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

Technical Review Coversheet

Applicant: Impact Florida (S411B230037)
Reader #1:   **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Significance			
1. Significance		15	15
Strategy to Scale			
1. Strategy to Scale		40	34
Quality of Project Design			
1. Project Design		15	10
Quality of the Project Evaluation			
1. Project Evaluation		30	0
	Sub Total	100	59
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority 1			
1. Promoting Equity		5	1
	Sub Total	5	1
	Total	105	60

Technical Review Form

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

Applicant: Impact Florida (S411B230037)

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: 15

    Sub

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.**

    Strengths:

    The project will test the impact of game-based learning on science outcomes compared to the impact of traditional curricula which are not game-based (p. e20). The Legends of Learning platform contains a collection of games, each of which addresses one Florida science standard, and assessment is also gamified through a separate platform, building on best practice digital learning (pp. e21-e22). Game-based learning is evidence-based and supported by several recent research studies (pp. e23-e24).

    Weaknesses:

    None noted.

    Reader's Score: 15

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: 34

    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 applicant has identified two main barriers to scale and supported them with multiple strategies which are likely to address the barriers (e.g., curricular alignment across each state is a barrier to scale, and the applicant proposes

to do an audit of the algorithm to determine its effectiveness in creating the alignment) (pp. e25-e28). The strategy of allowing district personnel to endorse certain games that are most closely aligned with standards and curriculum is an especially effective way to allow for customization at scale (p. e26).

Weaknesses:

It is unclear if the applicant or its partners have the intellectual property rights to the Awakening assessment platform and if the components of the proposed project associated with the assessment platform are feasible (p. e22, e27). A letter of support is lacking for Awakening (pp. e63-e70).

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:

    A general management plan and a detailed management plan are provided, and general activities associated with the three main objectives are outlined (p. e28, pp. e126-e131). The plan includes most key activities associated with project implementation and the main person responsible for successful completion (pp. e126-e131).

    Weaknesses:

    Communications strategies are lacking in the management plan, making it unclear if and how frequently the partner organizations will discuss the project, assess progress, and make timely shifts in project implementation (pp. e126-e131). A lack of communication and coordination across partner organizations may hinder the project outcomes. The timeline provided for each activity is too broad and may lead to the unsuccessful implementation of the project (pp. e126-e131). For example, several activities simply have start and end dates, and the timeline spans up to four years making the frequency of the activity vague and the ability for the partner organizations to track progress uncertain.

    Reader's Score: 2

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:

    Partner organizations already work on a state or national level, strengthening the likelihood that the project can scale regionally or nationally (p. e29-e30). Personnel designated to participate in the proposed project have ample experience and knowledge to fulfill their project-related roles (p. e31, pp. e71-e115). For example, Dr. Huang has extensive experience evaluating research studies (pp. e112-e115).

    Weaknesses:

    None 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 dissemination plan is well-designed since it includes sharing the research findings with the research community, including through peer-reviewed journals and with education practitioners, through conferences that are practitioner-oriented (p. e32). Additionally, one of the partner organizations will disseminate the products which result from the project making it possible for others to replicate the project (pp. e32-e33).

Weaknesses:

None 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 products that are likely to result from the project include an evidence-based implementation plan which can guide effective implementation in other settings. The ability for district personnel to endorse certain games to support localized standards and curriculum, in tandem with the personalized learning mode, allows for customization at scale, increasing the likelihood that Legends of Learning can be used in a variety of settings (p. e26, e33).

    Weaknesses:

    No discussion is provided around the cost of Legends of Learning and the Awakening assessment platform, making it unclear if these will be widely accessible (p. e33).

Reader's Score: 4

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: 10

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 proposed project is grounded in research, including seminal studies (e.g., Darling-Hammond et al., 2017) providing a strong conceptual framework based on professional learning supports through a variety of delivery methods (p. e34). The Logic Model includes key project inputs that are likely to support the intended outputs and outcomes (p. e62). For example, the input of professional development which includes virtual learning in conjunction with ongoing coaching support is likely to lead to high teacher engagement and effective implementation, leading to increased student science academic outcomes (p. e62).

Sub

> **Weaknesses:**

None 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:

   Project objectives are supported by activities and general project outcomes (p. e29, e35, e62).

   Weaknesses:

   As written, the project goals, objectives, and outcomes are general and not measurable (p. e29). Without stated benchmarks, it is unclear what the applicant would consider success for each goal and outcome. Measures are either not explicitly stated or are not described in detail, making it unclear if they are valid and reliable instruments (p. e29, e35).

   Reader's Score: 2

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 clearly states the needs of the target population – and supports those needs through academic and demographic data (pp. e35-e36). A strong case is made for why the intervention is well-suited to address the academic needs of students across the State of Florida through scalable customized implementation features (p. e36).

   Weaknesses:

   No data are provided to show that the intervention meets the needs of this target population in the other states in which it is currently being used, making it unclear if it is likely to be successful on a broader scale (p. e36).

   Reader's Score: 3

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)).**

Sub

    Strengths:

    Weaknesses:

    Reader's Score:

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

    Strengths:

    Weaknesses:

    Reader's Score:

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:

    Weaknesses:

    Reader's Score:

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

    Strengths:

    Weaknesses:

    Reader's Score:

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 applicant mentions three years of internships with minority-serving institutions to allow students to get field experience (p. e17).

Weaknesses:

No details are provided about the minority-serving institutions, what role they may have, or the names of the institutions to verify that they meet the definition provided in the Notice Inviting Applications (p. e17).

Reader's Score: 1

Status: Submitted
Last Updated: 08/13/2023 12:41 PM

Status: Submitted
Last Updated: 08/14/2023 12:02 PM

Technical Review Coversheet

Applicant: Impact Florida (S411B230037)
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		15	0
Quality of the Project Evaluation			
1. Project Evaluation		30	28
	Sub Total	100	28
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority 1			
1. Promoting Equity		5	0
	Sub Total	5	0
	Total	105	28

Technical Review Form

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

Applicant: Impact Florida (S411B230037)

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 or 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

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:

      Weaknesses:

      Reader's Score:

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: 28

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 evaluation plan includes an impact study that, if well implemented, will meet What Works Clearinghouse (WWC) standards without reservations. The impact study will use student science achievement as a WWC acceptable outcome (page e38). The application indicates minimal expected school-level attrition during the study and an intent-to-treat approach (page e41) to address other WWC standards without reservations issues. Potential confounding factors are addressed through research questions on mediating and moderating factors (page e37). The evaluation will be conducted by an independent evaluator with the background and experience to conduct the evaluation (page e31). The role of the evaluator in the three phases of evaluation are well defined (pages e27, e29 and e30). An individual from the evaluation team is identified to lead the quantitative data analyses (page e31). The external evaluator has experience in research and development activities to support the development of an implementation model (page e27). The model for data analysis for the impact study is provided in Appendix J.6. Primary data sources to address each of the research questions are provided (page e37). Additional tools for data collection are provided in Appendix J7: Teacher Log, 5Essentials survey and S-STEM. The components of the Teacher Professional Learning program to support classroom implementation are described in Appendix J.2. Plans to obtain Institutional Review Board (IRB) approval are included in the application (page e9).

   Weaknesses:

   The application might be improved with a consistent use of terms applied to the different stages of project evaluation. Figure 2 (page e28) refers to an Implementation Study and a Longitudinal Study. These are later referred to as a Formative Evaluation (page e27) and an Exploratory Analyses (page e38). Establishing baseline equivalence between the treatment and control groups is not addressed. The evaluation plan might be improved if the flexible components of the teacher Professional Learning (PL) program were addressed in the impact analysis (e.g., number of 30-60 minute sessions completed, which sessions were completed, and whether sessions were completed virtually or in person) as variations in the PL has the potential to add additional implementation variation. The evaluation plan might be improved with an analysis of the impact of the personalized learning tool on student achievement (page e34) in the model for impact study (e.g., number of times accessed, which topics, outcome) as this has the potential to add variation in student learning. Teachers will be asked to follow the finalized implementation plan but it is not clear how this is being assessed (page e40).

   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:

   The utility study (page e33) has the potential to provide replication in new and existing sites. The focus on ease of use by teachers also has the potential to support replication stagies (page e33). Cost effectiveness and strategies for replication are discussed in the application (page e42).

   Weaknesses:

   None noted.

   Reader's Score: 5

3. **(3) The extent to which the evaluation plan clearly articulates the key project**

Sub

components, mediators, and outcomes, as well as a measurable threshold for acceptable implementation.

Strengths:

The application includes a series of research questions for the impact analysis that address project components (RQ 1 – 3), moderators (RQ6), and mediators (RQ 7 – 8).   Data to be collected and analyzed for these research questions are well described and appropriate (page e37). Data from multiple sources will be used to assess implementation research questions (RQ 4 – 5).   Data on the number and type of student activities teachers implement will be collected as well as the targeted learning outcomes (page e44). Acceptable level of implementation will be tracked using teacher logs and observations (page e44) and the threshold for acceptable implementaiton will be identified as a percentage of weeks that teachers include project activities. The required percentage will be identified during the formative evaluation study (page e44).

Weaknesses:

None noted.

Reader's Score: 5

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

   Strengths:

   The application provides details about data collection during the formative evaluation, usability studies, and feasibility studies (page e44). Performance feedback during the impact study will occur in virtual, bi-monthly calls to review progress (page e46). The evaluator will monitor and track all program activities to support consistent and periodic feedback (page e46).

   Weaknesses:

   None noted.

   Reader's Score: 5

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:

   NA

Weaknesses:

NA

Reader's Score: 0

Status: Submitted
Last Updated: 08/14/2023 12:02 PM

Technical Review Coversheet

Applicant: Impact Florida (S411B230037)
Reader #3:   **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Significance			
1. Significance		15	15
Strategy to Scale			
1. Strategy to Scale		40	33
Quality of Project Design			
1. Project Design		15	10
Quality of the Project Evaluation			
1. Project Evaluation		30	0
	Sub Total	100	58
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority 1			
1. Promoting Equity		5	1
	Sub Total	5	1
	Total	105	59

Technical Review Form

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

Applicant: Impact Florida (S411B230037)

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: 15

> **Sub**

> 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.**

> **Strengths:**

> The applicant thoroughly describes the peer-reviewed background research on game-based learning, addressing the recent increase in screen time and time spent on video games, high development costs for games, and modest sample sizes in student learning studies. (e18-e19)

> The applicant provides a detailed discussion of the new promising strategies of building appropriate school district support and lowering the game review and selection responsibility and burden on teachers (e24-e25)

> The proposed project adequately describes a plan to study the impact of game-based learning dosage on student science achievement in order to expand on the limited research with that particular focus through a rigorous, evidence-based approach. (e24-e25)

> The applicant clearly outlines its plan to expand the Learning Universe platform to align more specifically to state and local science standards in order to facilitate the adoption of game-based learning at the school district level. (e21)

> **Weaknesses:**

> No weaknesses noted

> **Reader's Score:**   15

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: 33

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 applicant clearly identifies two key barriers to implementation and scaling, such as the lack of time and support that both districts and teachers have to integrate game-based activities and resources into the curricula and issues stemming from inconsistent or unintended usage, challenges integrating game-based learning into day-to-day curriculum, a lack of customized usage guidance, and a lack of a research-informed implementation model for teachers.   (e25-e26)

   The applicant thoroughly discusses five strategies to address the barriers to large-scale implementation for game-based learning. These strategies include supporting customized curricular alignment, establishing stricter, state-specific criteria for curriculum alignment for future games, developing a "district-endorsed game" feature, and creating a personalized learning mode for student assessment. (e25-e28)

   Weaknesses:

   The applicant discusses the lack of teacher time, but they do not discuss how they will address the same issue for district leaders not having time to go through the games, endorse them, and create an implementation plan. (e26, e28)

   Regarding getting assessment data from the Learning Universe games, it is not clear if there is a dashboard that shows what games students completed and how well they did on the individual games. It was not stated whether or not the only assessment piece is through the Awakening platform. (e27)

   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 applicant presents an overall management plan with a high-level quarterly timeline as well as project tasks and milestones that are aligned to the three project objectives and span throughout the five years of the grant. (e28)

   The applicant presents a detailed table of the three project objectives and their associated milestones for each year of the project. The responsible project organization is clearly identified for each of the milestones. (e29)

   The applicant provides a detailed project timeline and management plan that clearly delineates the project activities and performance measures for each of the three project objectives. Each of the project activities has a start and end date as well as the staff responsible for implementing each activity. (e126-e131)

   Weaknesses:

   None of the management plans, charts, and tables incorporate activities and timelines for ongoing leadership team and partner meetings in order to ensure feedback and continuous improvement throughout the project period. (e28-e29)

Sub

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:

    The personnel from the three partner organizations clearly demonstrate their qualifications and capacity to scale the project with documented experience leading and managing grants, programs, and education/non-profit organizations; K-12 education experience as teachers and school administrators; education technology design and implementation; and education research and evaluation. (e71-e115)

    The applicant presents a comprehensive organizational chart that clearly identifies the key project personnel and their specific roles in each of the three lead organizations. (e125)

    The primary applicant organization Impact Florida clearly demonstrated its capacity to leverage local and state relationships that will assist with the recruitment of districts and schools. This capacity supports the ability to scale the project on a national or regional level. (e29)

    The applicant clearly describes the background, expertise, and experience of the three partner organizations and provides a detailed chart highlighting the roles, responsibilities, and relevant experience of key project staff from all three partners. (e29-e31)

    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 clearly outlines the dissemination mechanisms that each of the partner organizations will use, including national and state research and educator conferences, peer reviewed journals, websites, emails, and social media. (e32-e33)

    Weaknesses:

    The applicant does not identify the specific project science materials, curriculum alignment plans, or professional learning materials that will be shared, how they will be shared, and who they will be shared with. (e32-e33)

    Reader's Score: 8

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 concisely underscores the utility and potential benefits of the project materials, such as addressing district and teacher implementation concerns by easing their burden for aligning games with the science standards and curricula, increasing student science outcomes through the personalized learning mode, and contributing to the evidence base for game-based learning. (e33)

The applicant clearly indicates that the professional learning virtual sessions scheduled from their professional learning catalog are free and unlimited. These include six 30-60 minute virtual sessions available for district leaders and teachers. (e124)

Weaknesses:

The applicant does not fully address concerns about scaling to other states and school districts with different science standards and how their implementation approach on the district level can be utilized effectively and efficiently in a variety of other settings. It is not clear if already developed implementation and learning plans will be freely available to assist other districts and states as implementation of the project is scaled. (e33)

The applicant does not address the cost of implementation and how this is replicable and scalable in a variety of other settings. The costs of access to the game-based learning platform and the professional learning materials may not be feasible for some states, school districts, and schools.

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: 10

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 presents a detailed logic model with specific inputs, outputs, and outcomes that support the overall project strategy of supporting districts and teachers to implement science lessons using game-based learning approaches through high-quality, standards-aligned, game integration. The activities and participation outputs from the logic model are clearly aligned to the four drivers of the conceptual framework. (e62)

   The applicant clearly identifies four high-leverage drivers and a brief explanation with key evidence and peer-reviewed research in support of each driver. These drivers are professional learning supports, state specific alignment, district supports for integration, and teacher and student use. (e33-e34)

   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 applicant clearly and consistently identifies three project objectives in all three of the presented project plans and timelines. The project objectives are to (1) create and test strategies to enhance use and sustainability of Legends of Learning; (2) evaluate the implementation and impact of Legends of Learning; and (3) disseminate findings and track progress on scaling and sustainment. (e28, e29, e35, e126-e130)

Weaknesses:

About half of the performance measures in the project timeline and management plan do not have measurable benchmarks with clear quantitative outcomes. (e126-e130)

There are no performance measures related to student science achievement with specific and measurable target outcomes for improvements on student science assessments. (e129)

Reader's Score: 2

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 clearly indicates that Florida fifth grade science dropped from 55% of students reaching proficiency in 2018 to 47% in 2021 (e18) and provides detailed data on the science achievement gap for Florida 5th grade students, with 52 percent of 5th grade students in Florida performing below satisfactory in 2022. The proposed project intends to meet the needs of the target population by lessening or eliminating this science achievement gap among 5th grade students. (e35-e36)

The applicant intends to implement the personalized learning mode in the science learning application, which will meet the science achievement needs of the target student population by allowing students to be recommended games that are specifically designed to address their science knowledge gaps. This will be especially appropriate and beneficial for students who may be struggling with certain areas of content or those that may need more time or extra support with a difficult topic. (e36)

Weaknesses:

Although the applicant presents data indicating that more than 50% of Florida students are Black or Hispanic, it did not discuss addressing the particular needs of potential English Language Learner (ELL) and multi-lingual students, such as those that may only speak and comprehend Spanish or Haitian among the specific target population in Miami-Dade County schools. (e35)

The applicant does not provide specific demographic or science achievement gaps for the local district students to be served in Miami-Dade County, making it difficult to determine how the proposed project will meet the specific needs of this target population.

Reader's Score: 3

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:

    Weaknesses:

    Reader's Score:

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

    Strengths:

    Weaknesses:

    Reader's Score:

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:

    Weaknesses:

    Reader's Score:

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

    Strengths:

    Weaknesses:

Sub

    Reader's Score:

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 explicitly states that both the applicant and its partners organization WestEd will support 3 years of internships with Minority Serving Institutions to allow students to get valuable experience with education and research organizations. (e17, e27)

   Weaknesses:

   There is no information in the project narrative or the appendices on what and how many of the Minority Serving Institutions there are and the level of partnership they will have with the applicant and the project activities. There is no information on how the interns will be recruited, how many interns are needed, and what their roles and responsibilities would be. There are no letters of support or Memoranda of Understanding from Minority Serving Institutions in the appendices. (e17, e27)

   Reader's Score: **1**

Status: Submitted
Last Updated: 08/12/2023 10:24 PM

Technical Review Coversheet

Applicant: Impact Florida (S411B230037)
Reader #4: **********

		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		15	0
Quality of the Project Evaluation			
1. Project Evaluation		30	29
	Sub Total	100	29
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority 1			
1. Promoting Equity		5	0
	Sub Total	5	0
	Total	105	29

Technical Review Form

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

Applicant: Impact Florida (S411B230037)

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 or 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:**

Reader's Score: 29

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 will be utilizing an experienced and independent research firm with extensive knowledge related to designing a research study capable of meeting What Works Clearinghouse (WWC) without reservations (pg. e36). The applicant's proposed research design is a randomized control trial (RCT) at the cluster level, with randomization occurring at the school level to mitigate contamination among teachers within the same building (pg. e41). As WWC requires, the applicant's randomization process will result in all schools having a non-zero probability of being in either the treatment or control group. The applicant presented an appropriate power analysis (i.e., powered at .80) to determine treatment and control group sample size based on minimal detectable effect sizes (MDES) informed by previous literature (pg. e132). The applicant also addressed compositional change related to joiners and attrition (i.e., leavers) (pg. e41). The applicant will utilize the suggested WWC without reservations recommendation for handling joiners and leavers, the intent-to-treat method (pg. e41). The applicant's primary science achievement outcome measure will meet WWC without reservations, as there is face validity and reliability, both meeting the WWC requirements (pg. e38).

   Weaknesses:

   The only weakness noted was a lack of acknowledgment or discussion of how confounds will not be an issue for this research design. If present, confounding variables can render a research study not meeting WWC without reservations.

   Reader's Score: 14

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

   Strengths:

   The applicant has a thorough evaluation plan that will produce artifacts and evidence for providing guidance about effective strategies for replication in other settings. The applicant evaluation plan includes a cost-effective analysis (pg. e42). The cost-effective analysis will give evidence of the resources needed to carry out the intervention with fidelity successfully. Furthermore, the applicant is planning to conduct a usability, feasibility and implementation evaluation on the intervention. These are designed to produce a wealth of helpful information for the purpose of replicating the intervention in other settings (pg. e44). Lastly, the diverse group of students in the sample will enhance the finding's generalizability to different settings.

   Weaknesses:

   There were no weaknesses identified.

   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 applicant discussed appropriate key project components in the logic model and narrative (p. e62). The applicant has a strong plan for assessing mediators. The applicant identified several appropriate mediators (p. e136). In addition, research question seven directly relates to mediator analysis (p. e37). As related to the primary

Sub

outcome measure of science, given that it will be from a science state summative assessment, there is face validity and reliability as required by WWC without reservations. The applicant provided acceptable information related to implementation fidelity in the narrative. The applicant is accounting for implementation threshold using the professional learning measures, teacher logs, and classroom observations (pg. e44). The applicant provided examples of possible minimum thresholds, such as tracking the percentage of weeks in which teachers complete a certain number of lessons (pg. e44). Importantly, the applicant will finalize all threshold levels during the formative evaluation stages (pg. e44).

Weaknesses:

There were no weaknesses identified.

Reader's Score: 5

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

   Strengths:

   The applicant has a strong evaluation plan that is likely to provide performance feedback to assess progress and make iterative changes if necessary (pg. e44). The applicant has a usability and feasibility study that will take place in the first two years of the intervention. The primary purpose is to determine acceptable minimum thresholds for acceptable implementation, and these findings will be used for actionable recommendations (pg. e45). Qualitative and quantitative reports will be collected from teachers through weekly logs and interviews. Also, researchers will have "think aloud" sessions with teachers, which is another excellent qualitative research method for gathering meaningful data about what is or is not working.

   Weaknesses:

   There were no weaknesses identified.

   Reader's Score: 5

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:

   N/A

Weaknesses:

N/A

Reader's Score: **0**

Status: Submitted
Last Updated: 08/13/2023 01:42 PM

Technical Review Coversheet

Applicant: Impact Florida (S411B230037)
Reader #5: **********

		Points Possible	**Points Scored**
Questions			
Selection Criteria			
Significance			
1. Significance		15	15
Strategy to Scale			
1. Strategy to Scale		40	33
Quality of Project Design			
1. Project Design		15	10
Quality of the Project Evaluation			
1. Project Evaluation		30	0
	Sub Total	100	58
Priority Questions			
Competitive Preference Priority			
Competitive Preference Priority 1			
1. Promoting Equity		5	1
	Sub Total	5	1
	Total	105	59

Technical Review Form

Panel #3 - EIR Mid-phase - 3: 84.411B

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

Applicant: Impact Florida (S411B230037)

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: 15

> **Sub**
>
> 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.**
>
>   **Strengths:**
>
>   The applicant makes a compelling case that children have increased screen time post-pandemic, dedicating many hours to gaming (p. e18). Citations are provided showing that gaming has been effective as a learning tool (p. e19). Several short-term studies have shown that gaming can improve science learning (p. e20). The current study will be innovative in that it will be a year-long focus on the improvement of science instruction through using curriculum games via Legends of Learning software (p. e153).
>
>   **Weaknesses:**
>
>   There were no weaknesses found in this area.
>
>   **Reader's Score:** 15

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: 33

> **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 application identifies potential barriers to scaling such as high development costs, low participation rates and lack of buy-in from district administrators (p. e19). The application will use several strategies to overcome barriers to scaling. The first strategy is to allow district administrators to preview and endorse a particular game within the software suite (p. e153). The applicant will also provide guidance to align games with curriculum standards (p. e25). The second strategy is to allow many programmers from 800 studios to create games for a learning game world (p. e21).

Weaknesses:

It is uncertain how well some of the proposed strategies will work to overcome barriers. The cost of the additional games and the mechanism of screening the programs for age-appropriateness are unclear (p. e21). Furthermore, the use of multiple entities creating children's software will likely add additional burdens on district administrators as well as the applicant to properly screen each program. In addition, it is unclear how teachers will receive assessment data from the games (p. e187).

Reader's Score: 7

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 provides a thorough project management plan by objective, with measures, activities, dates, and staff responsible (pp. e126-131). For example, under the implementation objective, teachers will be trained on materials during the 25-26 school year by the professional development lead (p. e128). This provides evidence for clearly defined responsibilities that are likely to lead to the project achieving its objectives on time and within budget.

Weaknesses:

The management plan does not include communication across the partners (p. e126). It is unlikely that shifts in practice will happen in a timely fashion without frequent meetings. In addition, some portions of the timelines are too broad. For example, more than three years is allocated to identify schools for participation (p. e128).

Reader's Score: 3

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 application shows that the applicant has a high capacity for bringing the project to scale. The applicant provides evidence that it has experience working on a state level (p. e64). The applicant has identified a project director with experience in administration, professional development and teaching (pp. e80-81). The application contains resumes of key personnel (pp. e71-115). They have experience in administration, teaching, and the specific educational software to be used in the project. In addition, one of its partners is a national organization with experience in bringing research projects to scale.

Sub

     Weaknesses:

There were no weaknesses in this area.

     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 anticipates disseminating project findings through conferences and professional meetings (p. e145). These include journals and conferences specific to teaching and science instruction (p. e32). Additionally, presentations will be made to groups dedicated to education technology (p. e32). Findings will be posted on social media and the popular website of the national key partner (p. e32).

     Weaknesses:

There were no weaknesses in this area.

     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 will develop professional learning plans specific to the software identified by the researchers and teachers as most effective (p. e33). These will be posted on the software hub's website (p. e32). In addition, as district administrators can customize which games are used (p. e26), it is likely that the product can be used by administrators in a variety of settings.

     Weaknesses:

The use of grade-level, subject specific (by learning standard) software will limit the utility of the study (p. e27). In addition, costs of the software may limit how much of the results from this software will be replicable (p. e35).

     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: 10

     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 narrative of the application contains a strong conceptual framework, with citations for professional learning supports and specific alignment of activities to state standards (p. e34). The application contains a logic model, with inputs, outputs, and outcomes (p. e62). These are delineated by teacher and student-focused areas. For example, the teachers will be trained on the Legends of Learning, they will participate in virtual sessions, and as outcomes, will adopt gaming lessons into their courses (p. e62).

   Weaknesses:

   There were no weaknesses found in this area.

   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 objectives of the study are to create strategies for the adoption of the software, evaluate the implementation, and to disseminate the findings of the study (p. e28). Activities to reach these goals include auditing games, creating a district support system, and disseminate findings (p. e35).

   Weaknesses:

   The goals and objectives of the project are not clearly specified or measurable. The long-term outcome from the logic model is improvement on state assessments, but no targets and no baseline data are given for science achievement (p. e62).

   Reader's Score: 2

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 identifies high-need students as those at risk of educational failure, live in poverty, or attend high-minority schools (p. e14). The study will focus on 5th grade science instruction in one school district (p. e35). It is likely that students will find the games engaging (p. e36). The application contains a letter of support from a large urban school district (p. e66).

   Weaknesses:

   While the application provides demographic information for the state (p. e35), it does not describe the partner district. Although the software is used in 49 states (p. e30), data is not provided about its impact, nor is baseline science achievement data provided for the proposed elementary schools. In addition, the proposal does not detail how it may address needs of multilingual learners (p. e168). It is unclear if the participants in the study will be high-needs students (p. e67).

   Reader's Score: 3

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:

      Weaknesses:

      Reader's Score:

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

      Strengths:

      Weaknesses:

      Reader's Score:

   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:

      Weaknesses:

      Reader's Score:

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

      Strengths:

Sub

Weaknesses:

Reader's Score:

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)**
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   (c) **Tribal Colleges and Universities (as defined in the NIA)**
   (d) **Minority-serving institutions (as defined in the NIA)**

   Strengths:

   This CPP was minimally addressed. The application will create internships for students of minority-serving institutions (p. e17).

   Weaknesses:

   The applicant states that it will support three years of internships from minority-serving institutions (p. e17), but these are not identified. Funds are not allocated in the budget for this purpose. The application does not contain a letter of support from a minority-serving institution.

Reader's Score: 1

Status: Submitted
Last Updated: 08/14/2023 09:21 AM