OTIS for Educators Logic Model

Study Type: ESSA Evidence Level IV

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Teq

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EXECUTIVE SUMMARY

Teq engaged LearnPlatform, a third-party edtech research company, to develop a logic model for OTIS for educators. LearnPlatform designed the logic model to satisfy Level IV requirements (*Demonstrates a Rationale*) according to the Every Student Succeeds Act (ESSA).[1]

Logic Model

A logic model provides a program roadmap, detailing program inputs, participants reached, program activities, outputs, and outcomes. LearnPlatform collaborated with Teq to develop and revise the logic model.

Study Design for OTIS for Educators Evaluation

Informed by the logic model, the next phase will focus on planning for an ESSA Level III study to examine the extent to which OTIS for educators relates to various teacher outcomes:

1. To what extent did teachers use OTIS for educators during the 2022–23 school year?
    - How many courses were taken and what was the average number of courses taken by each teacher?
    - On average, how many courses did teachers complete?
2. Does greater usage of OTIS for educators (number of courses taken, completed, and time spent on each course) relate to teachers feeling:
    - that they have more capacity for personalized, professional growth?
    - that their classroom instruction has improved?
    - more confident in classroom technology?

Conclusions

This study provides results to satisfy ESSA evidence requirements for Level IV (*Demonstrates a Rationale*).

[1] Level IV indicates that an intervention should include a "well-specified logic model that is informed by research or an evaluation that suggests how the intervention is likely to improve relevant outcomes; and an effort to study the effects of the intervention, that will happen as part of the intervention or is underway elsewhere…" (p. 9, U.S. Department of Education, 2016).

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Introduction

Teq engaged LearnPlatform, a third-party edtech research company, to develop a logic model for OTIS for educators. LearnPlatform designed the logic model to satisfy Level IV requirements (*Demonstrates a Rationale*) according to the Every Student Succeeds Act (ESSA).

The study had the following objectives:

1. Define the OTIS for educators logic model and foundational research base.
2. Draft an ESSA Level III study design.

Previous Research. The design of this logic model was guided by previous research examining the importance of high quality online teacher professional development (PD). PD is vital to improving student outcomes and providing teachers with the resources and opportunities for pedagogical and professional growth (Avalos, 2011; Desimone, 2009). Studies show that there is a positive link between teacher continued PD and improvements in teaching practice and student outcomes (Darling-Hammond et al., 2017). Research shows that in-person and online PD can be comparable in terms of quality and effectiveness (Lay et al., 2020; Darling-Hammond et al., 2017; Albers et al., 2015; Fishman et al., 2013; Dede et al., 2009). Online PD, of the kind provided by OTIS, has been linked with changes in teachers' pedagogical and content knowledge, classroom practice, and student outcomes (Weschke & Barclay, 2011). The need for high quality, research-backed online PD, and the growth of online PD in general, have only increased since the disruption to in-person learning caused by the COVID-19 pandemic (Lesiak et al., 2021). OTIS provides an online PD platform founded on research and principles of best practice including Adult Learning Theory, SAMR Framework, TPaCK, ADDIE Model, Danielson Model, Bloom's Taxonomy, ISTE Alignment, CSTA, and New York State Computer Science & Digital Fluency Standards.

Online PD can provide distinct advantages over in-person offerings such as improved accessibility. In-person PD is often expensive and difficult to fit into teachers' limited schedules. Online PD provides an inexpensive way of providing PD to teachers at any time or location (Lesiak et al., 2021; Lay et al., 2020; Powell & Bodur, 2019; Darling-Hammond et al., 2017; Albers et al., 2015). Online platforms like these can be especially beneficial for teachers in rural areas or contexts where high quality PD, of any kind, is not readily available (Stevens et al., 2016). Online PD can increase teacher access to instructional supports that can be utilized sooner in classrooms when student need is at its highest (Borko et al., 2010; Dede et al., 2009).

Online PD is at its most effective when it provides resources that target specific content, grades, or curricular standards (Darling-Hammond et al., 2017). OTIS provides hundreds of courses covering different topics, learning goals, grades, and ages. Research shows that PD organized in this way is more effective as teachers can take ownership of their learning and focus on specific content tied to their unique instructional needs (Powell & Bodur, 2019; Darling-Hammond et al., 2017). Online PD that provides examples of varied, practical, and real-world classroom instruction can also be more effective (Reeves & Pedulla, 2013; Vrasidas & Zembylas, 2004). OTIS provides on-demand and live content, including shorter videos focused on how to use specific skills or

tools (e.g., Google Classroom, Clever) in the classroom. Local education agencies increasingly turn to online PD, like OTIS, precisely to provide these more targeted and on-demand supports (Dash et al., 2012; Cavanaugh and Dawson, 2010).

Teacher PD has also been shown to be most effective when it encourages opportunities for collaboration among peers and access to resources and professional learning communities at any time (Rice & Dawley, 2009). Online PD provides distinct advantages in allowing teachers across wide geographic areas to collaborate and communicate on instructional content (Stevens et al., 2016). OTIS provides PD content created by state certified educators and provides opportunities for feedback from curriculum specialists and teachers. Research suggests a positive link between successful professional development and opportunities for feedback and reflection (Rice & Dawley, 2009). Studies show that teachers themselves want online PD focused on collaboration, discussion, learning, and sharing (McConnell et al., 2013).

More access to on-demand, high quality PD can also provide teachers with increased professional growth opportunities. On-demand access allows teachers to maintain pace with up-to-date developments in their field (Laurillard, 2016). Teachers can opt to focus their own PD on their self-identified instructional needs or on recommendations from their school administrator. Online PD can be additionally beneficial when it includes opportunities for interactive learning (Parsons et al., 2019) and the chance to revisit and re-engage with PD materials at different times (on-demand access) (Parsons et al., 2019; Beach and Willows, 2017; Rice, 2017). OTIS provides over nine hundred on-demand and live videos accessible at any time and allows administrators to assign courses or course playlists to their teachers.

Taken together, there is a need for high quality online PD and this form of PD can offer distinct advantages over in-person offerings by providing increased accessibility, affordability, and opportunities for teachers to explore PD content that is personalized, provides opportunities for collaboration and reflection, and caters to their unique instructional needs. Online PD platforms, like OTIS, can be crucial to improving students' 21st century skills and to teachers' efforts to instruct them on these skills (Saavedra and Opfer, 2012).

Logic Model

A logic model is a program or product roadmap. It identifies how a program aims to impact learners, translating inputs into measurable activities that lead to expected results. A logic model has five core components: inputs, participants, activities, outputs, and outcomes (see Table 1).

Table 1. Logic model core components

Component	Description	More information
Inputs	What the provider invests	What resources are invested and/or required for the learning solution to function effectively in real schools?
Participants	Who the provider reaches	Who receives the learning solution or intervention? Who are the key users?
Activities	What participants do	What do participants do with the resources identified in Inputs? What are the core/essential components of the learning solution? What is being delivered to help students/teachers achieve the program outcomes identified?
Outputs	Products of activities	What are numeric indicators of activities? (e.g., key performance indicators; allows for examining program implementation)
Outcomes	Short-term, intermediate, long-term	Short-term outcomes are changes in awareness, knowledge, skills, attitudes, and aspirations. Intermediate outcomes are changes in behaviors or actions. Long-term outcomes are ultimate impacts or changes in social, economic, civil or environmental conditions.

LearnPlatform reviewed OTIS for educators resources, artifacts, and program materials to develop a draft logic model. Teq reviewed the draft and provided revisions during virtual meetings. The final logic model depicted below (Figure 1) reflects these conversations and revisions.

OTIS for educators!™

Problem Statement: Ongoing changes within learning environments (e.g., the increase in use of technology) create a need for evolving teaching instruction to maintain relevance and student engagement. This can be difficult for educators to sustain on their own. OTIS for educators provides the training, support, and inspiration to transform 21st century learning for today's classrooms.

Inputs
What we invest:

Research-based[1] online professional development (PD) platform

900+ on-demand & live courses weekly

Micro-credentialing[2] through a series of online courses

Short videos for specific content skills

500+ lesson plans & instructional resources

Content designed, developed & delivered by state certified educators

On-demand support

State-approved PD provider for state-mandated professional learning

Blog

LMS integrations

SSO with Google, Classlink, and Clever

Participants
Who we reach:

Teachers

Administrators

Families

Activities
What we do:

Teachers access live and archived PD courses across a variety of content

Teachers complete PD courses

Teachers complete assignments and surveys for micro-credentialing

Teachers receive feedback from state-certified curriculum specialists/Teachers on assignments

Teachers take quizzes

Teachers access and view videos from the Skills section (e.g., Tech-tivities[2])

Teachers earn badges and certifications

Teachers build their own customized PD plan

Teachers use lesson plans and instructional resources

Administrators create course playlists to drive teachers to specific content

Administrators can view insightful usage analytics, export usage data, and track teacher progress

Administrators can upload their own PD content

Administrators can create onsite or blended PD with OTIS resources and content

Families access resources on the family-centered content library

Outputs
Products of activities:

Number of teacher licenses

Number, nature of content & type of (live or archived) course registrations

Number, nature & type of courses in progress

Number, nature & type of courses taken and completed

Time spent on each course (hours)

Number of micro-credentialling assignments completed and submitted

Number and results of pre- and post-test micro-credentialing surveys completed

Amount and nature of micro-credentialing feedback

Number and scores of quizzes taken and completed

Number and nature of course certificates and badges awarded

Number and nature of PD plans

Number, nature & type of courses and course playlists uploaded by administrators

Number and nature of family-centered library resources accessed

Outcomes
What changes or benefits result...

Short-term

Teachers gain new and grow existing instructional skills

Teachers integrate learned instructional strategies in their classrooms

Teachers have easy access to a range of curated PD content

Teachers fulfill state-mandated PD hours

Administrators gain access to PD resources that can be used to evaluate the quality of technology implementation

Administrators support technology use that aligns with instructional goals

Families become familiar & comfortable with technologies needed to support their child's learning

Intermediate

Teachers improve instructional self-efficacy

Teachers improve pedagogy

Teachers enhance student engagement

Teachers spend less time on inefficient and ineffective PD

Teachers increase time spent on improving instruction

Administrators get better technology implementation and return on investments with technologies

Administrators get actionable insights into teacher progress towards effective edtech use

Families are less resistant to technology in their districts

Long-term

Students increase 21st century skills (e.g., critical thinking and problem-solving)

Students increase academic achievement

Students have increased access to vocation and success

Teacher retention improves as teachers have more capacity for personalized, professional growth

Administrators are able to review the efficiency and effectiveness of edtech use leading to improved instruction, planning, and budgeting

Administrators and families accept and adopt the same technologies across the district

Families more effectively support their children's learning

[1] Frameworks/Models include Adult Learning Theory, SAMR Framework, TPaCK, ADDIE Model, Danielson Model, Blooms Taxonomy, ISTE Alignment, CSTA, New York State CS and Digital Fluency standards.
[2] Micro-credentialing refers to specific courses that receive personalized feedback and are focused on scaffolded instruction and successful implementation of popular classroom tools.
[3] Tech-tivities are strategies, lessons, and activities that help educators connect technology skills to pedagogical practices.

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LEARN PLATFORM

Figure 1. Teq's OTIS for educators Logic Model

OTIS for educators Logic Model Components. Teq invests several resources into its program, including a research based online PD platform, more than nine hundred on-demand and live courses, micro-credentialing through a series of online courses,[2] short videos for specific content skills, more than five hundred lesson plans and instructional resources, content designed and delivered by state certified educators, a blog, learning management system (LMS) integrations, and single sign-on (SSO) with Google, Classlink, and Clever. Ultimately, OTIS for educators aims to reach teachers, administrators, and families.

Using these program resources, participants (teachers, administrators, and families) can engage with OTIS in the following activities:

- **Teachers:**
    - access live and archived PD courses across a variety of content;
    - complete PD courses;
    - complete assignments and surveys for micro-credentialing;
    - receive feedback from state-certified curriculum specialists/teachers on assignments;
    - take quizzes;
    - access and view videos from the Skills section (e.g., Tech-tivities);[3]
    - earn badges and certifications;
    - build their own customized PD plan; and
    - use lesson plans and instructional resources.

- **Administrators:**
    - create course playlists to drive teachers to specific content;
    - can view insightful usage analytics, export usage data, and track teacher progress;
    - can upload their own PD content; and
    - can create onsite or blended PD with OTIS resources and content.

- **Families** access resources on the family-centered content library.

Teq can examine the extent to which core activities were delivered and participants were reached by examining the following quantifiable outputs:

- number of teacher licenses;
- number, nature of content, and type of (live or archived) course registrations;
- number, nature, and type of courses in progress;
- number, nature, and type of courses taken and completed;
- time spent on each course (hours);

[2] Micro-credentialing refers to specific courses that receive personalized feedback and are focused on scaffolded instruction and successful implementation of popular classroom tools.
[3] Tech-tivities are strategies, lessons, and activities that help educators connect technology skills to pedagogical practices.

- number of micro-credentialing assignments completed and submitted;
- number and results of pre- and post-test micro-credentialing surveys completed;
- amount and nature of micro-credentialing feedback;
- number and scores of quizzes taken and completed;
- number and nature of course certificates and badges awarded;
- number and nature of PD plans;
- number, nature, and type of courses and course playlists uploaded by administrators; and
- number and nature of family-centered library resources accessed.

If implementation is successful, based on a review of program outputs, teachers will gain new, and grow existing, instructional skills that will lead to them integrating learned instructional strategies in their classrooms in the short term. Teachers will also be able to fulfill state-mandated PD hours and have easy access to a range of curated PD content. Administrators will gain access to PD resources that can be used to evaluate the quality of technology implementation in their school or district and can support technology use that aligns with teachers' instructional goals. Likewise, families will become familiar and comfortable with technologies needed to support their child's learning.

In the intermediate, teachers will improve their self-efficacy, pedagogy, and enhance student engagement. They'll also benefit from not having to spend so much time on inefficient and ineffective PD allowing them to spend more time on improving classroom instruction. Administrators will get better implementation and return on investments as well as actionable insights into their teachers' progress that can lead to more effective edtech use. Families, in turn, will become less resistant to technology use in their child's school or district.

Long term, these intermediate teacher outcomes will lead to positive student outcomes including an increase in 21st century skills (e.g., critical thinking, problem solving), improved academic achievement, and access to vocation and success. Teacher retention will improve over time as they gain more capacity to focus on personalized, professional growth. Retention will also be improved as administrators become better equipped to review the efficiency and effectiveness of edtech use leading to improved instruction, planning, and budgeting. Finally, families will more effectively support their child's learning when both administrators and families are aligned on accepting and adopting the same technologies across the district.

Study Design for OTIS for Educators Evaluation

To continue building evidence of effectiveness and to examine the proposed relationships in the logic model, Teq has plans to conduct an evaluation to determine the extent to which OTIS for educators produces the desired outcomes. Specifically, Teq has plans to begin an ESSA Level III study to answer the following research questions:

1. To what extent did teachers use OTIS for educators during the 2022–23 school year?
    - How many courses were taken and what was the average number of courses taken by each teacher?
    - On average, how many courses did teachers complete?
2. Does greater usage of OTIS for educators (number of courses taken, completed, and time spent on each course) relate to teachers feeling:
    - that they have more capacity for personalized, professional growth?
    - that their classroom instruction has improved?
    - more confident in classroom technology?

Conclusions

This study satisfies ESSA evidence requirements for Level IV (*Demonstrates a Rationale*). Specifically, this study met the following criteria for Level IV:

✅ Detailed logic model informed by previous, high-quality research
✅ Study planning and design is currently underway for an ESSA Level III study

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