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

Status: Submitted
Last Updated: 09/01/2023 05:58 PM

Technical Review Coversheet

Applicant: Concord Consortium, Inc. (S411C230070)
Reader #1:   **********

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	20	20
Quality of Project Design		
1. Project Design	30	26
Quality of Project Personnel		
1. Project Personnel	10	8
Quality of the Management Plan		
1. Management Plan	10	9
Sub Total	70	63
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Promoting Equity	5	4
Competitive Preference Priority 2		
1. Workforce Diversity	2	0
Sub Total	7	4
Total	77	67

Technical Review Form

Panel #7 - EIR Early-Phase - 7: 84.411C

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

Applicant: Concord Consortium, Inc. (S411C230070)

Questions

Selection Criteria - Significance

1. **The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factor:**

Reader's Score: 20

> **Sub**
>
> 1. **(1) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies. (20 points)**
>
>   **Strengths:**
>
>   The applicant has proposed promising new strategies that build upon existing strategies and serve as alternatives to existing approaches in algebra and AI literacy.
>   This approach is innovative in that interdisciplinary AI modules will be developed that are linked to Common Core Mathematics Standards as well as state-level mathematics standards in both Florida and Texas. (e24-26)
>   The approach is innovative in that it leverages the use of virtual learning to reach high-needs students who otherwise would lack access to such learning opportunities, including geographically isolated rural students. The approach also, by embedding AI content in the context of algebra, extends the reach of programming to students who may not elect to enroll in an elective course on AI topics even if they are available.
>   The approach builds upon existing structures and developments. The applicant, in this project, is partnering with two well-established virtual school programs in delivering programming for both teacher professional learning and student learning experiences online, both synchronously and asynchronously. (e27-29) It will use existing platforms and strategies (e18), including technologies already well-established for modeling with data, managing student learning (LMS), and teaching AI concepts. (e20-21)
>
>   **Weaknesses:**
>
>   No weaknesses noted.
>
>   **Reader's Score: 20**

Selection Criteria - Quality of Project Design

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

Reader's Score: 26

1. **(1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework. (10 points)**

   Strengths:

   The applicant's design is informed by the Social Cognitive Career Theory. According to this theory, students' interests, choices, and performance are influenced by self-efficacy and outcome expectations (beliefs about outcomes that result from participation). Integrated learning will provide students with personal performance experiences that according to this theory account for the most variance in self-efficacy. The experiences will provide contemporary, exciting contexts for student application and learning of mathematical content. The role of mathematics in cutting-edge technology holds promise in improving outcomes both in math achievement and students' desire to pursue continued learning in AI. (e22)

   Weaknesses:

   No weaknesses noted.

   Reader's Score: 10

2. **(2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable. (5 points)**

   Strengths:

   The goal of the program is to promote equity in AI education resources for high needs students. The applicant clearly states objectives, related measures, data sources used, and proposed activities that support each objective. Objectives include increasing the number of students, including high-needs students, with access to AI in Math, improving high-needs students' AI literacy and self-efficacy, improving high-needs students' math achievement and attitudes toward math, and developing the competency of teachers in implementing the AI in Math program. (e23)
   The applicant provides a logic model which breaks outcomes down into short, medium, and long range. The short-term outcomes are reflective of the objectives. The medium range outcome listed involves "increasing the numbers of students, especially those underrepresented, in computing, AI, taking opportunities to learn advanced AI topics, and performing well" and the long-range outcome is to increase the capacity and diversity of the AI workforce. (e91)

   Weaknesses:

   Given the integration with mathematics, the applicant's proposed outcomes lack attention to the impact of the proposed interventions upon students' interests, perceptions, and abilities in mathematics. The benefits of this integrated approach to math learning in relation to the project goal are unclear.

   Reader's Score: 3

3. **(3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs. (15 points)**

   Strengths:

   This proposal has exciting potential to reach underserved student populations with engaging, relevant, and timely content of high interest. This is important because the approach suggested brings AI content to students in an integrated context within math lessons. The content may reach students who would not have access to or would not otherwise choose to engage in AI learning experiences or courses.
   It is likely that this approach will boost student interest and engagement in AI and mathematics, while also helping to establish career interests in related fields. Given the great need for skilled STEM workers, especially in computer

science and AI, this approach could benefit students in setting them on paths to meaningful careers.

The applicant has experience in reaching teachers and students with engaging online content, including the CODAP platform which is used extensively in data science. The accessibility of platforms such as this holds great promise in meeting the needs of the target population.

The applicant's virtual learning approach helps to ensure that the related learning opportunities are widely accessible, reaching high-needs students.

Weaknesses:

The process involved in the training of 68 teachers to be involved with the project is not clear. Fifteen hours each of synchronous and asynchronous training may not be sufficient to provide sufficient training and support for participating staff.

Reader's Score: 13

Selection Criteria - Quality of Project Personnel

1. **The Secretary considers the quality of the personnel who will carry out the proposed project. In determining the quality of project personnel, the Secretary considers the following factor:**

Reader's Score: 8

Sub

1. **(1) The extent to which the applicant encourages applications for employment from persons who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability. In addition, the Secretary considers the qualifications, including relevant training and experience, of key project personnel. (10 points)**

Strengths:

The applicant has identified staff by name and position from all partner institutions who will serve the project. Details provided include qualifications, relevant experience and training, and descriptions of the roles played by each of these individuals in project leadership and implementation. (e30-32) Biographical sketches for these individuals provide further evidence of the qualifications of personnel for this project. Details provided in the biographical sketches include relevant professional preparation, appointments, products, publications, personal statements, synergistic activities, and certifications. (e61-86)

The Co-PI for a university partner is a Latina professional who serves as Chief Equity Officer. She will oversee recruitment of female and minority graduate students to join the project. (e17)

Weaknesses:

The applicant does not include any description of how the applicant will encourage applications for employment from persons who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability. The project's PI leads multiple projects and only has 10% of her time allocated to this project. This time allotment is not sufficient for overseeing "all aspects of the project, working closely with other team members to ensure that all project objectives are achieved."

Sub

Reader's Score: 8

Selection Criteria - Quality of the Management Plan

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

Reader's Score: 9

Sub

1. **(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks.**

   Strengths:

   The applicant has established a management plan that delineates the responsibilities of each partner organization involved with this project. This is important as this plan clearly establishes responsibilities for tasks and activities for the project, increasing the likelihood that project activities will be completed on time and within budget.
   The applicant institution will be responsible for developing, testing, and improving the curriculum, assessment, technologies, and teacher PD program described in this proposal. University partners in Florida and Texas will coordinate field tests, pilot studies, and impact studies with virtual schools in those states. The external evaluator team will provide periodic reviews, formative feedback and will lead the analysis and publication of an impact study. Given the long-term collaboration of these partners on multiple projects, effective and efficient means of collaboration and communication have already been established. These partners utilize both synchronous and asynchronous modes of connecting. (e31-32)
   The applicant provides a table which breaks down the Project Timeline & Milestones into five areas: Iterative Development, Pilot Study, Impact Study, Delayed Implementations, and Dissemination. Each of these areas has associated activities for which the timeline points out the year(s) and quarter(s) during which the activities will occur. The scheduling of professional development and four stages of an iterative implementation plan are laid out in the timeline. A brief description of the iterative development process provides further detail on each of the 5 areas identified in the Project Timelines & Milestones table and the activities involved. This process provides a built-in means of continuous improvement as the project scales up. (e17)
   Inter-institutional agreements (described in a letter of support from a university partner) for this proposal include subcontract proposals which provide descriptions of the work to be performed along with a corresponding budget and budget justification for each budget year and entire budget period. (e87)
   The applicant, evaluator, and university partners have provided budget details that break down the use of the contractual funds in the applicant's budget narrative.

   Weaknesses:

   A letter of support from a university partner references the inter-institutional agreements that define responsibilities related to partnership activities, but these agreements are not provided in the applicant's proposal. Also, a discrepancy exists regarding time allocated for professional development. The budget includes funding for 20 hours of professional development (e143) whereas the applicant's narrative describes 15 hours each of synchronous and asynchronous training, which totals 30 hours (e29).

   Reader's Score: 9

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. **Competitive Preference Priority 1:**

   Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 5 points)

   Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:
   (a) Community colleges (as defined in the NIA)
   (b) Historically Black colleges and universities (as defined in the NIA)
   (c) Tribal Colleges and Universities (as defined in the NIA)
   (d) Minority-serving institutions (as defined in the NIA)

   Strengths:

   A key university partner in this project is a Hispanic-serving institution with 29% Hispanic and 49% female students. An eligibility letter is provided to verify the eligibility of this institution. (e17, e98)
   The Co-PI from this institution is a Latina professional who serves as Chief Equity Officer. She will oversee the equitable design of the AI in Math program, supporting the recruitment of female and minority graduate students to join the project.

   Weaknesses:

   While the applicant has demonstrated that the project will be implemented in partnership with an eligible institution, details regarding the process involving the recruitment of female and minority graduate students are not clear.

Reader's Score: 4

Competitive Preference Priority - Competitive Preference Priority 2

1. **Competitive Preference Priority 2:**

   Supporting a Diverse Educator Workforce and Professional Growth to Strengthen Student Learning (up to 2 points)

   Projects that are designed to increase the proportion of well-prepared, diverse, and effective educators serving students, with a focus on underserved students, through building or expanding high-poverty school districts' capacity to hire, support, and retain an effective and diverse educator workforce, through adopting or expanding comprehensive, strategic career and compensation systems that provide competitive compensation and include opportunities for educators to serve as mentors and instructional coaches, or to take on additional leadership roles and responsibilities for which educators are compensated.

   Strengths:

   Not applicable.

   Weaknesses:

   Not applicable.

Reader's Score: 0

Status: Submitted
Last Updated: 09/01/2023 05:58 PM

Technical Review Coversheet

Applicant: Concord Consortium, Inc. (S411C230070)
Reader #2:   **********

		Points Possible	Points Scored
Questions			
Selection Criteria			
Significance			
1. Significance		20	20
Quality of Project Design			
1. Project Design		30	26
Quality of Project Personnel			
1. Project Personnel		10	10
Quality of the Management Plan			
1. Management Plan		10	10
	Sub Total	70	66
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority 1			
1. Promoting Equity		5	5
Competitive Preference Priority 2			
1. Workforce Diversity		2	0
	Sub Total	7	5
	Total	77	71

Technical Review Form

Panel #7 - EIR Early-Phase - 7: 84.411C

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

Applicant: Concord Consortium, Inc. (S411C230070)

Questions

Selection Criteria - Significance

1. **The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factor:**

Reader's Score: 20

   Sub

   1. **(1) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies. (20 points)**

      Strengths:

      The proposal extends previous work in Artificial Intelligence (AI) curriculum integration conducted recently by the Principal Investigator (PI) (e20). The previous work considered integration in English Language Arts and Science. The pilot research reported promising results and differed from initial AI programs that situated the learning in computer science courses in traditional in-person school settings (e18). The application proposes to extend the integration of AI into discipline-specific areas and create resources targeting virtual schools (e21). The current scope of the project is focused on curricular integration in foundational mathematics, specifically Algebra I and Integrated Math I (e19). The proposal offers new opportunities for integrated AI in STEM, specifically targeting the virtual school environment. This provides options for students who are currently in a non-traditional learning environment and may not have access and opportunities to study AI due to geographic or economic factors.

      Weaknesses:

      No weaknesses were noted.

      Reader's Score: 20

Selection Criteria - Quality of Project Design

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

Reader's Score: 26

Sub

1. **(1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework. (10 points)**

   Strengths:

   The proposal is grounded in Social Cognitive Career Theory which works with student interests and student choice to demonstrate positive outcomes in AI integrated into mathematics (e22). One key aspect of the integration of AI into the core math curricula is the expectation that all students should learn the principles of AI. The integrated tasks will be developed to generate interest and excitement as students explore contemporary issues in math through AI (e22). The conceptual framework indicates desired outputs of increased participation in advanced AI coursework and eventual increases in workforce demographics, both targeting underrepresented students in the computing field (e91).

   Weaknesses:

   No weaknesses were noted.

   Reader's Score: 10

2. **(2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable. (5 points)**

   Strengths:

   The proposal presents specific goals of curricular integration of AI in mathematics with the direct outcome of increasing student performance in mathematics and generation of student interest in advanced AI topics (e24). The proposal also details a set of math standards addressed in the project linked to AI concepts and generalized contextual lesson prompts (e25). The project also states goals concerning equity and access that will be achieved through legacy virtual programs, enhanced virtual school online support, and delivery of the modules online to provide access to students in rural areas (e26). The project will monitor student participation through an established learning management system (e27). The proposal design utilizes a tested virtual school delivery system as a medium to integrate AI computing concepts into the foundational curriculum. This integration is key to establishing individual interest and allowing students to experience the broad influence of AI in an era when digital technologies govern nearly all aspects of daily life.

   Weaknesses:

   The proposal does not specifically identify how the project will collect data on student attitudinal gains in mathematics. The framework relies on exposure to interesting topics but does not cite how the topics of interest will be generated and what measures will be used to indicate that students were responsive to the curricular modules due to interest (e22).

   Reader's Score: 3

3. **(3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs. (15 points)**

   Strengths:

   The project will utilize a number of existing virtual curricular resources and robust learning management systems capable of tracking student participation and achievement (e27). The proposal highlights accessibility to existing state-wide, virtual schools hosted by two project partners. These virtual school programs currently provide access to underrepresented students and include data indicating an increasing trend in participation among Hispanic or Latinx students (e28). The project will include targeted outreach to underrepresented students via specific student recruitment guidelines and informational materials produced in Spanish (e29). The plan also includes a

professional learning module for educators designed to assist their ability to use the virtual AI Math platform, enhance AI pedagogical and content knowledge, and implement culturally relevant instructional strategies (e29).

Weaknesses:

The PD cited is ambitious for the allotted 30 hours of time provided for the teachers to address pedagogical content knowledge, equity, and integration of AI in the virtual school setting (e29).

Reader's Score: 13

Selection Criteria - Quality of Project Personnel

1. **The Secretary considers the quality of the personnel who will carry out the proposed project. In determining the quality of project personnel, the Secretary considers the following factor:**

Reader's Score: 10

Sub

1. **(1) The extent to which the applicant encourages applications for employment from persons who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability. In addition, the Secretary considers the qualifications, including relevant training and experience, of key project personnel.   (10 points)**

Strengths:

The project will actively recruit female and underrepresented graduate students into the project (e17). The PI has experience and training in virtual curriculum resources and development. The Co-PIs represent technical and implementation expertise with backgrounds in AI curricular integration, virtual school leadership, and experience implementing programs with an emphasis on equity (e30). Additionally, the project leadership team represents a balance of gender with more than 50% of the leadership team identifying as female (e30). The project team lists numerous publications in related areas, prior large-scale grant-funded projects, and expertise in working with teachers within the intersection of enacting and supporting curricular reforms (e62-e77).

Weaknesses:

No weaknesses were noted.

Reader's Score: 10

Selection Criteria - Quality of the Management Plan

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

Reader's Score: 10

Sub

1. **(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks.**

   Strengths:

   The project partners have defined roles within the plan based on experience, expertise, and access to students or teachers (e31). The proposal presents a detailed plan for the scope of the 5-year project. The iterative development process builds from a small-scale pilot project with 8 teachers that will also experience the first round of professional learning protocols. This is followed by a randomized control trial with 60 teachers split into an implementation and control group. The design of the research plan provides project leaders with sufficient time and data to determine efficacy of implementation features (e32 & e33). The number of teacher participants should be sufficient to achieve the target goal of implementation with 6800 students in the final stage of delayed implementations (e33). The project also details a plan for the dissemination of the research findings, curriculum resources, and teacher professional learning through peer-reviewed publications, practitioner outreach, and conference presentations (e34).

   Weaknesses:

   No weaknesses were noted.

   Reader's Score: 10

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. **Competitive Preference Priority 1:**

   Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 5 points)

   Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:
   (a) Community colleges (as defined in the NIA)
   (b) Historically Black colleges and universities (as defined in the NIA)
   (c) Tribal Colleges and Universities (as defined in the NIA)
   (d) Minority-serving institutions (as defined in the NIA)

   Strengths:

   The application includes a partnership with Texas Tech University which is listed as an eligible Hispanic Serving Institution (e16). The outreach via the eligible partner specifically targets high-needs students in rural geographic regions, providing access to underrepresented students in the computing field. The higher-education partners will actively recruit women and underrepresented graduate students to join the project (e17).

   Weaknesses:

   No weaknesses were noted.

Reader's Score: 5

Competitive Preference Priority - Competitive Preference Priority 2

1. **Competitive Preference Priority 2:**

   Supporting a Diverse Educator Workforce and Professional Growth to Strengthen Student Learning (up to 2 points)

   Projects that are designed to increase the proportion of well-prepared, diverse, and effective educators serving students, with a focus on underserved students, through building or expanding high-poverty school districts' capacity to hire, support, and retain an effective and diverse educator workforce, through adopting or expanding comprehensive, strategic career and compensation systems that provide competitive compensation and include opportunities for educators to serve as mentors and instructional coaches, or to take on additional leadership roles and responsibilities for which educators are compensated.

   Strengths:

   NA

   Weaknesses:

   NA

   Reader's Score: 0

Status: Submitted

Last Updated: 09/01/2023 06:16 PM

Status: Submitted
Last Updated: 09/01/2023 05:51 PM

Technical Review Coversheet

Applicant: Concord Consortium, Inc. (S411C230070)
Reader #3:   **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Significance			
1. Significance		20	15
Quality of Project Design			
1. Project Design		30	25
Quality of Project Personnel			
1. Project Personnel		10	8
Quality of the Management Plan			
1. Management Plan		10	9
	Sub Total	70	57
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority 1			
1. Promoting Equity		5	5
Competitive Preference Priority 2			
1. Workforce Diversity		2	0
	Sub Total	7	5
	Total	77	62

Technical Review Form

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

Applicant: Concord Consortium, Inc. (S411C230070)

Questions

Selection Criteria - Significance

1. **The Secretary considers the significance of the proposed project. In determining the significance of the proposed project, the Secretary considers the following factor:**

Reader's Score: 15

   Sub

   1. **(1) The extent to which the proposed project involves the development or demonstration of promising new strategies that build on, or are alternatives to, existing strategies. (20 points)**

      Strengths:

      This application proposes to develop, implement, and evaluate a year-long AI in Math program in Florida and Texas to serve 68 teachers and 6800 virtual school students. The innovation of this project lies in two areas. First, the integration of AI into core discipline classes, specifically math for this project, rather than computer science courses where this topic is typically covered. Second, the project plans to deliver this program in virtual schools to broaden its' access to high-needs students. This project builds on prior work by the team integrating AI into ELA and science.

      Weaknesses:

      The proposal lacked citation support for some of the claims that were made regarding the interdisciplinary nature of AI (e.g., e19). The application proposes that in virtual schools all students are able to embrace various learning styles (e21). As there is little to no research to support learning styles this is a concerning statement without empirical support. The proposal reviews the literature on virtual learning and "dynamic teaching methods" that are beneficial for high-needs students (e21), but it is unclear which methods the project plans to use or build on.

      Reader's Score: 15

Selection Criteria - Quality of Project Design

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

Reader's Score: 25

   Sub

Sub

1. **(1) The extent to which there is a conceptual framework underlying the proposed research or demonstration activities and the quality of that framework. (10 points)**

   Strengths:

   This application proposes to utilize the Social Cognitive Career Theory (SCCT) as the theoretical framing for the project. SCCT is well aligned with the goals of the project and supports the developed logic model which support the potential of the project to be grounded in theory.

   Weaknesses:

   There are no weaknesses identified.

   Reader's Score: 10

2. **(2) The extent to which the goals, objectives, and outcomes to be achieved by the proposed project are clearly specified and measurable. (5 points)**

   Strengths:

   The project provides goals, objectives, and outcomes that are clearly specified and measurable. The identified measures may be aligned with data sources and are aligned with the proposed activities (e23).

   Weaknesses:

   The proposal lacks a description of the specific data sources that will be used to evaluate the objectives. It is unclear if these measures already exist or if they will be developed as part of the project.

   Reader's Score: 3

3. **(3) The extent to which the design of the proposed project is appropriate to, and will successfully address, the needs of the target population or other identified needs. (15 points)**

   Strengths:

   The project proposes to reach those who are underrepresented in the computing field and who are underserved, economically disadvantages, living remote rural areas, and/or in under-resourced schools (e23). The proposed project is appropriate for this defined target population and is likely to successfully address the identified needs. The proposal clearly outlines how the AI in Math program will be designed to support these students through the alignment with standards, culturally relevant pedagogy, and the use of specialized technologies (e24-27). There is also a plan for recruiting and retaining students in the program and for training teachers to support these students.

   Weaknesses:

   As the proposal suggests, considering the context of students is an important aspect of culturally relevant pedagogy (e24); however, it is unclear how the project team will be able to "work closely" (e24) with 68 teachers to select problem contexts that are relevant to all 6800 students. It is also unclear if the project team or the teachers themselves will be developing the lessons and if the teachers will have the ability to modify the lessons or will be expected to implement the lessons as developed. Further, the goals described for the PD program (e29) seem ambitious for a 30-hour training.

   Reader's Score: 12

Selection Criteria - Quality of Project Personnel

1. **The Secretary considers the quality of the personnel who will carry out the proposed project. In determining the quality of project personnel, the Secretary considers the following factor:**

Reader's Score: 8

Sub

1. **(1) The extent to which the applicant encourages applications for employment from persons who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability. In addition, the Secretary considers the qualifications, including relevant training and experience, of key project personnel. (10 points)**

   #### Strengths:

   The applicant states that UF and TTU will focus on recruiting female and minority graduate students to join the project (e17). The key project personnel and organizations involved in the project appear to be well qualified and capable of handling a project of this scope.

   #### Weaknesses:

   It is unclear if the applicants encourage applications for employment from a diversity of groups.

   Reader's Score: 8

Selection Criteria - Quality of the Management Plan

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

Reader's Score: 9

Sub

1. **(1) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks.**

   #### Strengths:

   The application provides a clear plan for how the objectives will be achieved. It clearly defines the responsibility of project groups and provides a timeline for project tasks. This suggests the project team has clearly thought through how the plan will be carried out and how the team will manage the resources provided. There is evidence the team has worked together previously (e.g., e31, Support Letters) and will be able to accomplish project tasks together.

   #### Weaknesses:

   It is unclear if the budget allotted for paying teachers is sufficient. The budget justification indicates only paying teachers for 20 hours of PD (e143) but the narrative indicates there will be 30 hours of PD (e29). It is also unclear why the pay rate would be different in the different years and between implementation and PD.

   Reader's Score: 9

Priority Questions

Competitive Preference Priority - Competitive Preference Priority 1

1. Competitive Preference Priority 1:

Promoting Equity in Student Access to Educational Resources and Opportunities: Implementers and Partners (up to 5 points)

Under this priority, an applicant must demonstrate how the project will be implemented by or in partnership with one or more of the following entities:
(a) Community colleges (as defined in the NIA)
(b) Historically Black colleges and universities (as defined in the NIA)
(c) Tribal Colleges and Universities (as defined in the NIA)
(d) Minority-serving institutions (as defined in the NIA)

Strengths:

The project team includes Texas Tech University, a minority-serving institution (e17) as defined in the NIA. The partners appear to have collaborated before (e31-32) and have an established partnership that is likely to be successful.

Weaknesses:

There are no weaknesses identified.

Reader's Score: 5

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

Supporting a Diverse Educator Workforce and Professional Growth to Strengthen Student Learning (up to 2 points)

Projects that are designed to increase the proportion of well-prepared, diverse, and effective educators serving students, with a focus on underserved students, through building or expanding high-poverty school districts' capacity to hire, support, and retain an effective and diverse educator workforce, through adopting or expanding comprehensive, strategic career and compensation systems that provide competitive compensation and include opportunities for educators to serve as mentors and instructional coaches, or to take on additional leadership roles and responsibilities for which educators are compensated.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

Status: Submitted
Last Updated: 09/01/2023 05:51 PM

Status: Submitted
Last Updated: 09/24/2023 02:51 PM

Technical Review Coversheet

Applicant: Concord Consortium, Inc. (S411C230070)
Reader #1:   **********

	Points Possible	Points Scored
Questions		
Selection Criteria		
Quality of the Project Evaluation		
1. Project Evaluation	30	26
Sub Total	30	26
Total	30	26

Technical Review Form

Panel #13 - Early-phase Tier II Panel - 13: 84.411C

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

Applicant: Concord Consortium, Inc. (S411C230070)

Questions

Selection Criteria - Quality of the Project Evaluation

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

Reader's Score: 26

Sub

1. **(1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards with or without reservations as described in the What Works Clearinghouse Handbook (as defined in this notice). (20 points)**

   Strengths:

   The applicant describes methods of evaluation that are likely, if well implemented, to produce evidence about the project's effectiveness that would meet the WWC standards without reservations. Strengths include plans to conduct an intent-to-treat, teacher-level RCT design to examine the impact of AI in Math on student outcomes. Formulas that clearly specify a two-level model with students nested within teachers that adjusts for student-level and teacher-level covariates are provided (Appendix J). The use of reliable measures, such as the State Algebra I End-of-Course assessments, is a strength of the evaluation plan (pg. e37). Another strength is the description of a power analysis that accounts for attrition and demonstrates the study will have sufficient power to detect an effect size of 0.196 SD for student achievement. (pg. e38). Plans to track both overall and differential teacher- and student-level attrition are also described (pg. e36).

   Weaknesses:

   It is unclear if and how the applicant plans to control for contamination or confounding factors. A plan to test the overall impact of the intervention using a baseline measure (pg. e39) is not clearly described. It is unclear what this measure is and how it will be analyzed or adjusted.

   Reader's Score: 18

2. **(2) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes. (5 points)**

   Strengths:

   The applicant describes methods of evaluation that will permit periodic assessment of progress toward achieving intended outcomes. Examples include plans to collect surveys and teacher implementation logs; conduct student and teacher focus groups (pg. e10, e103); monitor implementation fidelity; and provide interim briefs with findings to inform continuous improvement (pg. e39). Plans to share progress with stakeholders and the development team are likely to promote program improvement (pg. e39).

Sub

Weaknesses:

Details are limited regarding the frequency and scheduling of meetings with the evaluator and the development team (pg. e39). The timeline does not indicate when meetings, briefs, or evaluation reports will be delivered (pg. e32). Without this information, it is unclear how periodic assessment of progress toward intended outcomes will be utilized to make improvements in a timely way.

Reader's Score: 4

3. **(3) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation. (5 points)**

Strengths:

The applicant clearly describes key project components and outcomes in a logic model that includes inputs, activities, outputs, and short-term, mid-term, and long-term outcomes (pg. e91). Teacher self-efficacy is described as a potential mediator for student outcomes (pg. e10). Measurable thresholds for acceptable implementation are well-thought-out (pg. e40).

Weaknesses:

Details are limited regarding how mediators will be statistically analyzed to determine impact (pg. e11). It is unclear how mediators will be utilized in relation to outcomes.

Reader's Score: 4

Status: Submitted
Last Updated: 09/24/2023 02:51 PM

Technical Review Coversheet

Applicant: Concord Consortium, Inc. (S411C230070)
Reader #2: **********

	Points Possible	Points Scored
Questions		
Selection Criteria		
Quality of the Project Evaluation		
1. Project Evaluation	30	26
Sub Total	30	26
Total	30	26

Technical Review Form

Panel #13 - Early-phase Tier II Panel - 13: 84.411C

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

Applicant: Concord Consortium, Inc. (S411C230070)

Questions

Selection Criteria - Quality of the Project Evaluation

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

Reader's Score: **26**

   Sub

1. **(1) The extent to which the methods of evaluation will, if well implemented, produce evidence about the project's effectiveness that would meet the What Works Clearinghouse standards with or without reservations as described in the What Works Clearinghouse Handbook (as defined in this notice). (20 points)**

   Strengths:

Based on the design articulated in this section, the design meets WWC standards with reservation. The applicant proposes the use of a randomized controlled trial over one full academic year using intact classrooms and teachers as the unit of assignment, which is a solid design. The applicant provides clear and well-developed information related to sample size and power, including a detailed explanation in appendix (p. e100) which provides clear detail supporting the design. The evaluation team has been identified with a full biography (p. e31) in the narrative and appear to be well qualified. The applicant proposes an established threshold for implementation fidelity which adds to a robust design (p. e40). The methodology for analyzing the data is clearly explained and provides the flexibility to make changes based on initial pilot study.

   Weaknesses:

The applicant uses "student performance data" as a variable in the equation in appendix J2 (p. e101) and makes mention of these scores as baseline measures in the evaluation plan narrative. It is not explained to the reader what these measures are and if they are consistent across sites and states. It is not stated if these measures would constitute an appropriate baseline assessment for Algebra. The applicant explains very clearly (p. e23) the criteria for fidelity at the teacher, classroom, and student level, but does not explain what will happen to the elements that fall below the established threshold (p. e40). In terms of the randomization of assignment to groups, students may be placed into an existing class grouping for scheduling or academic reasons that would be non-random and the applicant is not clear in explaining how this validity threat will be mitigated. The applicant does not explain how baseline equivalence is established between classroom units and treatment-control group and does not explain how target high-need students will be differentiated from other students for assignment or analysis.

   Reader's Score: **18**

2. **(2) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes. (5 points)**

Sub

Strengths:

The applicant proposes a well-conceived plan for formative evaluation and feedback (p. e39), including student focus groups and surveys using instruments with established performance metrics and surveys, and interviews of faculty. The plan appears to have been carefully thought out and proposes collection of data related to student attitudes and beliefs related to AI at multiple time slices (p. e38). An analytic plan for processing these data and presenting to both stakeholders, technical and popular audiences is provided (p. e38). The applicant proposes sharing resources developed through this grant on a public site that other virtual schools can use which increases strength of formative evaluation (p. e34).

Weaknesses:

In the timeline (p. e32), there is a description of milestones in general terms, but the applicant does not include details of the formative reporting process, e.g. the timeline for formal and informal reporting to be conducted with stakeholders during the project implementation process. These details are necessary for the reader to understand how these essential formative data will be communicated to stakeholders.

Reader's Score: 4

3. **(3) The extent to which the evaluation plan clearly articulates the key project components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation. (5 points)**

Strengths:

The evaluation plan is presented in a clear and understandable way, including a timeline of data collection milestones and research questions, in addition to a logic model (p. e91), included as an appendix which includes important details on components and outcomes. In terms of the threshold for implementation, the applicant clearly defines the benchmarks for teacher training, lesson completion, and student engagement with established criteria for measuring fidelity of implementation (p. e 40).

Weaknesses:

The mediating variables in this study are an important consideration given the use of intact classrooms. The applicant notes (p. e38) that data will be collected on prior year attendance, "student characteristics" and discipline, but does not explain how these data will be operationalized across site and states to be useful in the analysis. For example, if discipline referrals are a free-text variable in the student management system, it is not established how this can be included in a statistical model (p. e38).

Reader's Score: 4

Status: Submitted
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