Mystery Writing

Logic Model

Study Type: ESSA Evidence Level IV

Prepared for:
Discovery Education

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EXECUTIVE SUMMARY

Discovery Education engaged LearnPlatform by Instructure, a third-party edtech research company, to develop a logic model for *Mystery Writing*. LearnPlatform by Instructure 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 by Instructure collaborated with Discovery Education to develop and revise the logic model.

Study Design for *Mystery Writing* Evaluation

Informed by the logic model, LearnPlatform by Instructure developed a research plan for a study to meet ESSA Level III requirements. The proposed research questions are as follows:

1. To what extent are students using *Mystery Writing* during the 2023–24 school year?
    a. On average, how many minutes will students complete using *Mystery Writing* during the 2023–24 school year?
    b. On average, how many lessons will students complete using *Mystery Writing* during the 2023–24 school year?
2. To what extent will the average number of *Mystery Writing* minutes and lessons that students complete relate to improved performance on local and district assessments, and/or standardized writing assessments?
3. To what extent will the average number of *Mystery Writing* minutes and lessons that students complete relate to increased participation, engagement, and motivation in writing, as self-reported by students or assessed by teachers?

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 I, II or 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

Discovery Education engaged LearnPlatform by Instructure, a third-party edtech research company, to develop a logic model for *Mystery Writing.* LearnPlatform by Instructure 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 *Mystery Writing* logic model and foundational research base.
2. Draft an ESSA Level I, II, or III study design.

Previous Research. It is often difficult for educators to provide consistent, high-quality writing lessons and resources to students. Unfortunately, the time and capacity for educators to deliver effective writing instruction is usually not available (McKeown et al., 2019; Myers et al., 2016). Further, research shows that writing is a complex skill that requires targeted, ongoing professional development (Graham & Perrin, 2007) and educators often feel underprepared to teach and prioritize writing (Brindle et al., 2016; Gilbert & Graham, 2010; Kiuhara et al., 2009). For instance, writing instruction often falls beneath reading and mathematics in the list of classroom priorities (Brindle, et al., 2016; National Commission on Writing, 2003). Research has tended to consider reading and writing as distinct (Shanahan, 2006) despite studies showing the importance of both as interrelated and mutually beneficial (Pugh et al., 2006; Weiser & Mathes, 2011). Generally, students have not learned the critical writing skills, strategies, and abilities that they need to be successful (Graham, 2019). There is a lack of high-quality classroom resources for teaching writing (Dockrell et al., 2016), yet high-quality writing instruction can lead to positive, long-term effects on students' elementary and secondary academic outcomes (Graham et al., 2012) as well as post-secondary outcomes (National Commission on Writing, 2003).

As a result, educators need support for providing and prioritizing evidence-based writing instruction. *Mystery Writing* is built on research that champions several key elements of effective writing instruction, including that writing instruction is most effective when students write more frequently; engage with different kinds of writing in varied genres (e.g., persuasive, argumentative, etc.) and content areas; learn through explicit instruction; receive personalized instruction; and receive timely feedback.

Write more frequently. At its core, effective writing instruction must recognize that writing is not an innate skill but one that needs consistent practice (Gammill, 2006; Graham & Harris, 2016). However, some teachers indicate that students do not spend enough time writing during the school day (Graham et al., 2012). What Works Clearinghouse recommends that educators put aside at least one hour a day for writing instruction (Graham et al., 2012) but at both the elementary and the secondary level, this does not typically happen (Coker et al., 2016; Drew et al., 2017). Studies also show that students who participate in writing tasks frequently and over a sustained period of time demonstrate progress in writing skill development (Graham et al., 2015; Johnstone et al., 2002; Roth & Guinee, 2011). Moreover, when students are provided with more time to practice their writing skills, they can gain confidence in their abilities as writers, and educators can better identify students who need the most support in their writing development (Graham et al., 2012).

Engage with different kinds of writing in varied genres and content areas. To be most effective, writing instruction should be integrated across diverse content areas and include multiple opportunities to display writing skills across different genres. For example, integrated science and writing instruction is related to improved science outcomes for students including writing higher-quality informational texts (Clark et al., 2021). Researchers also found that instruction focused on specific genres (like opinion and argumentative writing) was related to higher English language arts and science achievement (Traga Philippakos & MacArthur, 2021). Students who practiced argumentative writing in civics classes also showed signs of increased engagement in discussions on local policy issues and other civics-related topics (Enright et al., 2023). Students who write about specific content topics engage in a form of recall that allows them to think about that content in more depth and to explain their thinking (Nestojko et al., 2014). Students who write about specific content (e.g., math, science, social studies) can also increase their learning in those subjects and improve their grades (Graham et al., 2020). However, writing instruction can fail to provide opportunities for students to demonstrate their skills in multiple genres (like persuasive and expository writing) (Parr & Jesson, 2016) or opportunities for writing long-form or extended writing (Gilbert & Graham, 2010). Research consistently asserts the academic benefits of teaching writing in a variety of different contexts and genres, especially for elementary school students (Graham et al., 2012).

Explicit instruction. While writing instruction should be integrated within diverse content areas, it should also be strategic, intentional, and feature carefully focused instruction that builds students' writing skills (Hochman & Wexler, 2017). Explicit instruction refers to systematically teaching students the step-by-step process for how to plan, revise, and edit text (Graham et al., 2016). It can be seen in the Self-Regulated Strategy Development (SRSD) approach that helps students learn how to write and which involves students actively participating in the learning process. Educators help students to develop writing strategies by teaching background knowledge, fostering discussion, modeling the process, and encouraging students to memorize the steps of their strategy. Educators then support the student with scaffolded instruction that leads to mastery of the strategy so that they can use it independently. Students are taught self-regulation skills (including goal setting, self-monitoring, self-reinforcement, and self-instruction) that align with their writing strategies and learning (De La Paz & Graham, 2002; Graham & Perrin, 2007). Studies show the positive effects of interventions that include explicit instruction strategies. Research examining the effect of writing interventions on written composition for students in primary grades, showed that SRSD had large and consistent positive effect sizes across student outcomes compared to other examined interventions (Kim et al., 2021). Studies also found that first grade students who received Spanish instruction that was focused on explicit instruction performed better than their peers in producing writing with more structure, coherence, and quality, including higher-level features associated with narrative texts (Arrimada et al., 2019). Strategies like SRSD have also shown to be particularly effective at improving student writing outcomes for special education students (Harris et al., 2021; Salas et al., 2021; Troia and Graham, 2002).

Personalized instruction. Personalized instruction is when instruction is adjusted to meet each student's unique learning needs, rather than applied uniformly across a larger group of students. Personalized instruction has been related to higher literary achievement scores, including letter-word recognition, and writing outcomes for elementary students (Puzio et al., 2020). This approach also allows students' unique interests and backgrounds to be incorporated into writing tasks in a way that encourages students' interest and investment in the writing process (Graham & Harris, 2005). Studies show that writing instruction sometimes fails to motivate students (Cutler

& Graham, 2008; Wilcox et al., 2016) or to appropriately consider the needs of subgroups of students like English learners (Fitts et al., 2016) or special education students (Bray et al., 2014).

Timely feedback. Research shows that students who engage in independent writing practice with opportunities for real-time and formative feedback develop better writing skills (Kellogg & Raulerson, 2007). When timely teacher feedback and student self-assessment are included in writing tasks, students improve their writing skills (Guénette, 2007; Nelson & Schunn, 2009). Formative feedback that focuses on specific tasks, clarifies goals, and offers ongoing guidance, can be most effective at improving student outcomes (Hattie & Timperley, 2007; Parr & Timperley, 2010). In writing, students can benefit from real-time feedback when it is focused on specific components of the writing process like grammar, vocabulary, content, editing, or genre (Guénette, 2007; Nelson & Schunn, 2009). Formative feedback can also help students become more motivated and better writers (Hochman & Wexler, 2017; Tricomi & DePasque, 2016). Combining teacher feedback with student self-assessment also allows students to actively participate in their learning and can encourage a growth mindset (Boud & Falchikov, 2006).

In sum, research supports the potential of writing instruction for moving the needle on student writing outcomes when it allows students to write more and more often, is integrated with diverse content and genres, is explicitly and strategically taught, is personalized, and is supported by ongoing feedback. *Mystery Writing* provides a single, accessible source for instructional resources for educators built on these best practices in writing instruction and it has the potential to elevate learning and writing skills for all students.

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 by Instructure reviewed *Mystery Writing* resources, artifacts, and program materials to develop a draft logic model. Discovery Education reviewed the draft and provided revisions during virtual meetings. The final logic model depicted below (Figure 1) reflects these conversations and revisions.

Mystery Writing

Logic Model

Problem Statement: It is often difficult for educators to provide consistent, high-quality writing lessons and resources to students due to a lack of time, capacity, or appropriate writing-specific supports. *Mystery Writing* is an 'one-stop-shop' online writing program that provides easy-to-use, engaging, and standards-aligned writing lessons and instructional resources for educators. *Mystery Writing* is grounded in writing best practices, and supports students to thrive based on their unique learning needs through scaffolding and differentiation.

Inputs

What does Mystery Writing provide?:

***MYSTERY WRITING* PROVIDES**
- Single online platform with classroom-ready writing instructional supports for educators
- Aligned to Common Core State Standards
- Lessons provided in units, organized by grade, genre, writing process, and specific skill (intended to follow explicit, step-by-step instruction and fit into varied instructional blocks)
- Lessons that include real world writing tasks
- Model texts
- Lessons with scaffolded tasks
- Bank of online and print instructional resources (e.g., lesson plans, assessments, rubrics, graphic organizers, word banks, sentence frames, idea starters, and worksheets) associated with each lesson, unit, and genre

DISTRICT PROVIDES
- Technology resources (e.g., online applications, physical devices, software)
- Human Resources (e.g., full/part time staff, volunteers)
- Financial resources (e.g. funding)
- Material resources (e.g., printer materials, paper)
- Dedicated time for educators to become familiar with the program

Participants

Who uses Mystery Writing?

- Students in grades 3–5 (K–2 coming)
- Educators (incl. teachers and parents/guardians who are homeschooling)

Activities

How are participants using Mystery Writing?

EDUCATORS
- Access instructional resources intended to guide students through the writing process in a systematic way, e.g.,
  - Select a genre
  - Access units within each genre intended for multi-day, multi-session instruction
  - Access genre lessons
  - Access essential skill lessons (incl. practice lessons)
  - Access Quick Writes (i.e., writing prompts)
  - Access resources (e.g., videos, student objectives, lesson planning supports, standards alignment, instructional strategies, worksheets, and extension lessons) within each lesson page
  - Access and administer unit pre- and post- assessments, rubrics, and student checklists measuring proficiency

STUDENTS
- Complete and utilize *Mystery Writing* lessons, activities, student unit assessments, and resources

Outputs

What are the measurable results of implementing Mystery Writing?

EDUCATORS
- Number of active minutes
- Number of sessions/logins
- Number and type of genres accessed
- Number and type of units accessed
- Number and type of lessons accessed
- Number and type of Quick Writes accessed
- Number of student assessments, rubrics, and checklists
- Number and type of resources downloaded

STUDENTS
- Educator feedback on the extent to which lessons, activities, student unit assessments, and resources are completed and utilized by students

Outcomes

What are the expected changes or impacts of using Mystery Writing?

SHORT-TERM

Educators
- Have access to ready-made writing lessons and resources to plan classroom instruction
- Are able to deliver bite-sized, explicit instruction that follows the complete writing process in a systematic and organized way across different genres
- Are able to spend less time on lesson planning and preparation and more time on classroom instruction and student feedback
- Have more flexibility to focus on teaching a specific skill or multiple skills
- Are able to to use different lessons within the program to build a responsive curriculum that addresses the specific needs of their students
- Are able to use pre- and post-assessments to evaluate the proficiency of their students at different points in their learning

Students
- Are engaged and motivated by fun and creative writing lessons, activities, and resources
- Have multiple opportunities to write more, write independently, and practice what they've learned
- Have access to differentiated writing instruction that meets their specific needs
- Have access to video-based lessons that allow for opportunities to discuss, respond, think, and practice progressively through the lessons

INTERMEDIATE

Educators
- Develop greater capacity to scaffold instruction based on students' individual needs and progress
- Are able to see evidence of student learning over time using in-platform assessments
- Teach the essential writing standards for their grade
- Feel more engaged in their classroom instruction through diverse lessons that engage and excite students
- Are able to provide culturally responsive instruction

Students
- Are excited and motivated to write because of engaging and relatable visuals and storytelling
- Improve their writing skills and ability to write well independently
- Build writing stamina and have greater confidence in their writing ability through varied instruction and repeated practices
- Feel represented in the diverse imagery and perspectives used in each lesson
- Are celebrated for their effort and feel supported by their educators and peers through shared experiences of writing challenges

LONG-TERM

Educators
- Are more likely to feel professionally supported and validated
- Support long lasting improvements in writing outcomes for all students
- Contribute to narrowing writing achievement and growth gaps between student subgroups

Students
- Have increased confidence and excitement for writing
- Apply improved writing skills across different content areas and contexts within and outside of school
- Learn and grow their curiosity of the world around them by writing about things connected to real world problems or experiences, and by creating products or projects that aren't just classroom assignments

Mystery Writing Logic Model Components. Discovery Education invests several resources into its *Mystery Writing* program, including:

- A single online platform with classroom-ready writing instructional supports for educators;
- Alignment to Common Core State Standards;
- Lessons provided in units, organized by grade, genre, writing process, and specific skill (intended to follow explicit, step-by-step instruction and fit into varied instructional blocks);
- Lessons that include real world writing tasks;
- Lessons with model texts;
- Lessons with scaffolded tasks; and
- A bank of online and print instructional resources (e.g., lesson plans, assessments, rubrics, graphic organizers, word banks, sentence frames, idea starters, and worksheets) associated with each lesson, unit, and genre.

Districts would be expected to provide technology resources (e.g., online applications, physical devices, software); human resources (e.g., full/part time staff, volunteers); financial resources (e.g. funding); material resources (e.g., printer materials, paper); and dedicated time for educators to become familiar with the program. Ultimately, *Mystery Writing* aims to reach students in grades 3–5 (with K–2 to come) and educators (including teachers and parents or guardians who are homeschooling).

Using these program resources, participants can engage with *Mystery Writing* in the following activities:

Educators:

- Access instructional resources intended to guide students through the writing process in a systematic way, e.g.,
    - Select a genre,
    - Access units within each genre intended for multi-day, multi-session instruction,
    - Access genre lessons,
    - Access essential skill lessons (including practice lessons),
    - Access Quick Writes (i.e., writing prompts);
- Access resources (e.g., videos, student objectives, lesson planning supports, standards alignment, instructional strategies, worksheets, and extension lessons) within each lesson page; and
- Access and administer unit pre- and post- assessments, rubrics, and student checklists measuring proficiency.

Students:

- Complete and utilize *Mystery Writing* lessons, activities, student unit assessments, and resources.

Discovery Education can examine the extent to which core *Mystery Writing* activities were delivered and participants were reached by examining the following quantifiable outputs:

Educators

- Number of active minutes
- Number of sessions/logins
- Number and type of genres accessed

- Number and type of units accessed
- Number and type of lessons accessed
- Number and type of Quick Writes accessed
- Number of student assessments, rubrics, and checklists
- Number and type of resources downloaded

Students

- Educator feedback on the extent to which lessons, activities, student unit assessments, and resources are completed and utilized by students

If implementation is successful, based on a review of program outputs, Discovery Education can expect the following short-term outcomes from use of *Mystery Writing*.

Educators

Short term, educators will have access to ready-made writing lessons and resources to plan classroom instruction. They will deliver bite-sized, explicit instruction that follows the complete writing process in a systematic and organized way across different genres. Educators will spend less time on lesson planning and preparation and more time on classroom instruction and student feedback. They will have more flexibility to focus on teaching a specific skill, or multiple skills, and they will be able to use different lessons within the program to build a responsive curriculum that addresses the specific needs of their students. Finally, educators will use pre- and post-assessments to evaluate the proficiency of their students at different points in their learning.

In the intermediate term, educators will develop greater capacity to scaffold instruction based on students' individual needs and progress. They will see evidence of student learning over time using in-platform assessments and teach the essential writing standards for their grade. Finally, they will feel more engaged in their classroom instruction through diverse lessons that engage and excite students while being able to provide culturally responsive instruction.

Long term, educators will be more likely to feel professionally supported and validated. They will support long-lasting improvements in writing outcomes for all students and contribute to narrowing writing achievement and growth gaps between student subgroups.

Students

Short term, students will be engaged and motivated by fun and creative writing lessons, activities, and resources. They will have multiple opportunities to write more, write independently, and practice what they've learned. Finally, students will have access to differentiated writing instruction that meets their specific needs as well as video-based lessons that allow for opportunities to discuss, respond, think, and practice progressively through the lessons.

In the intermediate term, students will be excited and motivated to write because of engaging and relatable visuals and storytelling. They will improve their writing skills and ability to write well independently. They will also build writing stamina and have greater confidence in their writing ability through varied instruction and repeated practices. Students will feel represented in the diverse imagery and perspectives used in each lesson. Finally, they will be celebrated for their effort and feel supported by their educators and peers through shared experiences of writing challenges.

Long term, students will have increased confidence and excitement for writing and apply improved writing skills across different content areas and contexts within and outside of school. Finally, they will learn and grow their curiosity of the world around them by writing about things connected to real world problems or experiences, and by creating products or projects that aren't just classroom assignments.

Study Design for *Mystery Writing* Evaluation

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

1. To what extent are students using *Mystery Writing* during the 2023–24 school year?
    a. On average, how many minutes will students complete using *Mystery Writing* during the 2023–24 school year?
    b. On average, how many lessons will students complete using *Mystery Writing* during the 2023–24 school year?
2. To what extent will the average number of *Mystery Writing* minutes and lessons that students complete relate to improved performance on local and district assessments, and/or standardized writing assessments?
3. To what extent will the average number of *Mystery Writing* minutes and lessons that students complete relate to increased participation, engagement, and motivation in writing, as self-reported by students or assessed by teachers?

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 I, II or III study

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