

Vocabulary Workshop *Adaptive Logic Model*

Study Type: ESSA Evidence Level IV

Prepared for:
Sadlier

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EXECUTIVE SUMMARY

Sadlier engaged LearnPlatform by Instructure, a third-party edtech research company, to develop a logic model for *Vocabulary Workshop Adaptive*. 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 Sadlier to develop and revise the logic model.

Study Design for *Vocabulary Workshop Adaptive* 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 *Vocabulary Workshop Adaptive* impacts student learning outcomes.

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

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

Sadlier engaged LearnPlatform by Instructure, a third-party edtech research company, to develop a logic model for *Vocabulary Workshop Adaptive*. 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 *Vocabulary Workshop Adaptive* logic model and foundational research base.
2. Draft an ESSA Level III study design.

Sadlier recognizes that vocabulary development is a critical aspect of K–12 students' academic and non-academic life. Word recognition is a fundamental reading skill needed for successful written and verbal communication, and mastery of academic vocabulary is crucial for student success. Given that 60% of students do not have the literacy skills needed for college and career success (Wei et al., 2016), it is imperative that students build word consciousness and practice the meaning-making process required for comprehension. *Vocabulary Workshop Adaptive (VWA)* aims to build Grades 6–12 students' vocabulary knowledge and skills through direct, explicit instruction and student choice that promotes engagement while employing multiple levels of adaptivity to personalize learning through word encounters.

Previous Research. The design of this logic model was guided by previous research that demonstrates a link between vocabulary acquisition and reading comprehension and instructional practices that support vocabulary acquisition. Reading comprehension requires background knowledge, morphological awareness, text knowledge, attention and comprehension monitoring, vocabulary knowledge, and language skills (Castles et al., 2018; Kilpatrick, 2015; Lee et al., 2022). Students who have not had opportunities to develop a strong vocabulary base often struggle with reading comprehension and other foundational literacy skills, which in turn impacts their reading growth and achievement (Baker et al., 1995; Beck & McKeown, 1985; Farr et al., 2009; Hart & Risley, 2003; Lawrence, 2021; Nichols & Hill, 2020; Stahl, 2003; Snow et al., 1998). Students, typically from historically underserved communities, who are unable to pass literacy-based high school graduation assessments are more likely to be denied a diploma thus hindering them from pursuing further education (Hyslop 2014; Papay et al., 2010).

Scaffolding instruction that weaves together several essential components (i.e., word recognition and word study, fluency, vocabulary, and text comprehension) can help students become skilled readers (Hougen, 2014). For example, helping students develop morphological awareness so they can interpret the smallest units of meaning (i.e., morphemes), and in turn, understand the structure of language is critical to developing advanced vocabulary, spelling, and reading comprehension abilities. Morphological awareness is beneficial to students of all ages, but particularly secondary students (Lee et al., 2022). However, many educators do not have access to research-based resources for vocabulary instruction (Graves, 2015).

The VWA platform provides support for direct instruction (e.g., definitions, visual videos, and word study) and includes multiple guided practice activities with corrective feedback that are tailored to students' skill levels as determined by a diagnostic assessment. Providing students with independent guided practice that includes specific feedback allows them to effectively monitor and control their learning and, consequently, develop higher self-regulated learning skills (Panadero et al., 2017). The latter are signaled to be a fundamental competence for living in a world "where social contextual conditions are changing rapidly, especially in a digital age" (Morris, 2019, p.633). VWA also provides multiple exposures to words such as two sentences that are semantically correct examples referred to as semantic reinforcement learning. After controlling for decoding, previously acquired vocabulary knowledge, and working memory, semantic reinforcement learning is shown to lead to better reading comprehension among adolescents (Barnes et al. 2021). Word study enables students to focus on the structure and meaning of words by drawing their attention to word parts, morphemes, and spelling patterns (Bernstein et al., 2020; Bloodgood and Pacifici, 2004). In turn, students develop the prerequisite skills for effective and efficient use of words in reading and writing (McKeown, 2019).

Teachers are more likely to use programs that are intuitive and easy to implement. Such programs are also usually more effective than programs that are complex and difficult to use (Connor et al., 2014). This is because teachers often have little to no time to implement new programs (NCES, 2019). Ease of implementation can also affect teacher buy-in and motivation, that is, teachers are more likely to adopt and implement programs they perceive as manageable and feasible (Long et al., 2016). This is why the VWA program was designed to be easily implemented. Using the adaptive capabilities of the program, teachers can rely on it to deploy multiple implementation models during class time and independent work. Teachers also have access to both in-person and virtual embedded professional development (PD), they are able to review student progress on easy-to-read reports, and assign individuals or groups of students follow-up tasks as they differentiate instruction. Providing students with adaptive practice activities that are on-level or differentiated and ensuring that instruction is within students' zone of proximal development allows them to learn new concepts more quickly and fosters self-efficacy (Antonacci, 2000; Nicholas et al., 2021; Vygotsky & Cole, 1978). Since VWA provides differentiated practice activities with corrective feedback, it is likely to have increased impacts on reading outcomes.

Lastly, it is important for teachers to be able to adjust their instruction to meet each student's unique needs (Cha & Ahn, 2014; Tomlinson, 2003). For example, a teacher may need to have students read different texts depending on their skill level. As such, VWA provides tools for tracking student progress, supporting formative assessment, and implementing differentiated instructional pathways. Prior research suggests that when teachers have the ability to adapt a program to meet their students' needs, it increases the use of that program (Knight, 2019). Due to this, it is expected that teachers will be more likely to use VWA in their instruction than a less flexible alternative program. VWA enables teachers to regularly gauge students' level of mastery and tailor readings to meet their skill level, thereby fostering instructional differentiation, which is critical for helping students become more competent readers (Tomlinson, 1995).

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

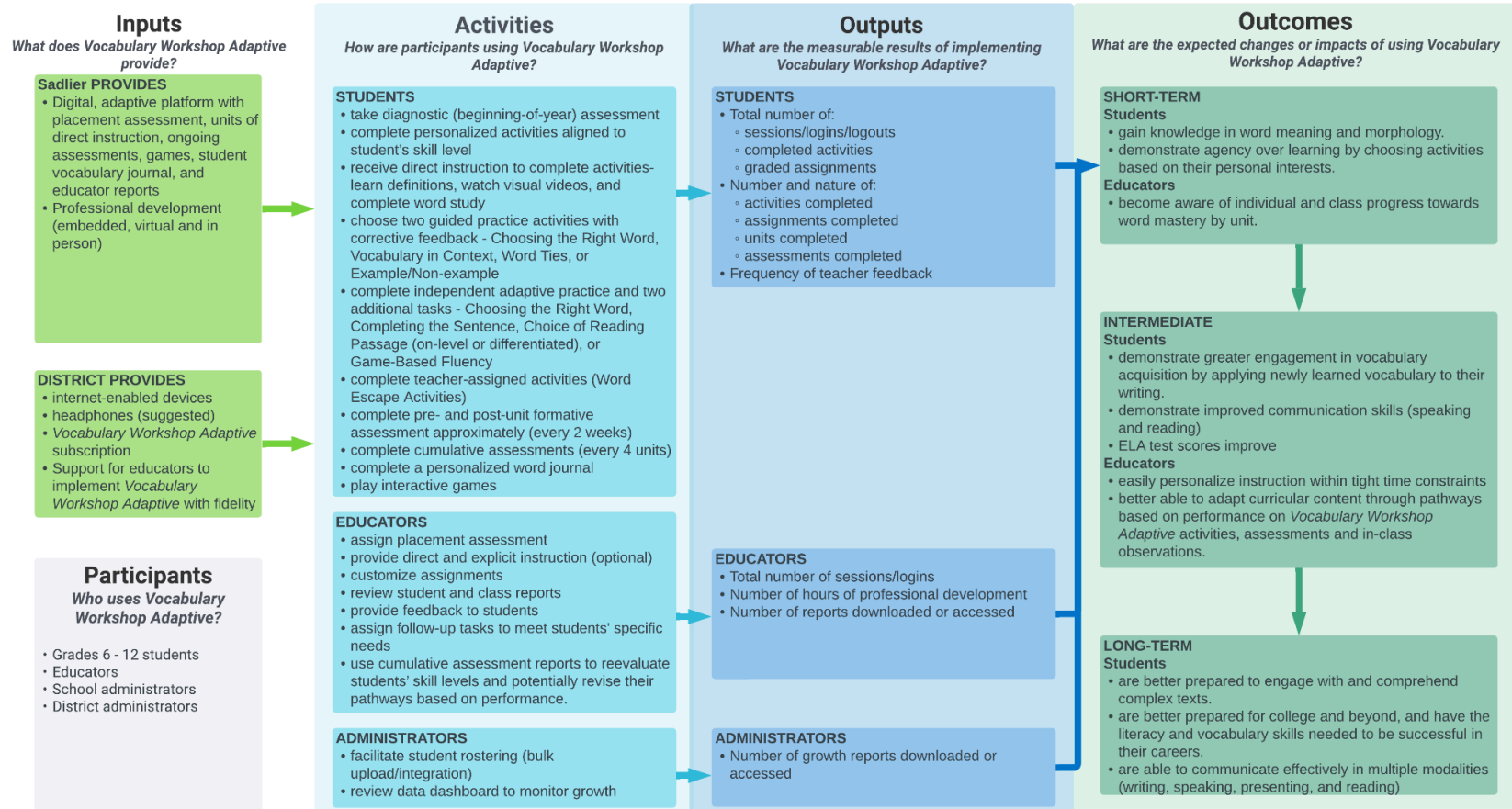
Component	Description	More information
Inputs	What the provider invests	What resources are invested and/or required for the learning solution to function effectively in real schools?
Participants	Who the provider reaches	Who receives the learning solution or intervention? Who are the key users?
Activities	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	<p>Short-term outcomes are changes in awareness, knowledge, skills, attitudes, and aspirations.</p> <p>Intermediate outcomes are changes in behaviors or actions.</p> <p>Long-term outcomes are ultimate impacts or changes in social, economic, civil or environmental conditions.</p>

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



Vocabulary Workshop Adaptive Logic Model

Problem Statement: Vocabulary development is a critical aspect of K–12 students' academic and non-academic life. Word recognition is a fundamental reading skill needed for successful written and verbal communication, and mastery of academic vocabulary is crucial for student success. Given that 60% of students do not have the literacy skills needed for college and career success¹, it is imperative that students build word consciousness and practice the meaning-making process required for comprehension. Vocabulary Workshop Adaptive (VWA) aims to build Grades 6–12 students' vocabulary knowledge and skills through direct, explicit instruction and student choice that promotes engagement while employing multiple levels of adaptivity to personalize learning through word encounters.



1 Wei, H., Cromwell, A. M., & McClarty, K. L. (2016). Career readiness: An analysis of text complexity for occupational reading materials. *The Journal of Educational Research*, 109(3), 266-274.

Figure 1. Vocabulary Workshop Adaptive logic model

Vocabulary Workshop Adaptive Logic Model Components. Sadlier invests several resources into their program, including a digital, adaptive platform with placement assessment, units of direct instruction, ongoing assessments, games, student vocabulary journal, and educator reports and professional development (embedded, virtual and in person). Ultimately, the *Vocabulary Workshop Adaptive* program aims to reach Grades 6–12 students, educators, school and district administrators.

Using these program resources, the participants can engage with the *Vocabulary Workshop Adaptive* platform via the following activities:

- Students
 - take diagnostic (beginning-of-year) assessment
 - complete personalized activities aligned to student’s skill level
 - receive direct instruction to complete activities- learn definitions, watch visual videos, and complete word study
 - choose two guided practice activities with corrective feedback - Choosing the Right Word, Vocabulary in Context, Word Ties, or Example/Non-example
 - complete independent adaptive practice and two additional tasks - Choosing the Right Word, Completing the Sentence, Choice of Reading Passage (on-level or differentiated), or Game-Based Fluency
 - complete teacher-assigned activities (Word Escape Activities)
 - complete pre- and post-unit formative assessment approximately (every 2 weeks)
 - complete cumulative assessments (every 4 units)
 - complete a personalized word journal
 - play interactive games
- Educators
 - assign placement assessment
 - provide direct and explicit instruction (optional)
 - customize assignments
 - review student and class reports
 - provide feedback to students
 - assign follow-up tasks to meet students' specific needs
 - use cumulative assessment reports to reevaluate students’ skill levels and potentially revise their pathways based on performance.
- Administrators
 - facilitate student rostering (bulk upload/integration)
 - review data dashboard to monitor growth

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

- Students
 - Total number of:
 - sessions/logins/logouts
 - completed activities

- graded assignments
 - Number and nature of:
 - activities completed
 - assignments completed
 - units completed
 - assessments completed
 - Frequency of teacher feedback
- Educators
 - Total number of sessions/logins
 - Number of hours of professional development
 - Number of reports downloaded or accessed
- Administrators
 - Number of growth reports downloaded or accessed

If implementation is successful, based on a review of program outputs, educators can expect the following outcomes. In the short-term, students will gain knowledge in word meaning and morphology and demonstrate agency over learning by choosing activities based on their personal interests. Meanwhile, educators will become aware of individual and class progress towards word mastery by unit. In the intermediate term, students will demonstrate greater engagement in vocabulary acquisition by applying newly learned vocabulary to their writing; demonstrate improved communication skills (speaking and reading); and see improved ELA test scores. Educators, on the other hand, will be able to easily personalize instruction within tight time constraints and be better able to adapt curricular content through pathways based on performance on *Vocabulary Workshop Adaptive* activities, assessments and in-class observations. Ultimately, students will be better prepared to engage with and comprehend complex texts and also be better prepared for college and beyond i.e., have the literacy and vocabulary skills needed to be successful in their careers. Students will also be able to communicate effectively in multiple modalities (writing, speaking, presenting, and reading).

Study Design for Vocabulary Workshop Adaptive Evaluation

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

Implementation Questions

1. Among students, what were the usage patterns of *Vocabulary Workshop Adaptive (VWA)*?
 - a. On average, how many
 - i. times did students log in?
 - ii. VWA activities did students complete?
 - iii. times did the platform offer alternative learning pathways to students?
2. What was students' level of engagement when using the VWA platform?
3. Among teachers, what were the usage patterns of VWA?
 - a. On average, how many times did teachers override the suggested learning pathway(s) on the platform?

Outcome Questions

4. After controlling for students' prior literacy levels, how was the use of VWA related to student:
 - a. performance on standardized literacy assessments?
 - b. mastery of ELA standards within the VWA platform?
 - c. emotional engagement (i.e., excitement) for learning using new vocabulary?

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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