

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

Status: Submitted

Last Updated: 08/02/2024 06:39 PM

Technical Review Coversheet

Applicant: San Jose State University Research Foundation (S411B240057)

Reader #1: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	0
Strategy to Scale		
1. Strategy to Scale	40	0
Quality of Project Design		
1. Project Design	20	0
Quality of the Project Evaluation		
1. Project Evaluation	25	21
Sub Total	100	21
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Promoting Equity	3	0
Sub Total	3	0
Competitive Preference Priority		
Competitive Preference Priority 2		
1. Impact of COVID-19	3	0
Sub Total	3	0
Total	106	21

Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #1: *****

Applicant: San Jose State University Research Foundation (S411B240057)

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 factors:

Reader's Score: 0

Sub

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

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

Selection Criteria - Strategy to Scale

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

Reader's Score: 0

Sub

1. (1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.

Strengths:

n/a

Weaknesses:

n/a

Sub

Reader's Score: 0

2. (2) 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:

n/a

Weaknesses:

n/a

Reader's Score: 0

3. (3) The applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

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: 0

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.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

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

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

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.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

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:

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 without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

The applicant presents a strong evaluation design that is likely to meet What Works Clearinghouse (WWC) standards without reservations if implemented as proposed. Eighty schools over two cohorts will participate in the evaluation, with schools randomized to condition within blocks of schools with similar school-level demographics and prior school-level science achievement (e33, e35). A total of 80 teachers and 8000 grade 8 students are expected to participate in the evaluation, with half of the sample participating in each one-year cohort (e32). The applicant justifies that this sample is sufficient for estimating the effectiveness of the treatment by presenting a detailed summary of the power analyses and the related minimum detectable effect sizes (e33, e145). Each of the impact questions has at least one outcome that is valid and has or is expected to have reliability evidence (e34). The outcome measure for the impact on student science achievement will be the state grade 8 science assessment (e34) which is a valid and reliable measure accepted by the WWC. The applicant describes acceptable methods for establishing the reliability of the student survey that will be used to determine the impact of the treatment on student perceptions, which includes cognitive interviews and pilot testing the measure before it is used in the evaluation study as a measure (e34). Existing measures with sufficient reliability will be used to establish the outcome measures for teacher self-efficacy, teacher perceptions, and teacher instructional activities (e34-e35). Several strategies will be used to minimize attrition to the extent possible, including the specification of an intent-to-treat approach (e36) and providing incentives to study participants. For example, treatment teachers will receive \$1,500 and control teachers will receive \$750 (e33). After randomization, students who join the school will not be included so that there is no risk of bias, which is consistent with WWC standards (e36). The applicant plans to collect rosters at the beginning of each school year which will facilitate the identification and exclusion of joiners, as well as maintain the proper intent-to-treat student and teacher status (e36). The statistical models are clear and comprehensive, including controlling for baseline outcome measures (e145-147). Appropriate strategies are discussed for handling missing data (e148-149).

Weaknesses:

The applicant does not fully examine the potential implications of school-level attrition on the sufficiency of the school sample size. Alternative assumptions related to missing data and attrition are presented for teacher and student outcomes, but these do not address the implications of schools opting out of the evaluation (145). This is a concern because random assignment occurs one year in advance for cohort 2, and school leadership and priorities can change over time. It is not clear whether the sample is sufficient if a large percentage of schools decide not to participate in cohort 2.

Reader's Score: 13

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

Excellent information is provided by the applicant to demonstrate that the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings. The applicant identifies an independent evaluator with experience in conducting large randomized controlled trials, which provides confidence in the evaluator's ability to provide an unbiased assessment of the treatment's strategies suitable for replication in other settings (e30). A set of rigorous research questions serve as a strong framework for providing guidance about effective strategies (e21-e22). The confirmatory impact questions will seek to identify and provide guidance on whether the treatment was effective at increasing student achievement, which provides outcomes of interest to those seeking to accelerate student learning. The evaluation also will provide guidance on whether school contexts,

Sub

teacher characteristics, or student characteristics moderate the effectiveness of the treatment, which allows for an understanding of the appropriateness of replication in other settings (e32). The applicant provides data to show that there are differences in student demographics between the participating districts, which provides evidence of the ability to test the treatment in different settings (e33). Individuals considering the adoption of this treatment will benefit from the planned observations that will contrast instruction between the treatment condition and the business-as-usual condition (e35). In addition, the plans for a cost analysis are clear and reasonable (e37). Taken together these approaches will likely provide information about effective strategies arising from the proposed project suitable for replication or testing in other settings.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

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.

Strengths:

The evaluation plan is sufficiently aligned to the conceptual framework depicted in the projects logic model (e131) and will measure the project's impact on the primary expected student and teacher outcomes using confirmatory analyses (e145-147). The methods that are planned for the mediator and moderator analyses are adequately described and are aligned to the key hypothesis depicted in the logic model (e147-148). For example, interaction terms will be added to the confirmatory analyses to test for the effect of potential moderators (such as student eligibility for free and reduced-price lunch, teacher experience, and school Title 1 status) and structural equation modeling will be used to test for the effect of potential mediators (such as student perceptions). These details provide clearly articulated plans for evaluating the key project components, mediators, and outcomes.

Weaknesses:

The applicant intends to create measurable thresholds for acceptable implementation as a part of their implementation study (e40). Given the lack of this information, the threshold for acceptable implementation cannot be evaluated to ensure it is measurable and appropriate.

Reader's Score: 3

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 3 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:

n/a

Weaknesses:

n/a

Reader's Score: 0

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).

Projects that are designed to address the impacts of the COVID-19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through the following priority areas:

(a) Conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and

(b) Using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high-quality tutoring, expanded access to rigorous coursework and content across K-12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

Status: Submitted
Last Updated: 08/02/2024 06:39 PM

Status: Submitted

Last Updated: 08/05/2024 04:05 PM

Technical Review Coversheet

Applicant: San Jose State University Research Foundation (S411B240057)

Reader #2: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	0
Strategy to Scale		
1. Strategy to Scale	40	0
Quality of Project Design		
1. Project Design	20	0
Quality of the Project Evaluation		
1. Project Evaluation	25	21
Sub Total	100	21
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Promoting Equity	3	0
Sub Total	3	0
Competitive Preference Priority		
Competitive Preference Priority 2		
1. Impact of COVID-19	3	0
Sub Total	3	0
Total	106	21

Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #2: *****

Applicant: San Jose State University Research Foundation (S411B240057)

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 factors:

Reader's Score: 0

Sub

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

Strengths:

na

Weaknesses:

na

Reader's Score: 0

Selection Criteria - Strategy to Scale

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

Reader's Score: 0

Sub

1. (1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.

Strengths:

na

Weaknesses:

na

Sub

Reader's Score: 0

2. (2) 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:

na

Weaknesses:

na

Reader's Score: 0

3. (3) The applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.

Strengths:

na

Weaknesses:

na

Reader's Score: 0

4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

Strengths:

na

Weaknesses:

na

Reader's Score: 0

5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.

Strengths:

na

Weaknesses:

na

Reader's Score: 0

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: 0

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.

Strengths:

na

Weaknesses:

na

Reader's Score: 0

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

Strengths:

na

Weaknesses:

na

Reader's Score: 0

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.

Strengths:

na

Weaknesses:

na

Reader's Score: 0

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:

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 without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

Overall, this proposal would do a very good job producing evidence of project effectiveness that would meet the What Works Clearinghouse standards without reservations. In terms of the measurement standard for outcomes, the project utilizes several state achievement assessments and administrative data. These measures have strong validity and reliability evidence. An additional outcome for student engagement (see e150-151 and e31), is adapted from previous measures. These adaptations are well described and provide sufficient validity and reliability evidence. Several outcomes for teachers are also included. These are well articulated and based on reliable and previously validated measures (e153-154). For confounding threats, the project makes a strong case that the treatment and control groups will not differ on characteristics or time based on the use of random assignment, blocking, and baseline checks. The use of random assignment, blocking, and baseline checks are very well planned. Additionally, the comparison group services are well-defined (e36). As far as the sample and possible compositional change, the project provides reasonable evidence that low school attrition is expected and have planned well for student attrition (e36). Importantly, the project also employs effective plans for student joiners (exclusion, e36). Multiple imputation is noted as the approach for missing data (e149) and this method meets What Works Clearinghouse standards without reservations. The project describes several analytic models that are all well aligned to the design and evaluation goals. For example, they correctly pair individual, two-level, and three-level models with analyses involving data with varying hierarchical structures. The design parameters in these models for main, mediation, and moderation effects are also appropriate (e146-148).

Weaknesses:

Related to the outcome measures, it was not clear if all data collection not involving standardized assessments and administrative data would occur at the same time for treatment and control groups. One weakness involving possible confounding involves teacher outcomes and mediators. The project plans for only one to two teachers per school but this sampling plan makes analysis and interpretation of planned teacher and school relationships difficult. A sample of only one to two teachers per school makes school attrition more likely through the loss of all teacher participants within a school. It should also be noted that the planned moderator (i.e., effect heterogeneity) analyses that involve teachers and schools (level-two and level-three) will be very difficult to detect with planned sample sizes.

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

Overall, the proposed evaluation would do a very good job providing guidance about effective strategies suitable for replication or testing in other settings. The project includes a strong emphasis on scalability (e19). Several components are included to assess and determine efforts to scale up the project (e16, e18, e29). Planned mediation and moderation analyses are appropriate tools to assess these components. The plan for assessing treatment effect heterogeneity is particularly well planned and articulated with considerations at the school, teacher, and student level (e31, e147). Lastly, there is a strong emphasis on understanding the cost effectiveness of the intervention (e29). This emphasis is reflected in a detailed and well-reasoned cost effectiveness analysis plan (e37).

Sub

Weaknesses:

No weaknesses noted.

Reader's Score: 5

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.**

Strengths:

Overall, the proposed evaluation plan does a good job articulating project components, mediators, and outcomes, along with measurable thresholds for acceptable implementation. Components are presented in a coherent logic model (e131). A well-organized table provides further details on outcomes and related measures. Most of the outcomes are measured using well supported instruments and approaches (e.g., state assessments and administrative data). Mediators are appropriately described, correct analytic models are included, and mediators are measurable. A detailed implementation analysis is planned (e31-32) using teacher self-report instruments.

Weaknesses:

Specific threshold of implementation for several criteria (e.g., professional development, teacher logs, observations) are not determined and will be identified during the formative evaluation (e38). The logic model would benefit from additional illustrations to reflect student level mediational relationships described in the narrative because some components serve only as outcomes while others are both short- or medium-term outcomes and mediators. For example, student increase in perceptions of science usefulness and subsequent increases in student achievement should be linked similar to the student engagement and course grades (e131).

Reader's Score: 3

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 3 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:

na

Weaknesses:

na

Reader's Score: 0

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).

Projects that are designed to address the impacts of the COVID-19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through the following priority areas:

(a) Conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and

(b) Using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high-quality tutoring, expanded access to rigorous coursework and content across K-12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

na

Weaknesses:

na

Reader's Score: 0

Status: Submitted

Last Updated: 08/05/2024 04:05 PM

Status: Submitted

Last Updated: 08/05/2024 01:46 PM

Technical Review Coversheet

Applicant: San Jose State University Research Foundation (S411B240057)

Reader #3: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	14
Strategy to Scale		
1. Strategy to Scale	40	35
Quality of Project Design		
1. Project Design	20	20
Quality of the Project Evaluation		
1. Project Evaluation	25	0
Sub Total	100	69
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Promoting Equity	3	3
Sub Total	3	3
Competitive Preference Priority		
Competitive Preference Priority 2		
1. Impact of COVID-19	3	0
Sub Total	3	0
Total	106	72

Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #3: *****

Applicant: San Jose State University Research Foundation (S411B240057)

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 factors:

Reader's Score: 14

Sub

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

Strengths:

The applicant provided strong evidence that demonstrates both new strategies and builds upon existing strategies. The proposed project is significant in that it aims to 1) increase students' engagement in science, particularly high-needs populations, 2) aims to increase student academic achievement (e27), and 3) is grounded in the context of environmental science through project-based learning (PBL) (e11, e13, e17). The use of Artificial Intelligence (AI) through the project-based learning approach in the context of environmental science delivers a new strategy in the field and does not appear to be available on the market or in educational settings. Thus, the applicant comprehensively presented an excellent project.

The project, in alignment with the charge of the Next Generation Science Standards, aims to move science classrooms from a textbook driven approach to a project-based learning approach through the context of solving environmental science problems with the support of a robust Artificial Intelligence (AI) platform (e13-14).

The Green Ninja curriculum has been previously developed and this project's intent is to incorporate the AI component to build on the existing success (e30) noted in the Green Ninja program (e14). The integration of AI provides a promising new strategy that may eventually help teachers become more comfortable and confident in both teaching science and using Artificial Intelligence (AI) in other instructional areas. Learning how to use AI as an instructional tool (e17) will likely have long-term transferability to improve aspects of teaching for many more teachers and students than those in the study group.

Weaknesses:

The sources cited to justify the need for altruistic applications in curriculum to increase women and minority interest in science are outdated (e12) and not in alignment with current trends in college major enrollment.

Reader's Score: 14

Selection Criteria - Strategy to Scale

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

Reader's Score: 35

Sub

1. **(1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.**

Strengths:

The project proposal has adequately identified multiple barriers to scale (e19-22) and potential solutions to those barriers, particularly those that have contributed to a slower than expected growth and appear to now align to a more intriguing model to potential clients. The professional development, AI integration, dissemination of results, and cost analysis evaluation may positively impact the product's growth (e20-21).

Weaknesses:

The use of AI, as described in the project, may not result in the desired effect of saving teachers time because of the need to:

- a) Learn how to teach a PBL based science curriculum
- b) Learn a likely new AI platform, Co-Pilot
- c) Learn how to teach science from the lens of environmental science issues

The solutions presented to overcome the trust barrier lack a clear path toward overcoming that barrier.

Reader's Score: 8

2. **(2) 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 strong evidence to indicate that the management plan can be adequately implemented to accomplish the project tasks on time and within budget. There is a clearly articulated plan to manage the proposed project within the resources and timelines outlined in the proposal (e22-26) with letters of support from stakeholders and advisory board members (e87-94, e95-108, e115, e110-111, and e114). The management plan is provided at both a high-level perspective (e23), a more detailed outline of the roles and responsibilities (e24-25). The milestones are outlined, and there is evidence to indicate that the objectives are met. There is a commitment letter from the staff that will work on the AI integration and the Equip rubric evaluation to earn the NGSS badge (e114). The plan details a budget intended to work within the allocation requested in the proposal (e164-175).

Weaknesses:

No weaknesses noted.

Reader's Score: 5

3. **(3) The applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.**

Sub

Strengths:

The application provides an excellent rationale and evidence to support the claim that there is capacity within the team to bring the proposed project to scale. The staff, institutions, and organizations connected to the proposal are experienced, and appear qualified to manage the roles and responsibilities outlined in the proposal (e24-25, and 87-94). Advisory board members will meet twice per year, the entire project team once per year, and a monitoring and reporting process is established (e23) and some project members have experience working together in the past and have a plan to scale the program regionally and nationally. Thus, demonstrating the applicant's capacity to implement the proposed project properly.

Weaknesses:

No weaknesses noted.

Reader's Score: 10

4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.

Strengths:

The applicant provides an excellent description of the mechanisms to disseminate the information from the proposed project to support further development or replication. The dissemination plan demonstrates evidence that the product will be widely accessible to many stakeholders. For example, the applicant lists presentations at national, state, and regional conferences and a plan for social media distribution. The researchers have plans to publish articles in journals, and the specific journals are provided (e26-27).

Weaknesses:

The proposal lacks specificity regarding what aspects of the program would be freely accessible on the public version of the website versus which will be available for purchase only (e26).

Reader's Score: 9

5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.

Strengths:

The applicant provided good information about the likelihood of the products from the proposed project to be used in other settings. The integration of AI in public schools can be widely used in other districts and content areas. The unique application of AI and PBL (e11,13) in the context of an environmental science approach may be appealing to a variety of educational settings. This is a unique approach that is highly engaging for students and may be of great interest to others.

Weaknesses:

The niche nature of the program, specifically the Project Based Learning (PBL), Artificial Intelligence (AI), and the environmental science application may prevent the wide use of the product given the amount of time required for professional development and teacher training on multiple new dimensions of science instruction.

Reader's Score: 3

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: 20

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.**

Strengths:

The applicant provides an excellent connection between the project design and the conceptual framework. The conceptual framework utilized in the project design is coherent, thoroughly explained, and leads to clearly articulated outcomes (e15, e34, e131). The conceptual framework ties directly to the PBL approach of the proposed project in that student's involvement and interest in the content may directly correlate to their engagement and performance.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

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

Strengths:

The goals, objectives, and outcomes are comprehensive and are specific and measurable (e28-e32). Tools to collect evidence include both qualitative and quantitative measures including rubrics, surveys, feedback logs, and achievement test results (e29).

Performance measures are specific and measurable targets, such as state test scores and survey results are identified (e31-32).

Weaknesses:

No weaknesses noted.

Reader's Score: 5

- 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.**

Strengths:

The applicant provides excellent evidence throughout the application to indicate that the needs of the target population will be met through the proposed design. The target populations include low-income, diverse learners who are performing below proficient on test scores (e29). Data is provided (e33) to justify the participating schools meeting those criteria. The previous academic success of the existing product (e27), coupled with specific intended outcomes in this proposal (e34-35) are appropriate to addressing the target population's needs. The outcomes are geared toward enhancing student engagement, performance, teacher self-efficacy and perceptions of PBL, and providing practical instructional resources (e34-35).

Sub

Weaknesses:

No weaknesses noted.

Reader's Score: 10

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: 0

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 without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

NA

Weaknesses:

NA

Reader's Score: 0

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

NA

Weaknesses:

NA

Reader's Score: 0

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.

Strengths:

NA

Weaknesses:

NA

Sub

Reader's Score: 0

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 3 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 proposed project clearly includes a partnership with San Jose University, a Hispanic Serving Institution to meet the requirement of part (d) in CPP1. The STEM-NET (e12) initiative has a proven record of increasing involvement of students and staff from traditionally underrepresented groups.

Weaknesses:

No weaknesses noted.

Reader's Score: 3

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).

Projects that are designed to address the impacts of the COVID-19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through the following priority areas:

- (a) Conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and
- (b) Using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high-quality tutoring, expanded access to rigorous coursework and content across K-12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

Priority area not addressed.

Weaknesses:

Priority area not addressed.

Reader's Score: **0**

Status: Submitted

Last Updated: 08/05/2024 01:46 PM

Status: Submitted

Last Updated: 08/05/2024 11:28 AM

Technical Review Coversheet

Applicant: San Jose State University Research Foundation (S411B240057)

Reader #5: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	14
Strategy to Scale		
1. Strategy to Scale	40	38
Quality of Project Design		
1. Project Design	20	20
Quality of the Project Evaluation		
1. Project Evaluation	25	0
Sub Total	100	72
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Promoting Equity	3	3
Sub Total	3	3
Competitive Preference Priority		
Competitive Preference Priority 2		
1. Impact of COVID-19	3	0
Sub Total	3	0
Total	106	75

Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #5: *****

Applicant: San Jose State University Research Foundation (S411B240057)

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 factors:

Reader's Score: 14

Sub

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

Strengths:

The applicant clearly provided sufficient information for building upon an existing strategy through project-based learning (PBL) methods (e13-14). For example, the promising new strategy involves artificial intelligence (AI) to assist teachers with developing personalized lessons, grading student work and provide real-time feedback to student (e17). The strategy has research to support it (e17) and the project will develop an Artificial Intelligence (AI) assistant to provide teachers with the ability to make PBL more accessible and easier to manage.

Weaknesses:

Many of the references addressing the significance were dated (e11-12). For example, Haberman, 1991; Seymour & Hewitt, 1997; Lewis & Connell, 2005. More recent references supporting the significance of the project would strengthen this criterion.

Reader's Score: 14

Selection Criteria - Strategy to Scale

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

Reader's Score: 38

Sub

1. (1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.

Sub

Strengths:

The applicant comprehensively identified specific strategies to address cited barriers to using PBL in the classroom including time constraints, PBL assessments, and a lack of PBL preparation on the part of teachers (e19-20). The applicant then identified several effective strategies for addressing these barriers; for example, including comprehensive teacher professional development (e155-156), synchronous and asynchronous virtual components (e20), customizable student assessments (e20) and real-time teacher support through an AI assistant (e20). The applicant also discussed the barrier of market penetration and pricing, as the publishing market is dominated by a few large companies (e21). The applicant seeks to overcome these barriers by securing additional credentials and certifications for their product and by demonstrating that an AI-driven product can lower costs (e21-22).

Weaknesses:

No weaknesses noted.

Reader's Score: 10

- 2. (2) 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 clearly detailed an extensive management plan which will achieve the objectives of the project on time and within budget. A timeline listing the major milestones of the project was provided (e23), including developing the Co-Pilot platform and updating the green ninja curriculum (e23). A more comprehensive timeline (e141-143) which listed start and end dates to project objectives with sub-tasks for each and provided responsible parties for each objective and sub-task. Salaries and other project tasks and expenses were delineated by each year of the project (e164-175) and included additional information on defined responsibilities, such as those responsible for overall project management (e165) and who will be responsible for the professional training of the teachers (e166). The applicant will also construct a project dashboard to monitor task completion and budget compliance (e23).

Weaknesses:

No weakness noted.

Reader's Score: 5

- 3. (3) The applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.**

Strengths:

The applicant provided clear and excellent information regarding the project capacity to bring the project to scale on a regional and/or national level. The applicant adequately described the project personnel roles and responsibilities (e24-25). All significant key personnel have advanced degrees in such areas as the natural sciences, science education and educational evaluation. The original concept for the project dates back to 2010 (e25) and the key personnel have collaborated previously on a number of projects and research which demonstrates their ability to bring a project to completion. The original project concept had a partnership with a successful private company (e25-26) which will provide support for this newly proposed project.

Sub

Weaknesses:

No weakness noted.

Reader's Score: 10

4. **(4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.**

Strengths:

The applicant clearly provided several mechanisms by which they will disseminate project information. The applicant will provide a public version of their AI co-pilot (e26), which may lead to others utilizing their own technical expertise to adapt the tool for their own use. The applicant will also share links on their project website to instructional resources, teacher trainings and research reports (e26). Making these resources public will also permit others to access and adapt them for the specific circumstance. The applicant will also share their findings at appropriate conference venues, such as the National Science Teaching Association and the National Science Education Leadership Association conferences. Lastly, through their YouTube channel and podcast, the applicant will provide advice and suggestions for individual wanting to incorporate PBL activities into their classroom.

Weaknesses:

No weakness noted.

Reader's Score: 10

5. **(5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their being used effectively in a variety of other settings.**

Strengths:

The applicant sufficiently identified the likely utility of the project products to be used on other settings. The applicant discussed the need for the project to demonstrate the usefulness of Artificial Intelligence (AI) in educational circles (e28). The project has potential to demonstrate the safety and security of AI in educational settings. The issue of climate change is also a subject that can be prioritized with the project and potentially raise test scores and serve underrepresented populations.

Weaknesses:

The applicant provided minimal discussion and any specific examples of how information, materials processes, or techniques that will result from the proposed project, could be used effectively in a variety of other settings.

Reader's Score: 3

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: 20

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.**

Strengths:

The applicant presented a conceptual framework well-grounded in situated expectancy-value theory (e28), which espouses learners will put in effort into a learning activity equal to the benefits they expect to receive. This theory comprehensively aligns with the goal of the project to motivate students via PBL, and through well-trained teachers who have access to AI to assist with designing interesting lessons.

Weaknesses:

No weakness noted.

Reader's Score: 5

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

Strengths:

The applicant provided a clearly articulated table (e28-29) with project objectives, sub-tasks, outcomes and measurable targets for completion. These align well with the stated need for the project. The measured outcomes are noteworthy. For example, they include improved student achievement, teacher confidence surveys, increased numbers of schools utilizing PBL, and published and presented reports of project research.

Weaknesses:

No weakness noted.

Reader's Score: 5

- 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.**

Strengths:

The applicant reiterated the focus of the study on low-income diverse learners performing at low levels of achievement (e29). The project will utilize universal design principles to address a variety of learning styles and provide differentiated instruction, which has sufficient promise for addressing the needs of this population. The project will also address the teaching of climate issues, a topic that teachers may lack training in, so the project will effectively help meet this unmet need. Thus, the project demonstrated that the design will meet the needs of the target population.

Weaknesses:

No weakness noted.

Reader's Score: 10

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: 0

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 without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

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.

Strengths:

N/A

Weaknesses:

N/A

Reader's Score: 0

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 3 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 applicant for the project is San Jose State University, a Hispanic-serving institution within the California State University system (e12). Approximately 55% of the students are Latino/a/x (e13).

Weaknesses:

No weakness noted.

Reader's Score: 3

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).

Projects that are designed to address the impacts of the COVID-19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through the following priority areas:

- (a) Conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and**
- (b) Using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high-quality tutoring, expanded access to rigorous coursework and content across K-12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.**

Strengths:

No strengths noted.

Weaknesses:

The applicant did not address this competitive preference priority.

Reader's Score: 0

Status: Submitted
Last Updated: 08/05/2024 11:28 AM

Status: Submitted

Last Updated: 08/05/2024 01:22 PM

Technical Review Coversheet

Applicant: San Jose State University Research Foundation (S411B240057)

Reader #4: *****

	Points Possible	Points Scored
Questions		
Selection Criteria		
Significance		
1. Significance	15	14
Strategy to Scale		
1. Strategy to Scale	40	36
Quality of Project Design		
1. Project Design	20	20
Quality of the Project Evaluation		
1. Project Evaluation	25	0
Sub Total	100	70
Priority Questions		
Competitive Preference Priority		
Competitive Preference Priority 1		
1. Promoting Equity	3	3
Sub Total	3	3
Competitive Preference Priority		
Competitive Preference Priority 2		
1. Impact of COVID-19	3	0
Sub Total	3	0
Total	106	73

Technical Review Form

Panel #3 - Mid-Phase - 4: 84.411B

Reader #4: *****

Applicant: San Jose State University Research Foundation (S411B240057)

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 factors:

Reader's Score: 14

Sub

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

Strengths:

There is evidence of a promising new strategy to build on an existing strategy (p. e11-12; 14). For example, the proposed program will expand on its current program to include middle school, utilizing the program-based learning (PBL) framework and generative AI in the classroom (p. e11). The proposed program uses the [REDACTED] PBL framework as a major tenet of their initiative. This study is part of the What Works Clearinghouse and shows moderate evidence of success. To further undergird the proposed program, the applicant uses the Newman et al. (2012) study which shows strong evidence that embedding Project Based Learning (PBL) and science can lead to improved outcomes for students (p. e12).

Furthermore, a quasi-experimental analysis of student performance analyzing schools that used the proposed curriculum and schools that did not. The results showed a positive correlation between the program and student outcomes (p. e14). This shows promising evidence of the success of the proposed initiative.

One of the main tenets of this proposed program is the inclusion of generative AI as a mechanism to support teachers in the implementation of the curriculum in the classroom which has been shown to improve student outcomes and is a promising new strategy.

Weaknesses:

Not all of the cited research is current which impacts the relevance of the information. For example, the research cited for career choices for women and minorities choosing careers that help others is dated more than ten years old (p. e12).

Reader's Score: 14

Selection Criteria - Strategy to Scale

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

Reader's Score: 36

Sub

1. (1) The extent to which the applicant identifies a specific strategy or strategies that address a particular barrier or barriers that prevented the applicant, in the past, from reaching the level of scale that is proposed in the application.

Strengths:

There is evidence of strategies to address the barriers within their proposed program (p. e19-22). For example, teachers have expressed concerns over the time it takes to plan the curriculum and assessment materials as a barrier (p. e19). The solution will be to provide accessible professional development to show teachers the features of the program and the program's ease of use for creating lesson plans and assessment materials (p. e19). Reaching out to teachers to provide a variety of training to remove the barriers of implementation will support the expansion of the initiative.

Cost has been identified as a barrier. For example, in comparison to other similar products, the proposed program curriculum is more costly. By optimizing "pricing models" the curriculum can be made more accessible to a larger number of schools (p. e21). Using online resources such as AI will also help reduce costs while not compromising the quality of the program. Many online AI services such as Co-Pilot are free which would potentially reduce a cost barrier.

Weaknesses:

There is not enough adequate detail on what "optimal pricing models" (p. e21) means to understand how this is a solution. This missing information impacts understanding how they have removed the cost fact as a barrier to their proposed program.

Reader's Score: 9

2. (2) 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:

There is some evidence of a management plan for the proposed project complete the designed activities within budget and on time (p. e22-23). For example, the three major objectives of the program and the quarter in which implementation should occur are reasonable in scope and sequence and align with the proposed program (p. e23).

There is general information regarding the roles and responsibilities for each of the proposed partners (p. e22). For example, WestEd will be the evaluation partner and will conduct usability and feasibility research study during the first two years; they will also lead a Randomized Control Trial (RCT) in the 3rd and 4th year (p. e22).

Milestones for the initiative offer the start and completion dates (p. e141-143). For example, for the first objective, the program will update the training and it will begin on June 1, 2025, and be completed on June 1, 2026. This is a clear start and end date which supports the understanding of their proposed milestone (p. e141). Furthermore, timelines are included to address the major milestones. For example, the following research studies within the proposed program are identified within the timeline: Usability Feasibility Impact (p. e38) and will be administered at appropriate times during the proposed program.

Sub

Weaknesses:

Job descriptions or time commitments are not included (p. e22-25) in the management plan. For example, the proposed program notes that it will keep a dashboard “to track ongoing progress” (p. e23) but does not give details on who will manage the dashboard and how much time it will require to maintain it. Therefore, the missing information on job descriptions and time commitments impacts understanding the specific expectations for each position and how much time will be committed to the initiative to ensure programmatic success.

Reader's Score: 4

- 3. (3) The applicant's capacity (e.g., in terms of qualified personnel, financial resources, or management capacity) to bring the proposed project to scale on a national or regional level (as defined in 34 CFR 77.1(c)) working directly, or through partners, during the grant period.**

Strengths:

There is strong evidence of the capacity to bring the proposed program to scale (p. e24-25). For example, the curriculum was developed in 2018 at San Jose State University and has been financially bolstered by a partnership with World Centric Incorporated who has an annual revenue of \$100M (p. e25).

There is strong evidence of qualified personnel and key staff to manage the proposed initiative (p. e24-25; 85-111). For example, the program investigators have advanced degrees, are both staffed at San Jose State University in the Science department and have managed major grant funded and scientific research projects (p. e24). Other key personnel from the partnering institutions are included and demonstrate the depth of experience such as having advanced degrees in the sciences and experience managing large-scale programs (p. e24-25; 85-111).

Weaknesses:

No weaknesses noted.

Reader's Score: 10

- 4. (4) The mechanisms the applicant will use to broadly disseminate information on its project so as to support further development or replication.**

Strengths:

There is strong evidence of mechanisms to disseminate the proposed program information (p. e25-26). For example, the applicant will provide a free version to use in the classroom and provide links to access further information on the product (p. e25). Furthermore, the applicant will attend conferences such as the “Council of Chief State School Officers and the American Association of School Administrators” to present their work (p. e25) and use social media in the form of YouTube and Ask Matt – a podcast about the product to promote the initiative (p. e25). Finding will also be present at major educational conferences and journals such as “American Educational Research Journal and the Journal of Research in Science Teaching” (p. e25). These outlets are major venues in the field of academic and education and should support the successful disseminate the initiatives results and information on a broad scale.

Weaknesses:

No weaknesses noted.

Reader's Score: 10

- 5. (5) The likely utility of the products (such as information, materials processes, or techniques) that will result from the proposed project, including the potential for their**

Sub

being used effectively in a variety of other settings.

Strengths:

There is some evidence of the likelihood of being used in a variety of settings (p. e27-28). For example, the applicant notes that evidence from their research study should allow schools to develop similar PBL initiatives – or just buy the proposed program’s curriculum (p. e28). This statement shows that schools could use the proposed program as a template for designing other similar programs.

Weaknesses:

The applicant does not provide enough information regarding the concrete strategies to support the likelihood of the initiative being used broadly. Furthermore, the proposed program costs money to use the program (p. e27-28). This may be a barrier for others such as schools in lower income district to have access to the program if they do not have the budget to purchase the program.

Reader's Score: 3

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: 20

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.**

Strengths:

There is strong evidence of a clear and concise conceptual framework (p. e15; 28). For example, the framework for their initiative is Situated Expectancy-Value Theory which is based on the theoretical tenets of Eccles & Wigfield (2002; 2020). This theory links motivation and outcomes. The proposed program draws a clear line between the conceptual framework of SEVT and their curriculum: engage students in project-based learning which will increase motivation which will lead to better outcomes for students.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

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

Strengths:

There is strong evidence of goals, objectives, and outcomes which are specific and measurable (p. e11; 28-29). For example, the goal for the proposed initiative is “to elevate the test scores of high-need students by 10% through enhancing and scaling the Green Ninja project-based learning (PBL) curriculum using generative artificial intelligence (GenAI) tools and innovative teacher approaches” (p. e11). This is a specific and measurable goal to support the initiative.

Sub

There is strong evidence of project objectives, measurements, and outcomes (p. e28-29). For example, the task for objective 2 is to assess students' academic achievement and engagement (p. e28) which is aligned to the objective of evaluating student achievement and success.

Furthermore, objective three (3) is to disseminate and scale the proposed program. The strategies included are aligned with the objective: expand and monitor the program. This will be measured through the number of schools and the number of underserved students using the proposed program. The applicant notes that intended outcomes will be an increase in the number of schools and students using the proposed program (p. e29). These are specific, measurable, and align with the initiative.

Weaknesses:

No weaknesses noted.

Reader's Score: 5

- 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.**

Strengths:

There is strong evidence that the proposed program will address the needs of the target population (p. e29-30). For example, the curriculum uses the universal design methodology (p. e29). The use of universal design principles is a best practice to support usability by all students which demonstrates the likelihood of reaching the intended audience. Furthermore, the program will also include co-pilot to support differentiation (p. e30). Using a conversational chat assist application helps in leveling the playing field for students which support differentiation – giving all students access to the curriculum.

Weaknesses:

No weaknesses noted.

Reader's Score: 10

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: 0

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 without reservations as described in the What Works Clearinghouse Handbook (as defined in 34 CFR 77.1(c)).**

Strengths:

n/a

Sub

Weaknesses:

n/a

Reader's Score: 0

2. (2) The extent to which the evaluation will provide guidance about effective strategies suitable for replication or testing in other settings.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

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.

Strengths:

n/a

Weaknesses:

n/a

Reader's Score: 0

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 3 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:

There is strong evidence that the program lead is a Minority-serving institution San José State University (SJSU) (p. e12). The institution predominantly serves students who are Hispanic (p. e12). For example, more than 55% of the students who attend SJSU are Hispanic and more than 20% of the SJSU faculty are Hispanic (p. e12-13).

Weaknesses:

No weaknesses noted.

Reader's Score: 3

Competitive Preference Priority - Competitive Preference Priority 2

1. Competitive Preference Priority 2:

Addressing the Impact of COVID-19 on Students, Educators, and Faculty: Community Asset-Mapping and Needs Assessment and Evidence-Based Instructional Approaches and Supports (up to 3 points).

Projects that are designed to address the impacts of the COVID-19 pandemic, including impacts that extend beyond the duration of the pandemic itself, on the students most impacted by the pandemic, with a focus on underserved students and the educators who serve them through the following priority areas:

(a) Conducting community asset-mapping and needs assessments that may include an assessment of the extent to which students, including subgroups of students, have become disengaged from learning, including students not participating in in-person or remote instruction, and specific strategies for reengaging and supporting students and their families; and

(b) Using evidence-based instructional approaches and supports, such as professional development, coaching, ongoing support for educators, high-quality tutoring, expanded access to rigorous coursework and content across K-12, and expanded learning time to accelerate learning for students in ways that ensure all students have the opportunity to successfully meet challenging academic content standards without contributing to tracking or remedial courses.

Strengths:

Competitive Preference Priority 2 was not addressed.

Weaknesses:

Competitive Preference Priority 2 was not addressed.

Reader's Score: 0

Status: Submitted

Last Updated: 08/05/2024 01:22 PM