-16) that presents the goals and objectives in a way that clarifies what formative and summative assessments will be made to track the project's progress. This is further supported by the table on page 17, which identifies the responsible parties for many of the project's action steps.

Ongoing feedback is addressed (page 19), and the proposal includes some discussion of how this feedback cycle will be utilized. The inclusion of an Advisory Board is appropriate for a project that brings together several components and stakeholders. The board is diverse and representative of the stakeholders and is the primary entity responsible for organizing and using ongoing feedback (page 19).

Partners have for the most part already demonstrated an ongoing relationship and commitment to the goals of this project through their history of working together and included letters of support. The additional partner Southwire has committed to the work of the project and has provided a letter indicating that commitment.

**Weaknesses:**

Ultimately, the significant flaw with the management plan is the omission of end dates for many of the project's activities.

**Reader's Score: 12**

**Selection Criteria - Quality of Project Personnel**

**1. In determining the quality and personnel for the proposed project, the Secretary considers the following factor:**

**(1) The adequacy of the project's staffing plan, particularly for the first year of the project, including the identification of the project director and, in the case of projects with unfilled key personnel positions at the beginning of the project, that the staffing plan identifies how critical work will proceed.**

**Strengths:**

Roles are presented briefly (page 21), though the work of each role is apparent from the narrative and prior tables. Several roles are unfilled and dependent upon funding. However, the proposal outlines contingent plans for initiating work of the project until hires are made and includes descriptions of qualifications required of personnel (page 21). For the most part, the work of the project seems well matched to the persons who are already committed to the work of the project. That is, the work of developing materials to support replicability and dissemination of the project requires particular expertise, but the personnel presented are likely to demonstrate the expertise necessary to do so. Evidence of this is in the attention to qualifications for personnel and the expertise demonstrated by the included resumes of engaged personnel.

**Weaknesses:**

None noted.

Reader's Score: 10

#### Selection Criteria - Quality of the Project Evaluation

1. In determining the quality of the project evaluation to be conducted, the Secretary considers the following factors:

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measureable threshold for acceptable implementation.

**Strengths:**

N/A

**Weaknesses:**

N/A

Reader's Score: 0

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**Status:** Submitted

**Last Updated:** 09/23/2013 10:21 PM

Status: Submitted

Last Updated: 09/19/2013 04:24 PM

## Technical Review Coversheet

Applicant: Carroll County Schools (U411C130025)

Reader #4: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Summary Statement</b>		
<b>Summary Statement</b>		
1. Summary Statement	0	0
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	35	0
<b>Quality of Project Design</b>		
1. Project Design	25	0
<b>Quality of the Management Plan</b>		
1. Management Plan	15	0
<b>Quality of Project Personnel</b>		
1. Personnel	10	0
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	15	15
<b>Total</b>	100	15

# Technical Review Form

Panel #6 - i3 Development - 6: 84.411C

Reader #4: \*\*\*\*\*

Applicant: Carroll County Schools (U411C130025)

## Questions

### Summary Statement - Summary Statement

#### 1. Summary Statement (Optional)

##### General:

Please note: reviewer comments for the evaluation section correspond numerically to the factors that relate to that section.

Reader's Score: 0

### Selection Criteria - Significance

#### 1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(2) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

(3) The extent to which the proposed project will substantially improve on the outcomes achieved by other practices, such as through better student outcomes, lower cost, or accelerated results.

##### Strengths:

N/A

##### Weaknesses:

N/A

Reader's Score: 0

### Selection Criteria - Quality of Project Design

#### 1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(3) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

**Strengths:**

N/A

**Weaknesses:**

N/A

**Reader's Score: 0**

**Selection Criteria - Quality of the Management Plan**

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.

(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project's long-term success.

(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.

**Strengths:**

N/A

**Weaknesses:**

N/A

**Reader's Score: 0**

**Selection Criteria - Quality of Project Personnel**

1. In determining the quality and personnel for the proposed project, the Secretary considers the following factor:

(1) The adequacy of the project's staffing plan, particularly for the first year of the project, including the identification of the project director and, in the case of projects with unfilled key personnel positions at the beginning of the project, that the staffing plan identifies how critical work will proceed.

**Strengths:**

N/A

**Weaknesses:**

N/A

**Reader's Score: 0**

## Selection Criteria - Quality of the Project Evaluation

### 1. In determining the quality of the project evaluation to be conducted, the Secretary considers the following factors:

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measureable threshold for acceptable implementation.

#### Strengths:

(1) The applicant's three key evaluation questions focus on student academic performance, student behavior, and student future education and career goals (p. 22). These directly relate to goals 2 and 3 as stated on pp. 15-16. The applicant clearly describes appropriate methods to compare the participant group to a non-participant group on measures including GPA, and graduation, suspension and dropout rates (pp. 22-24). The applicant also intends to establish baseline data in Year 1 as indicated in Table 5 (pp. 15-16), which will allow it to determine the extent to which the objectives have been met. To gather information in response to the key questions, the applicant will also utilize surveys, interviews and focus groups to gather data about student attitudes, behaviors, and aspirations, and teacher perceptions of professional development. This will provide further feedback on progress toward achieving project goals.

(2) The applicant will use a multiple cohort quasi-experimental design (QED) to compare "12 for Life" students with a matched sample of non-participants, with students in the comparison group matched on the same criteria used to select participants, such as credit deficiencies, absences and low socioeconomic status (pp. 23-24). In addition, the applicant will survey comparison group students to ensure comparability among the groups in motivation and postsecondary aspirations (p. 24). The applicant has calculated the minimum detectable effect size (detailed in Table 9 on p. 24) and also provides adequate justification for the pooled sample size of 300 participants and 300 non-participants (p. 24). The applicant has also outlined the descriptive and inferential statistics and confirmatory analysis (e.g., Multiple Regression) to be used (p. 25). This clear attention to detail and the use of multiple appropriate methods of analysis to address the evaluation questions will enable the applicant to look at the data in multiple ways, providing additional assurance that the key questions have been adequately addressed.

(3) The applicant's logic model (Figure 2, p. 14) shows the proposed relationship between program inputs, strategies, and intended outcomes. The applicant also intends to collect baseline data in Year 1 and provides measures in Table 5 (p. 15) for each objective to indicate the (generally statistically significant) difference between the two groups that will be used to demonstrate a successful outcome. The applicant also intends to utilize an implementation matrix to document program implementation variables, such as service delivery (dosage, frequency, duration), to examine fidelity of implementation of the program model. Development of a fidelity index will enable the applicant to set thresholds of implementation for key program components (p. 25). To further facilitate replication in other settings, a replication guide will be created (p. 15) by the end of Year 1.

#### Weaknesses:

None noted.

**Reader's Score:** 15

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**Status:** Submitted

**Last Updated:** 09/19/2013 04:24 PM



Status: Submitted

Last Updated: 09/23/2013 12:47 PM

## Technical Review Coversheet

Applicant: Carroll County Schools (U411C130025)

Reader #5: \*\*\*\*\*

	Points Possible	Points Scored
<b>Questions</b>		
<b>Summary Statement</b>		
<b>Summary Statement</b>		
1. Summary Statement	0	
<b>Selection Criteria</b>		
<b>Significance</b>		
1. Significance	35	0
<b>Quality of Project Design</b>		
1. Project Design	25	0
<b>Quality of the Management Plan</b>		
1. Management Plan	15	0
<b>Quality of Project Personnel</b>		
1. Personnel	10	0
<b>Quality of the Project Evaluation</b>		
1. Project Evaluation	15	14
<b>Total</b>	100	14

# Technical Review Form

Panel #6 - i3 Development - 6: 84.411C

Reader #5: \*\*\*\*\*

Applicant: Carroll County Schools (U411C130025)

## Questions

### Summary Statement - Summary Statement

#### 1. Summary Statement (Optional)

General:

Reader's Score:

### Selection Criteria - Significance

#### 1. In determining the significance of the project, the Secretary considers the following factors:

(1) The extent to which the proposed project would implement a novel approach as compared with what has been previously attempted nationally.

(2) The potential contribution of the proposed project to the development and advancement of theory, knowledge, and practices in the field of study.

(3) The extent to which the proposed project will substantially improve on the outcomes achieved by other practices, such as through better student outcomes, lower cost, or accelerated results.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

### Selection Criteria - Quality of Project Design

#### 1. In determining the quality of the proposed project design, the Secretary considers the following factors:

(1) The extent to which the proposed project addresses the absolute priority the applicant is seeking to meet.

(2) The clarity and coherence of the project goals, including the extent to which the proposed project articulates an explicit plan or actions to achieve its goals (e.g., a fully developed logic model of the proposed project).

(3) The clarity, completeness, and coherence of the project goals, and whether the application includes a description of project activities that constitute a complete plan for achieving those goals, including the identification of potential risks to project success and strategies to mitigate those risks.

**Strengths:**

n/a

**Weaknesses:**

n/a

**Reader's Score: 0**

**Selection Criteria - Quality of the Management Plan**

1. In determining the quality of the management plan and personnel for the proposed project, the Secretary considers the following factors:

(1) The extent to which the management plan articulates key responsibilities and well-defined objectives, including the timelines and milestones for completion of major project activities, the metrics that will be used to assess progress on an ongoing basis, and annual performance targets the applicant will use to monitor whether the project is achieving its goals.

(2) The extent of the demonstrated commitment of any key partners or evidence of broad support from stakeholders whose participation is critical to the project's long-term success.

(3) The adequacy of procedures for ensuring feedback and continuous improvement in the operation of the proposed project.

**Strengths:**

n/a

**Weaknesses:**

n/a

**Reader's Score: 0**

**Selection Criteria - Quality of Project Personnel**

1. In determining the quality and personnel for the proposed project, the Secretary considers the following factor:

(1) The adequacy of the project's staffing plan, particularly for the first year of the project, including the identification of the project director and, in the case of projects with unfilled key personnel positions at the beginning of the project, that the staffing plan identifies how critical work will proceed.

**Strengths:**

n/a

**Weaknesses:**

n/a

**Reader's Score: 0**

## Selection Criteria - Quality of the Project Evaluation

1. In determining the quality of the project evaluation to be conducted, the Secretary considers the following factors:

(1) The clarity and importance of the key questions to be addressed by the project evaluation, and the appropriateness of the methods for how each question will be addressed.

(2) The extent to which the evaluation plan includes a clear and credible analysis plan, including a proposed sample size and minimum detectable effect size that aligns with the expected project impact, and an analytic approach for addressing the research questions.

(3) The extent to which the evaluation plan clearly articulates the key components and outcomes of the project, as well as a measureable threshold for acceptable implementation.

### Strengths:

This proposal meets several evaluation requirements. The key questions are appropriate for determining proposed outcomes. Additionally, the data collection strategies and data sources are also included (pg. 18, 21-23). Including objective measurable data, such as GPA and graduation, suspension, and dropout rates, increases data reliability. Additionally, including subjective qualitative data complements objective data and allows for "deeper" analysis. Using a variety of data sources (i.e. students, teachers) allows for data triangulation which strengthens the validity of results. The applicant also does an adequate job of explaining the matched comparison methodology as well as the variables upon which the treatment and control group will be matched, thus providing confidence in the ability to determine programmatic impact. Sample and effect sizes are given along with a rationale including a significance level of 0.05. (pg. 24) There is also an appropriate analysis plan and strong evaluation plan regarding program implementation. For example, the applicant mentions using both descriptive and inferential statistics to analyze quantitative data. Additionally, the applicant aligns the chosen analysis test to the type of data analyzed (pg. 25).

### Weaknesses:

Some clarity is needed regarding the methodology. On page 23, the applicant states that student grade point average (GPA) would serve as the indicator for establishing baseline equivalence between comparison groups. It is unclear how the applicant will account for inconsistencies in how GPA is calculated across groups. For example, it would strengthen the proposal to explain how the applicant will know and ensure that a GPA from one school/district is equivalent to that from another. It would also strengthen the proposal to include an explanation of how the applicant will account for and/or control for the possibility of students dropping out of the study over the course of 4 years (pg. 23), as well as an explanation on how to account for other variables that can influence findings (i.e. social environment in different schools and districts). However, these are minor weaknesses.

**Reader's Score:** 14

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**Status:** Submitted  
**Last Updated:** 09/23/2013 12:47 PM