

Final Evaluation Report

“Supporting Special Learning Needs Through Technology”

Report issued to: ASU Middle School

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Abstract

ASU Middle School contracted E.K.D.J Consulting to evaluate their workshop, *Supporting Special Learning Needs Through Technology*. This one-hour long program was designed to train a group of middle school Language Arts and Social Studies teachers at ASU Middle School. This was in response to teachers requesting support with helping their students with special needs in the area of writing. The workshop taught teachers how to download and use the app Grammarly, which is intended to help give suggestions on how to edit writing mistakes.

The team evaluated the workshop using five different data sources including a post workshop survey assessing teacher attitudes toward the program, a survey assessing teacher opinions and thoughts on the Grammarly app, teacher interviews, classroom observations, and student writing samples assessing their writing ability before and after the use of Grammarly. Each data source was carefully analyzed and evaluated by E.K.D.J Consulting to create this evaluation report.

E.K.D.J Consulting found that the *Supporting Special Learning Needs Through Technology* program was largely successful and effective in leading participants to the fulfillment of the program objectives, as well as in reducing conventional writing mistakes among students. Participant responses via data collection illustrated positive attitudes towards the program as well. However, despite being successful in its targeted aspects, some shortcomings came to light in concerns addressed by participants that would stand to benefit the program further, should they be taken into consideration for future adjustments to the program.

Introduction

Overview

The *Supporting Special Learning Needs Through Technology* instructional program was created in the 2018-2019 academic school year at the request of teachers at ASU Middle School. The program, composed of a single instructional workshop for general education teachers whose classes contained students with special needs, provides training for how to download and use the free language-support app Grammarly. Available as a downloadable app or browser plug-in, Grammarly is an AI-powered, cloud-based English language tool which proofreads texts that the user uploads and provides suggested corrections for spelling, grammar and rhetoric mistakes.

An external evaluation was conducted by E.K.D.J. Consulting at the request of the Principal of ASU Middle School. The goal of the evaluation was to assess the effectiveness of the *Supporting Special Learning Needs Through Technology* program in reducing spelling, grammar and rhetoric mistakes for students with special needs on writing assignments. The formative evaluation answered the following key questions:

1. Are teachers able to download and use the Grammarly app properly?
2. Can teachers implement the Grammarly app into their classrooms successfully?
3. Do teachers feel successful with having this tool?
4. Do teachers feel this program adequately addresses their concerns of meeting the needs of their students with special needs?

Program Description

Providing different ways to learn that match the needs of students (known as differentiation) has always been a challenge for schools with large class sizes and limited resources. The disproportionate student-to-teacher ratios, fixed class hours and constrained budgets all provide obstacles to learning and instruction before taking into account the additional challenges teachers face when serving students with special needs. These students require additional modifications to instruction (known as scaffolding) to help them meet their learning goals and may be integrated into general classrooms or allocated to classes of their own based on the severity of their needs.

ASU Middle School uses an inclusion model which integrates students with special needs into their general population classrooms. Teachers at ASU Middle School had voiced concerns regarding a performance gap they have identified for students with special needs on writing assignments: these students consistently produce more spelling, grammatical and rhetorical mistakes than their peers, requiring more individualized support for success. Because of the challenges outlined above, the teachers at ASU Middle School requested an intervention resource with training that would provide these students with more independent support to meet their differentiated needs.

The *Supporting Special Learning Needs Through Technology* program was created as a response. Designed as a single, one-hour instructional workshop, the goal of the program is to teach learners how to download, use and implement the free, cloud-based app Grammarly as part of their curriculum. Accessible to users (students, parents, teachers) via a free downloadable app or browser-plug in, Grammarly is described as a resource that “checks your text for hundreds of

common and advanced writing issues. The checks include common grammatical errors, such as subject-verb agreement, article use, and modifier placement, in addition to contextual spelling mistakes, phonetic spelling mistakes, and irregular verb conjugations” (Grammarly, n.d.). The intended users of the *Supporting Special Learning Needs Through Technology* program are Language Arts and Social Studies middle school teachers along with the students with special needs who will benefit from their teachers’ training.

Program Objectives

The *Supporting Special Learning Needs Through Technology* program outlined the following objectives in its Instructor’s Manual that learners will be able to accomplish at the conclusion of the instructional workshop:

1. Teacher learners will learn how to successfully download the Grammarly app.
 - Teachers were given step-by-step directions on how to download the app from the workshop instructor. These were directions that were then used on their own students in the classroom.
2. Teacher learners will successfully use the Grammarly app and apply its tools.
 - Teachers were given a writing prompt to practice using Grammarly and see what it has to offer. They discussed the benefits as a whole group after individually trying the app.
3. Teacher learners will show evidence of successfully incorporating the Grammarly app with their special education students.
 - This was shown through classroom observations, interviews, and student work samples.

Program Components

The *Supporting Special Learning Needs Through Technology* program consists of a single, one-hour instructional workshop to train learners how to download and use the Grammarly app. Training occurs in one of ASU Middle School classrooms or facilities, which includes wireless internet access, a projector, desks and chairs for the learners, and a connection cable for the instructor to broadcast their computer screen. The instructor and learners are required to bring a computer or tablet as a prerequisite for the workshop.

The workshop begins with the instructor welcoming the learners and providing a short pretest surveying demographic information, technology usage and attitudes via paper copy. After the pretest data is gathered, the instructor introduces the Grammarly app to the learners by presenting a short demo of how it works. A paragraph with numerous spelling, grammar and rhetoric mistakes is displayed via wirelessly projecting and then corrected with Grammarly. After the demo, the instructor asks the learners to open up a Word Document and type out a response to the given prompt, “Write about what you did over Spring Break. If you went somewhere tell me about it. If you didn’t do anything, write about what you wish you had done or where you wanted to go”. Teachers will be given ten minutes to write their responses before the instructor moves on to downloading Grammarly instructions. Learners then follow the instructions in their manuals on how to locate the Grammarly website, download the application or browser plug-in, and install the program. After installation, learners will open the paragraph they typed and upload it to Grammarly to fix any errors that they had made. Once all learners have completed these tasks, the instructor will lead the workshop in a discussion about the

similarities and differences between the two writing samples. Learners will then complete a short posttest measuring their experiences in the workshop.

Statement of Purpose and Major Questions of the Evaluation

ASU Middle School is trying to implement more strategies in the classroom to help support students with special needs. Currently, teachers are not given time, attention, or resources to support special needs students with their writing. Students are continuing to make grammatical mistakes in their writing, which is impeding the readability. Teachers at ASU Middle School have requested supports and strategies to help reach their students with special needs. The school was just given one-to-one devices so each student now has the ability to type responses and assignments, however, teachers are still getting used to incorporating technology into the classroom and struggling with tools to implement in their classrooms that can address their needs. The district hopes that Grammarly can offer support, but proper training is required for instructors to ensure effective implementation.

The *Supporting Special Learning Needs Through Technology* program was created as a direct response to teachers' request for additional technological resources and training to support students with special needs on writing assignments. The one-hour instructional workshop trains teachers how to download and use the Grammarly app so it could be implemented as a part of their curriculum to provide more independent spelling, grammar and rhetoric support. The principal at ASU Middle School hired E.K.D.J. Consulting to perform an external evaluation of the *Supporting Special Learning Needs Through Technology* program. The evaluation will assess the effectiveness and utility in training teachers to utilize the Grammarly app to support students with special needs in minimizing grammar mistakes on writing assignments.

The E.K.D.J. Consulting sought to answer the following major questions in its evaluation of the *Supporting Special Learning Needs Through Technology* program. The purpose of the major questions is to “form the boundary and scope of the evaluation and serve to communicate to others what the evaluation will and won’t attend” (Russ-Eft, D. & Preskill, H., 2009). The evaluation will answer the following major questions:

1. Are teachers able to download and use the Grammarly app properly?
2. Can teachers implement the Grammarly app into their classrooms successfully?
3. Do teachers feel successful with having this tool?
4. Do teachers feel this program adequately addresses their concerns of meeting the needs of their students with special learning needs?

Evaluation Methods

The evaluation team from E.K.D.J. Consulting was hired by the principal at ASU Middle School to evaluate the effectiveness and utility of the program to train teachers in using the Grammarly app to support students with special needs on writing assignments. This would in turn help to minimize spelling, grammar and rhetoric mistakes made by students. The evaluation team used the following resources to provide an academic foundation for the evaluation’s rationale and methodology: Morrison, G. R., Ross, S. M., Kalman, H. K., & Kemp, J. E. (2013). *Designing Effective Instruction*; and Russ-Eft, D. & Preskill, H. (2009) *Evaluations in Organizations: A Systematic Approach to Enhancing Learning, Performance, and Change*. The evaluation utilized Kirkpatrick’s Four Level Evaluation Model to determine:

1. “What do participants think and feel about the training?”;
2. “What do participants know now that they didn’t know before?”;

3. “In what ways has performance on the job improved?”; and
4. “How has the organization benefited?” (Russ-Eft, D. & Preskill, H., 2009)

A mixed methods approach was used to gather quantitative and qualitative data from five data sources. Participants of the instructional workshop were selected from ASU Middle School. Further details about the participants, data sources and evaluation procedures are listed below.

Participants

Participants of the study will include nine middle school Language Arts and Social Studies teachers as well as one Special Education teacher who co-teaches in the Language Arts classroom and teaches an Essentials English (Self-Contained Special Education) course. The teachers in the study were between the ages of 27 and 55. Three of the General Education teachers reported to the school that they are confident using technology in the classroom and have started assigning written tasks online. The other General Education teachers have reported lack of knowledge of technology support to implement in the classroom. All participants are willing volunteers and have positive attitudes toward the training.

The instructor for the course was one of the Language Arts teachers. She helped pilot a technology based curriculum in her classroom the previous year and had experience using Grammarly in the past. Our lead evaluator met with this teacher prior to the workshop to make sure all materials and information were ready.

As part of our data sources, we used student writing samples from before and after the use of Grammarly. The ten students whose writing we sampled were Special Education students. Of those students, six had a Specific Learning Disability in Written Expression, one had Autism, and three students had an Other Health Impairment including ADHD and Epilepsy. Four of the

students were in seventh grade, and six were eighth graders. The Special Education teacher compiled previous writing samples to compare with newer writing samples. All of these students had either a Language Arts or Social Studies teacher that participated in the course.

Data Sources

The evaluation team used participant attitudes, participant implementation, and student performance to collect data. The following is our list of data sources and each one is described in more detail below.

1. Post surveys on use of Grammarly in the classroom
2. Student writing samples before and after use of the Grammarly app
3. Participant response to instructional workshop
4. Interviews with instructional workshop participants
5. Classroom observations

Post surveys on use of Grammarly in the classroom: The evaluation team emailed out a survey via Google Forms, see Appendix A, two days after the workshop to the ten teachers who attended the training. The survey contained Likert scale questions and familiar, easy to understand wording. There were also short response answers to help us analyze the key questions, specifically, “do teachers feel successful with having this tool?” and “do teachers feel this program adequately addresses their concerns of meeting the needs of their students with special needs?” Since we used a post-only survey, we had to compare prior knowledge by “[asking] respondents to rate their pretraining skill level retrospectively and then rate the current skill level” (Russ-Eft, D. & Preskill, H., 2009).

Student writing samples before and after use of the Grammarly app: A group of ten student work samples were selected by the Special Education Teacher. She chose students with special needs who were performing at all different levels as to give data for multiple types of learners. The team used the writing rubric, see Appendix B, to grade the student writing samples both before and after using the Grammarly app.

Participant responses to instructional workshop: This survey, see Appendix C, was also emailed out two days after the workshop to the teachers who attended the training via Google Forms. The survey helped to assess teacher opinions on how well the workshop was organized and the effectiveness of the training, as well as the attitudes of the teachers implementing the app. The questions that included the Likert scale were created to give teachers a neutral option and not sway them to a positive or negative reaction (Russ-Eft, D. & Preskill, H., 2009). There were a few short answer response questions, which would allow the teachers to expand their thoughts, giving us more qualitative data.

Interview with Instructional Workshop Participants: The evaluation team interviewed five teachers just over a week after the workshop had finished. This allowed time for each teacher to work with Grammarly in their classrooms and implement the app with students. The lead evaluator emailed all of the participants, asking to schedule interviews and those five teachers all volunteered their time. The interviews took place separately and were not a focus group. One benefit of conducting these interviews was “collecting rich, qualitative information” (Russ-Eft, D. & Preskill, H., 2009). Of the teachers who were interviewed, one was the Special Education Teacher, who works with several students with special needs and

has created Written Expression goals for these students. This was helpful for analyzing student responses. See Appendix D for the interview questions.

Classroom observations: Classroom observations occurred the week of the workshop. This type of data method was used to collect information on how Grammarly was being used in the classroom and to assess if teachers were able to follow the steps that they used during the workshop. Our team chose to evaluate as a nonparticipant observer so that we could observe as an onlooker (Russ-Eft, D. & Preskill, H., 2009). Our lead evaluator went into three different classrooms of teachers who had participated in the course using the observation checklist in Appendix F.

Evaluation Procedures

The evaluation team met with the workshop instructor prior to the training in order to go over instructions, make sure copies were all made, and the instructor felt confident about the workshop agenda and content. The workshop took place on a Monday afternoon in the ASU Middle School library. All teachers had their laptops with them and the instructor had double checked to make sure her laptop could wirelessly project for the introduction activity. The introduction went smoothly, and once the instructor posted the writing prompt, the teachers started writing their responses. They had all finished writing their responses within six minutes, so the instructor kept the pace going and continued to the Grammarly installation instructions. The teachers were all given paper copies of the instructions in addition to it being projected in the front of the room. The instructor walked around for the next five minutes to check in with teachers and make sure all teachers were able to successfully download and install the app. They were then given time to upload their original writing prompt into Grammarly and instructed to

fix any mistakes that popped up. This part took just over five minutes while the instructor walked around passing out the discussion form.

Teachers were then able to share any similarities and differences between their writing with and without the app as a group discussion. This part lasted about ten minutes and the instructor wrote responses on the board which led to more discussions. Most teachers reflected about high improvements in punctuation errors and verb tense being corrected. The majority said there was some improvement in spelling, but little in capitalization, which they contributed to their prior knowledge of spelling. One teacher did bring up that the app suggested incorrect grammar edits, which spurred a discussion on if their students with special needs would be able to tell the difference between necessary or insignificant suggestions. Most teachers were excited to use this in their classrooms and see how it helped their students' writing. The workshop ended with the teachers filling out a post-workshop evaluation form.

The workshop lasted 32 minutes, which was half the time the original program planned for. All of the program requirements were met, but the teachers moved at a quicker pace than originally thought. The evaluation team utilized the results of the pre and post workshop surveys in addition to the data sources listed above when creating this evaluation report.

Results

Below you will find a summary of the evaluation findings based on surveys, writing samples, and interview results from the participants and students. Full descriptions of the data sources are listed above in the Evaluation Methods section as well as in the Appendix. The data was collected from ten participant instructors, and ten sample student works.

Grammarly Survey

Survey data was collected from all ten participants via Google Forms, see Appendix A, regarding their knowledge, skills, and implementation of the Grammarly writing app after completing the instructional workshop. Data gathered from the survey provided a comparison to pre and post-test data from the workshop to assess learner growth, achievement of instructional goals, and teacher attitudes toward Grammarly.

The survey results show that participant proficiency in the use of the Grammarly app increased for each participant, though one participant only rated their increase in proficiency from one, meaning “very inexperienced” to two on a scale of one to five. The majority, however, marked an increase in proficiency, see Table #1.

Results also showed that all ten instructors plan to use in the classroom, with 40% planning intermittent use (less than three times a quarter), 50% planning to use it once or twice a week, and 10% planning daily use. All ten participants (100%) plan to use it more often than they had before the workshop, with 0% claiming to have had issues with downloading and installing the app.

Of the ten participants, six (60%) plan on allowing their students to choose whether or not they want to use the app or apply it’s suggestions and two (20%) plan to have their students use the app for the final draft of an assignment. One (10%) plans to require it for certain assignments, but not others, and one (10%) does not yet know how they plan to use it in their classroom.

When asked if they felt that implementing the Grammarly app would aid in helping students achieve higher learning and writing capacities, responses were generally positive, but

some concerns were addressed. Generally, instructors were hopeful, but worried that some students may become dependent on the app or blindly make changes without learning anything. When asked if Grammarly adequately addressed their concerns in meeting the needs of Special Education Learners, 60% said yes, while 40% said no.

In terms of measuring growth, instructors stated they would use samples of student work before and after the implementation of Grammarly, comparing conventions and overall writing ability.

Finally, participants were provided the opportunity to suggest ideas for the improvement of the workshop. The most common suggestion was offered by four individuals suggesting the workshop provide more time to work with and explore the app. Two participants suggested the workshop cover implementation ideas, and one suggested ideas on how to wean students off the app be presented. The workshop data, show in tables #2 and #3, include the learner analysis survey handed out at the beginning of the workshop and the post survey on the use of Grammarly given out at the end of the workshop. These results directly correlate with our data collected from the Grammarly survey.

Table #1
Post Survey on Use of Grammarly in the Classroom

Grammarly Survey Item	1 - Very inexperienced	2 - Somewhat inexperienced	3 - Neither inexperienced or proficient	4 - Somewhat proficient	5 - Very proficient
How proficient did you feel in the use of Grammarly prior to the workshop?	6 60.00%	4 40.00%	0 00.00%	0 0.00%	0 0.00%
How proficient did you feel in	0	1	2	7	0

the use of Grammarly after the workshop? 0.00% 10.00% 20.00% 70.00% 0.00%

Table #2

Learner Analysis Survey (Responses from #7)

Pre Workshop Survey	1 - Not at All	2 - Sometimes	3 - Often	4 - Always
I put assignments off because I do not feel comfortable with the task.	2 20.00%	7 70.00%	1 10.00%	0 0.00%
Verbal instruction is helpful.	0 0.00%	2 20.00%	4 40.00%	4 40.00%
I need to have written instructions explained to me.	1 10.00%	4 40.00%	3 30.00%	2 20.00%
I use technology in the classroom.	0 0.00%	1 10.00%	4 40.00%	5 50.00%
I prefer to use technology in the classroom	0 0.00%	3 30.00%	4 40.00%	3 30.00%
I like to try new computer software and apps .	0 0.00%	1 10.00%	3 30.00%	6 60.00%
Academic technology tools enhance students' academic performance.	0 0.00%	4 40.00%	5 50.00%	1 10.00%
Academic technology tools enhance students' academic understanding.	0 0.00%	3 30.00%	7 70.00%	0 0.00%

Table #3

Post-Workshop Evaluation

Evaluation Questions/Objectives	Agree	Somewhat Agree	Disagree	Fully Disagree
The instruction has been effective at obtaining the objectives?	6 60.00%	3 30.00%	1 10.00%	0 0.00%
The resources used were effective in delivering the content to meet the objectives?	2 20.00%	4 40.00%	2 20.00%	1 10.00%
The instruction helped you complete the objectives.	5 50.00%	4 40.00%	1 10.00%	0 0.00%

Student Writing Samples

A total of ten student writing samples were selected by the Special Education Teacher. Data was collected in the areas of punctuation, spelling, grammar, and capitalization from before and after the use of the Grammarly App. The instructor assessed each of the student writing on a one to three scale, one being unsatisfactory, two being satisfactory, and three being excellent. The average scores of the sample group were taken. Table #4 shows the differences in each category between pre and post app testing along with percent improvement.

Table #4

Average Sample Student Data

Category	Pre	Post	Percent Improvement
Punctuation	1.7	2.6	52.94%
Spelling	2.2	3	36.36%
Grammar	1.4	2.7	92.86%
Capitalization	2.6	3	15.38%
Overall Average	7.8	11.3	44.87%

As evidenced by the data, there was a noticeable increase in each of the observed categories. Most notably the improvement to grammar was almost doubled, and an overall increase of 44.87% in average rating.

Participant Responses to Technology Survey

The participant response survey was designed to measure how well the workshop was organized, the effectiveness of the training, and the attitudes of the teachers implementing the app both before and after the workshop. The full results are shown in Appendix C. A total of ten instructors were selected to participate in the survey with a 100% response rate. A summary of the short answer items is discussed below along with additional data collected from the survey.

The first short response question - “What were your key takeaways from this workshop?” had fairly consistent responses. The responses were mostly positive reviews of the application similar to this example: “Great app and easy to implement”. At least three responses (30%)

showed some signs of apprehension about using the application in the classroom, worried students will become reliant on the app, or it giving too much assistance.

The last short response item - “Additional Feedback on Workshop” also provided consistent themes within the feedback. Overall, the participants from the workshop mostly commented about how brief the workshop had been and the lack of exploration time given within the workshop. Seven of the participants (70%) commented about the lack of time to adequately practice using the app, although only three of the participants marked “Dissatisfied” in the survey question as seen in Table #5.

Table #5

Event Feedback

Survey Item	1 - Not Very	2	3	4	5 - Very Much
How satisfied were you with the overall workshop?	0 0.00%	0 0.00%	1 10.00%	5 50.00%	4 40.00%
How relevant was this workshop for your job?	0 0.00%	0 0.00%	1 10.00%	2 20.00%	7 70.00%
How confident are you that you can utilize the contents from this workshop in your classroom?	0 0.00%	0 0.00%	2 20.00%	2 20.00%	6 60.00%

Survey Item	No	Possibly	Yes
Do you feel this program will address your concerns of supporting Special Education students?	0 0.00%	6 60.00%	4 40.00%

Survey Item	1 -Dissatisfied	2 - Neutral	3 - Satisfied	N/A
How satisfied were you with the pace and organization of the workshop in the following areas:				
Venue	0 0.00%	0 0.00%	10 100.00%	0 0.00%
Introduction Activity	0 0.00%	6 60.00%	4 40.00%	0 0.00%
Activities	0 0.00%	6 60.00%	4 40.00%	0 0.00%
Time To Explore App	3 30.00%	5 50.00%	1 10.00%	1 10.00%
Closing	0 0.00%	5 50.00%	5 50.00%	0 0.00%

Interviews

Interviews were conducted with five teachers who participated in the *Supporting Special Learning Needs Through Technology* program. The lead evaluator interviewed each participant in a one-on-one style format a week after the instructional workshop and recorded data via a typed document. The average length of each interview was 20 minutes, and participants were asked 15 questions related to their knowledge, skills, attitudes and use of Grammarly after the instructional workshop. All data was compiled by the evaluation team and coded using the major questions of the evaluation as framework. Table #6 contains an executive summary of the interview data. See Appendix E for all coded interview data.

All interviewed teachers correctly described the process for downloading and using the Grammarly app; each had installed the program on at least one device and introduced the app to students for at least one assignments. Interviewed teachers noted the limited opportunities to use Grammarly within one week following the instructional workshop, and expressed uncertainty regarding continued use. Teachers and students displayed attitudes receptive to the Grammarly app with a total of 14 comments (19% of all comments recorded) related to this category. Interviewed teachers expressed 24 comments (32% of all comments recorded) related to the effectiveness of Grammarly as an instructional intervention: all noticed improved performance on writing assignments related to spelling, grammar and rhetoric by their students with special needs. Concern was raised for whether the Grammarly app improved student understanding of the underlying concepts of grammar and rhetoric or simply enabled students not to have to reflect on their mistakes was also shared.

Table #6: Executive Summary of Coded Interview Data

Code: Category Label	Number of Comments	Example of Comments
1.0 Access	10	On the grammarly website, you'll click to download and add it to your browser so it pops up on documents outside the app. To use it, you'd just start typing in Word or something on the app and as you make errors, you'll see a red check mark at the bottom corner of the page.
2.1 Use: Directed by Teacher	5	I have directed them to use it once so far on our first writing assignment.
2.2 Use: Limited Opportunity	5	We are on our first assignment using it now, but I have reminded them to check their work with Grammarly several times within the last few days.
3.1 Teacher Attitude: Receptive	5	It's been a big support for my struggling writers just to have one less thing to think about. Hopefully they are still thinking a little though.
3.3 Student Attitude: Receptive	9	My kiddos are loving it. I've seen their confidence get boosted just by knowing they will be corrected if they miss something.
4.1 Effectiveness: Improved Performance	5	They are making great strides and their writing is much clearer after using Grammarly. A normal spell checker doesn't catch everything that Grammarly does, so I have definitely seen improvement.
4.2 Effectiveness: Concern	12	All of my concerns are about my Sped kiddos. I'm worried that they won't actually remember how to edit their own work without the app, but I think using Google Docs will help. Our editing conversations will also help keep it in their brains.
4.3 Effectiveness: Follow Up Instruction	3	The biggest impact so far as been reminding kids to watch their errors and make sure the suggestion makes sense. That seems to actually help them understand the corrections too
4.4 Effectiveness: No Teaching Change	4	I didn't notice much of a change in terms of how I approach teaching since the workshop.

Note: Categories for the qualitative data from the interviews were derived from the framework of the evaluation's major questions, condensed into the following labels: 1.0 Access, 2.0 Integration, 3.0 Attitude, and 4.0 Effectiveness. Each number corresponds to the number of the major question outlined in the Statement of Purpose.

Classroom Observations

An observation checklist was developed for use in the classroom observations about Grammarly. It was designed to record observational data from three main phases of the lesson: Installation, Testing and Troubleshooting, and Application and Exploration. One eighth grade classroom and two seventh grade classrooms were observed, all with different instructors. The class sizes ranged from 28-32 students. With the exception of one class, which skipped the second section because it was practiced before the observation took place, the observations uniformly showed that the instructors followed each of the three sections for 100% completion. Teachers explained and displayed the correct directions to download the app and students had 100% success rate for implementing it on their own computers.

Discussion

Russ-Eft, D. & Preskil, H. noted in *Evaluation in Organizations: A Systematic Approach to Enhance Learning, Performance, and Change* that “[a]s organizations continue to be concerned about individual learning and performance in addition to team and organizational learning and performance, evaluation can focus on what implementation strategies seem to contribute to these goals” and “can inform organization members about which strategies seem to work best and under what conditions” (2009).

The evaluation performed by E.K.D.J Consulting was designed to assess the effectiveness of the *Supporting Special Learning Needs Through Technology* program in reducing spelling, grammar, and rhetoric errors amongst students with special needs. The evaluation also sought to determine if the program was successful in achieving the outlined learning objectives by answering questions regarding the ease of downloading and use among teachers, successful

implementation of the app in the classroom, teacher success with the tool, and the adequacy of the app in addressing concerns in meeting the needs of students with special needs. To measure the program's effectiveness in achieving its goals and assisting students with special needs, E.K.D.J Consulting developed an evaluation model using a mixed methods approach to gather both quantitative and qualitative data from multiple sources, including workshop responses, post surveys, interviews, observations, and student writing samples. The team met with stakeholders to adjust data sources as needed. These impromptu meetings provided "an opportunity to pursue 'teachable moments' about some aspects of the evaluation" (Russ-Eft, D. & Preskill, H., 2009). After collecting and reviewing the data from the evaluation, it became clear that the program was largely successful and effective in leading participants to the fulfillment of the program objectives, as well as in reducing conventional writing mistakes among students.

Although the Grammarly Survey results yielded positive feedback, they also illustrated a common concern among many of the participants that students will become dependent on the app to correct their mistakes rather than learning and becoming better writers on their own. Among the suggestions for workshop improvement was the idea to incorporate suggestions on how to wean students off of the app to limit their reliance on it for their writing. Additionally, participants voiced concern about the app occasionally making incorrect suggestions, and the potential for students to make a change based off those suggestions. Beyond this, the survey showed that participants felt much more comfortable using the technology after the workshop and all intended to use it more often than they did prior to running through the program.

Student Writing Samples showed that the app was, in fact, effective in improving student writing and reducing punctuation, spelling, grammar, and capitalization mistakes. The app's

effectiveness is clear, but teacher concerns lie in how effective Grammarly is in helping students become better writers outside the use of the app. It is clear that it is a good resource to help provide immediate feedback with students.

Results of the Participant Responses to Technology Survey provided a sense of how well the participants responded to the organization and effectiveness of the program. Data gathered from this survey shows that the response to the program was largely positive, with all participants rating their satisfaction in the workshop as a three or higher on a scale of one to five. In reviewing the provided ratings and comments, the most apparent issue participants had with the workshop was the amount of time provided for exploration of the app and its capabilities. This concern was common among the feedback and suggests the participants would have liked to have had more time to explore the app beyond its basic functions. This concern was also addressed in the Grammarly survey when participants were prompted to suggest feedback for workshop improvement.

Interview data supported data collected from the Grammarly Survey as well as the Participant Responses to Technology Survey, again illustrating that participants developed a higher level of proficiency in Grammarly after their involvement in the program. Instructor attitudes were largely positive regarding the app's ability in increasing student writing quality by reducing conventional mistakes. Again, participants voiced concerns about the app occasionally making incorrect suggestions and the possibility of students becoming dependent on the app for identifying errors and making corrections. Classroom observations demonstrated that workshop participants did in fact develop the knowledge and skillset for installing, testing, troubleshooting, and applying the Grammarly app. This was a confirmation of the data collected from surveys and

interviews that suggested the program was very effective in training participants in the installation, usage, and implementation of the Grammarly app.

Though the overall response to the program was positive and the program was demonstrated to be effective in achieving its goals and in reducing student writing errors, there are several concerns that should be addressed moving forward. Firstly, more time should be spent on exploring the app and its features. This was a common theme among feedback provided by participants. Though participants developed a higher level of proficiency, there was an illustrated desire to have more time to work with the app beyond its basic features and functionality prior to bringing it into the classroom. Additionally, the program could benefit greatly from developing a best practices approach to suggest ways to implement the app without creating a student dependency. The greatest concern among participants was that students would not learn how to become better writers, but instead use the Grammarly app to blindly perform edits. The program could help ease this concern by addressing it up front and providing suggestions on how to properly implement the app in a way that would see students using it to learn how to identify their common mistakes and what areas of writing convention they may need to work on.

The *Supporting Special Learning Needs Through Technology* workshop has proven to be effective and successful, but shows room for improvement. An ongoing evaluation is suggested to further evaluate the suggested improvements and their success in easing the concerns revealed in the preceding evaluation.

Project Cost

E.K.D.J Consulting created a budget to represent the cost of this evaluation including personnel fees, travel, facilities, and copies. The team's budget of the instructional program accrued the following costs:

Budget	
Items	Cost
Personnel:	
-Data collection	\$200.00
-Data entry	\$100.00
-Data analysis	\$100.00
-Evaluator Fee (\$180.00/day X 20 days)	\$3,600.00
Additional Expenses:	
-Facilities	\$100.00
-Copies/Printing	\$50.00
-Travel	\$50.00
Total	\$4,200.00

References

Grammarly. (n.d.). Retrieved from

<https://support.grammarly.com/hc/en-us/articles/115000090792-What-is-Grammarly->

Morrison, G. R., Ross, S. M., Kalman, H. K., & Kemp, J. E. (2013). *Designing Effective Instruction* (7th ed.). Hoboken, NJ: John Wiley & Sons.

Russ-Eft, D. & Preskill, H. (2009). *Evaluation in Organizations: A Systematic Approach to Enhancing Learning, Performance, and Change*. (2nd Ed.). New York, New York: Perseus Books.

Appendix A

Grammarly Survey

Grammarly Use

We would love to hear your thoughts and feedback!

* Required

1. How proficient did you feel in the use of Grammarly prior to the workshop? *

Mark only one oval.

	1	2	3	4	5	
Very inexperienced	☐	☐	☐	☐	☐	Very proficient

2. How proficient did you feel in the use of Grammarly after the workshop? *

Mark only one oval.

	1	2	3	4	5	
Very inexperienced	☐	☐	☐	☐	☐	Very proficient

3. How often do you plan to use Grammarly in your classroom? *

Mark only one oval.

- ☐ Daily
- ☐ Once or twice a week
- ☐ Intermittent use (less than 3 times a quarter)
- ☐ I'm not planning on using this app

4. How does this compare to how often you used Grammarly before the workshop? *

Mark only one oval.

- ☐ I plan to use it more
- ☐ I plan to use it less

5. Did you have any issues downloading and installing Grammarly? *

Mark only one oval.

- ☐ Yes
- ☐ No

6. If you had issues with downloading and installing, what were they?

If not, you may leave this field blank.

7. How do you plan to use Grammarly within your classroom? *

8. Do you feel that implementing this tool will aid you in successfully helping your students achieve higher learning and writing capacities? If so, how? *

9. Does Grammarly adequately address your concerns in meeting the needs of Special Education Learners? *

Mark only one oval.

☐ Yes

☐ No

10. How will you assess student growth when using Grammarly? *

11. Suggestions for improvement with the workshop or implementation

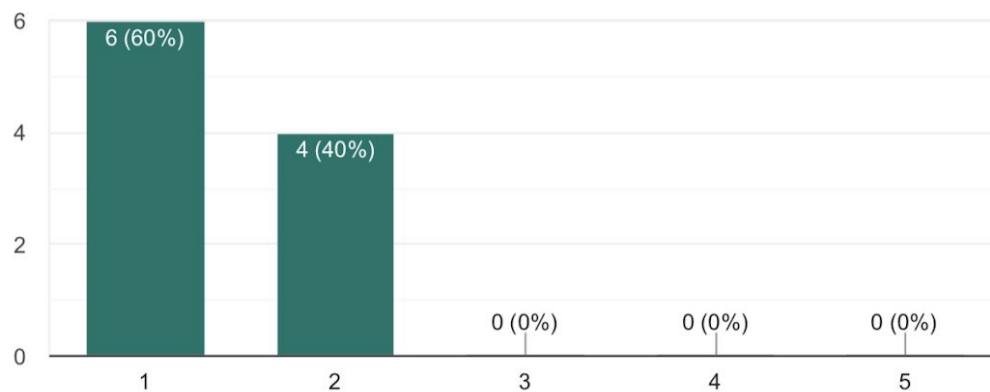
Collected Data:

Grammarly Use

10 responses

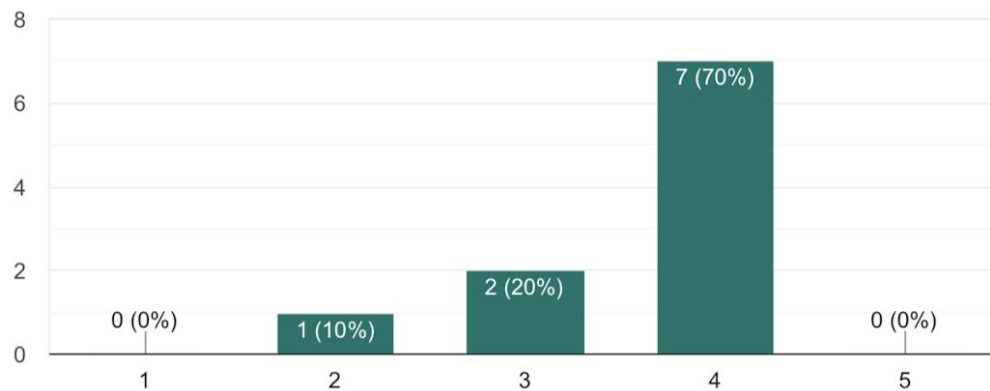
How proficient did you feel in the use of Grammarly prior to the workshop?

10 responses



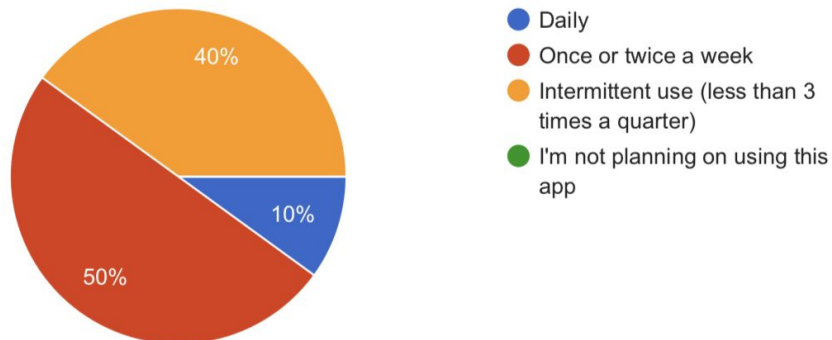
How proficient did you feel in the use of Grammarly after the workshop?

10 responses



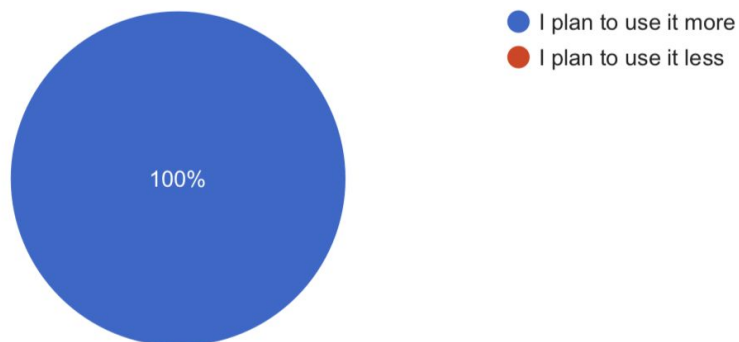
How often do you plan to use Grammarly in your classroom?

10 responses



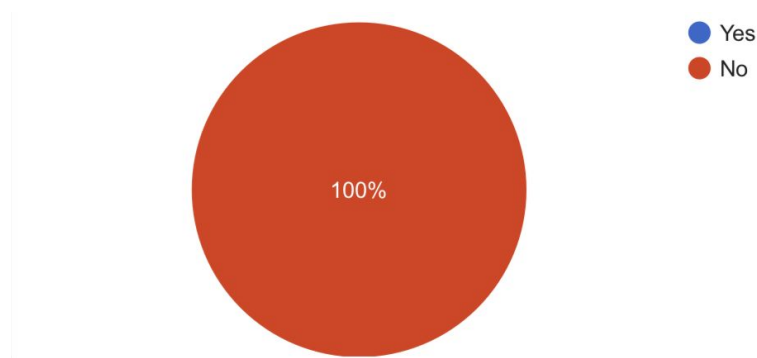
How does this compare to how often you used Grammarly before the workshop?

10 responses



Did you have any issues downloading and installing Grammarly?

10 responses



If you had issues with downloading and installing, what were they?

2 responses

The installation directions were very clear and helpful

That part went smoothly

How do you plan to use Grammarly within your classroom?

10 responses

I will have all my students download the app so they can use as they choose on writing assignments. There will be some assignments they can not use Grammarly on so they don't become dependent.

I think I will only use it the one day to show kids how to install in, but then it will be up to them if they want to use it on their own.

I will reference it when I teach, but I am planning on letting my students decide to use it or not.

We are currently working on an essay in class and I am having all my students do a first draft without it. I will then have them install the app before the final copy so they can see what changes to make.

I am going to spend a day going over how to install it with all my students and then they will be free to use it how they please. I will help as needed, but since I don't have extensive training, I'm not sure how much I can answer.

We are practicing writing introductory paragraphs in class so now is a great time to implement the app. I want my students to see the differences in their writing with and without the app so I won't have them use it until they are ready to start their final copy.

Since I am worried about the types of errors and corrections that the app suggested, I had my students work in groups. They typed out a pre-designed paragraph using the app for editing suggestions and as a group, they decided if the suggestion that the app says should be changed or not.

I plan on using it daily and discussing the advantages and disadvantages of getting those suggestions. Students will be required to use it on some assignments, and then not on others.

I am not sure yet how I will implement it. I am still trying to figure out exactly what the app can do and how I can best support my students.

A couple teachers mentioned splitting the kids into groups and giving them a pre-written paragraph to type up then discuss what suggestions Grammarly gives. As a group, they would decide which errors to fix and what suggestions to ignore. I will do this with my students since we have already written our first assignment using Grammarly and now they can start to see the pros and cons before they have the option to use this on future assignments.

Do you feel that implementing this tool will aid you in successfully helping your students achieve higher learning and writing capacities? If so, how?

10 responses

I do, I am worried that if I allow them to use it all the time on every assignment, they will become dependent on it.

Yes, but I'm not sure about their dependency on the app at this age. I am not sure how many students will choose to use it daily either.

I'm not sure. I think it will be a great resource to use, but my students will be given the opportunity to use it or not. Sometimes students who need the support are the ones not utilizing their resources.

I think implementing Grammarly has great potential to support students, but I am hoping that my introduction activity helps them decipher what errors to correct instead of blindly following the app's suggestions.

I believe this app will definitely aid me in supporting my students achieve higher writing capacities, but I am worried about what they are actually learning vs editing something because they were told to.

Yes I do. I think giving students this tool at this age, will be very beneficial to their learning and understanding of conventions. I am excited to try it out with kids and hear their thoughts.

I'm hoping it will help them look closer at their writing and watch for mistakes more. I'm worried about my Sped kids though because they sometimes rush through and if Grammarly suggests something that doesn't necessarily need to be changed, they might click it anyway just because.

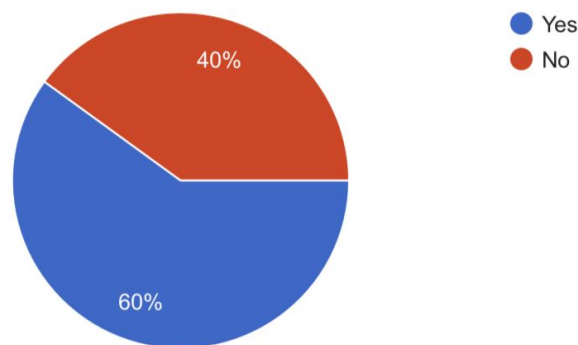
Possibly, but I'm hopeful it will. I think by looking at the mistakes, hopefully kids will start to see patterns and can make corrections themselves moving forward.

Also not sure yet. I feel like it's borderline just giving students answers without supporting them better and I'm not sure how to support them with it yet.

I think it has great potential to help improve students' writing. I am hoping that at this age though they can look past the shortcuts of getting the correct answers and look at why Grammarly made the suggestion to edit.

Does Grammarly adequately address your concerns in meeting the needs of Special Education Learners?

10 responses



How will you assess student growth when using Grammarly?

10 responses

I will assess student growth by using pre and posts writing assignments. I will start off next year the same without the app so I have a baseline as well.

Pre and post writing assignments

Since I am letting my students decide if they want to use it or not, I will use student work samples to measure growth.

Since I am letting my students decide if they want to use it or not, I will use student work samples to measure growth.

After using the app for a while, I will assign a final paper without the app to see if students could remember what errors they consistently had to fix and if they could fix them without the app.

I will use writing samples from before and after installing and using Grammarly.

I will use my writing rubric to grade their writing as we use the app and compare the scores to pieces I have saved without using Grammarly. I will also be able to see if there are common errors or gaps that the app is missing.

I will use writing samples from before using Grammarly and after to compare scores of conventions and overall writing ability.

I will look at old writing samples and compare it to new writing samples. Some of the teachers and I are designing a rubric that will focus on conventions to see if that area changed the most.

To assess student growth, I will need to measure their writing ability before and after using Grammarly

Using pre and post samples of their writing will help me measure growth.

Suggestions for improvement with the workshop or implementation

8 responses

Next time, maybe have more time to go over implementation idea and assessment ideas within the workshop so teachers that haven't used this before can get some new ideas.

Giving more time to explore the app and all of it's capabilities would be helpful in the future.

I don't know if I have any suggestions for the workshop other than more time to figure out all of the things Grammarly can do and maybe bounce ideas off of each other more.

Giving suggestions on how to ween kids off of using the app would be helpful or giving ideas and suggestions on activities kids could use to go along with Grammarly so they get the most out of it.

I would have liked more time to discuss and explore other functions to Grammarly.

I don't think I have any suggestions, I'm still working on how to use it.

Maybe next time give more time to go through the website and see what it has to offer. Letting us work together on that would help too bounce ideas off of each other. We're a strong team here and we like working together.

Giving us suggestions on how to incorporate it into lessons would be helpful. We researched a few on our own time, but that would have been nice to have already.

Appendix B

Student Writing Rubric

	1 Unsatisfactory	2 Satisfactory	3 Excellent	Student Score
Punctuation	The writing sample has more than five errors in punctuation and stops the flow of the writing.	The writing sample has less than 4 punctuation errors. Errors do not impede flow of paper.	The writing sample has no punctuation or mechanical errors throughout.	
Spelling	The writing sample contains errors with basic spelling and more than five words are misspelled.	The writing sample has less than four words are misspelled.	The writing sample contains no spelling errors.	
Grammar	The writing sample contains more than five grammatical errors including verb tense and sentence structure.	The writing sample contains less than four grammatical errors, which do not impede communication.	The writing sample is free from grammatical errors and has correct sentence structure and verb tense.	
Capitalization	The writing sample contains more than five errors in capitalization	The writing sample contains less than four errors in capitalization.	The writing sample has no capitalization errors.	
Total score				

Appendix C

Technology Implementation Workshop

Thank you for participating in the workshop.

We want to hear your feedback so we can keep improving logistics and content. Please fill out this quick survey and let us know your thoughts. Your answers will be anonymous.

*** Required**

1. How satisfied were you with the overall workshop? *

Mark only one oval.

	1	2	3	4	5	
Not very	☐	☐	☐	☐	☐	Very much

2. How relevant was this workshop for your job? *

Mark only one oval.

	1	2	3	4	5	
Not very	☐	☐	☐	☐	☐	Very much

3. How confident are you that you can utilize the contents from this workshop in your classroom? *

Mark only one oval.

	1	2	3	4	5	
Not very	☐	☐	☐	☐	☐	Very much

4. Do you feel this program will address your concerns of supporting Special Education students? *

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Possibly, but I have more questions about the program

5. What were your key take aways from this workshop? *

6. How satisfied were you with the pace and organization of the workshop? *

1 = Dissatisfied, 2 = Neutral, 3 = Satisfied

Mark only one oval per row.

	1	2	3	N/A
Venue	☐	☐	☐	☐
Introduction activity	☐	☐	☐	☐
Activities	☐	☐	☐	☐
Time to explore app	☐	☐	☐	☐
Closing	☐	☐	☐	☐

7. Additional feedback from section above

8. Please provide any additional comments/feedback regarding the workshop or overall agenda. *

Appendix D

Interview Protocol

The Interview Script will provide written directions for the interviewer on how to conduct the interview. Directions in normal text are for the interviewer. Directions in italic text are for the interviewer to read to the interviewee. Items listed in the appendices should be printed out prior to the interview by the interviewer.

Please begin the interview by reading through the italicized script below.

Introduction

Hello, my name is _____. I am an evaluator from E.K.D.J. Consulting. We are interested in the ways we can improve the Supporting Special Learning Needs Through Technology program. You have been selected because of your participation as a member of the program's pilot group. Thank you for taking time to meet with me today. The data you provide will be useful and valuable for evaluating the design and effectiveness of the instructional workshop. The information that you provide during the interview will remain confidential. Please sign the Interview Consent Form before we proceed.

The interviewer should provide the interviewee a copy of the consent form to sign. Once the interviewee has signed the consent form, the interviewer should proceed with the interview.

Interview Questions

The interview questions for the semi-structured interview are listed below. As outlined by Russ-Eft, D. & Preskill, H. (2009), "the semi-structured interview allows for probing, rephrasing of the questions, and asking the questions in a different sequence than laid out on the interview guide" to allow for a focused yet friendly approach (318). Please note any rephrasing of the

questions next to the source material. The Interview Guide is arranged in an outline format according to the evaluation's major questions related to Demographic Information, Access, Integration, Attitude and Effectiveness. Questions within each section are aligned to the evaluation's major questions but may prompt responses relevant to other major questions of the evaluation. Please type all interview notes underneath each question.

Thank you for signing the Interview Consent Form. We will now begin with the interview.

I. Major Question 1 – Access: Are Teachers able to download and use the Grammarly app properly?

1. *Please describe the procedure for how to download the Grammarly app.*
2. *What devices have you installed the Grammarly app on?*
3. *How many assignments have you uploaded to the Grammarly app?*

II. Major Question 2 – Integration: Can teachers implement the Grammarly app into their classroom successfully?

1. *Tell me about your experience using Grammarly in the classroom.*
2. *How often have you directed students to use the Grammarly app?*
3. *Describe for me a specific instance when you saw one of your students using the Grammarly app.*
4. *How often have you witnessed students using the Grammarly app for writing assignments?*
5. *What have students shared with you about their experiences using Grammarly?*

III. Major Question 3 – Attitude: Do teachers feel successful having this tool?

1. *What is your opinion of Grammarly?*
2. *Describe how this tool has affected your instruction related to writing.*
3. *What obstacles have you encountered using Grammarly in the classroom?*

IV. Major Question 4 – Effectiveness: Do teachers feel this program adequately addresses their concerns of meeting the needs of their Special Education learners?

1. *What concerns do you have regarding students with special learning needs and their writing?*
2. *How has your teaching changed as a result of the Supporting Special Learning Needs Through Technology program?*
3. *How has the writing of your students with special learning needs changed after introducing them to Grammarly?*

V. Conclusion

1. *Do you have any questions or anything else you'd like to offer about Grammarly or the Supporting Special Learning Needs Through Technology program?*

Concluding Interview

Thank you for your participation in the interview process. As an evaluation team, we appreciate your time and cooperation. The data that you have provided will be helpful for evaluating the effectiveness of the Supporting Special Learning Needs Through Technology program. Once again, your responses are confidential, will not be shared with anyone outside of the evaluation team and your name will not be included in the final report. If we have any

additional questions, a member of the evaluation team may reach out for a follow up interview.

This concludes the interview.

Appendix E

Comprehensive Report of All Coded Interview Data

Table 1: Executive Summary of Coded Interview Data

Code: Category Label	Number of Comments	Example of Comments
1.0 Access	10	On the grammarly website, you'll click to download and add it to your browser so it pops up on documents outside the app. To use it, you'd just start typing in Word or something on the app and as you make errors, you'll see a red check mark at the bottom corner of the page.
2.1 Use: Directed by Teacher	5	I have directed them to use it once so far on our first writing assignment.
2.2 Use: Limited Opportunity	5	We are on our first assignment using it now, but I have reminded them to check their work with Grammarly several times within the last few days.
3.1 Teacher Attitude: Receptive	5	It's been a big support for my struggling writers just to have one less thing to think about. Hopefully they are still thinking a little though.
3.3 Student Attitude: Receptive	9	My kiddos are loving it. I've seen their confidence get boosted just by knowing they will be corrected if they miss something.
4.1 Effectiveness: Improved Performance	5	They are making great strides and their writing is much clearer after using Grammarly. A normal spell checker doesn't catch everything that Grammarly does, so I have definitely seen improvement.
4.2 Effectiveness: Concern	12	All of my concerns are about my Sped kiddos. I'm worried that they won't actually remember how to edit their own work without the app, but I think using Google Docs will help. Our editing conversations will also help keep it in their brains.
4.3 Effectiveness: Follow Up Instruction	3	The biggest impact so far as been reminding kids to watch their errors and make sure the suggestion makes sense. That seems to actually help them understand the corrections too
4.4 Effectiveness: No Teaching Change	4	I didn't notice much of a change in terms of how I approach teaching since the workshop.

Note: Categories for the qualitative data from the interviews were derived from the framework of the evaluation's major questions, condensed into the following labels: 1.0 Access, 2.0 Integration, 3.0 Attitude, and 4.0 Effectiveness. Each number corresponds to the number of the major question outlined in the Statement of Purpose.

Table 2

Major Question 1 – Access: Are Teachers able to download and use the Grammarly app properly?

Question 1	<i>Please describe the procedure for how to download the Grammarly app.</i>	
Category Label	Respondent ID	Participant Response
1.0 Access	AH - 1	Go to the Grammarly website (grammarly.com I think?) and follow the steps to download. Add it to the browser, I think at that point. Then you can add a document to that site or just open up word processing and start typing to see the suggestions.
1.0 Access	DH - 2	On the grammarly website, you'll click to download and add it to your browser so it pops up on documents outside the app. To use it, you'd just start typing in Word or something on the app and as you make errors, you'll see a red check mark at the bottom corner of the page.
1.0 Access	KO - 3	Go to Grammarly.com, click on add to browser and start to download. The steps are all given to you as you follow along. Once it's downloaded and added to your browser, you can open up a document and start typing. When you make an error, a red cross appears and as you fix it, it becomes green. You do have the option to ignore and the markings go away.
1.0 Access	DF - 4	Go to grammarly.com and follow the steps to download onto the browser. It said add to chrome when I did it. After it's downloaded, you can add it to your browser. This just means that it will be an option for most things you type including emails. So, to start using it, you can type in a word document or copy something written into the grammarly site and the corrections will start popping up as errors appear. Green means good and the red at the bottom means that you still have an error.
1.0 Access	SS - 5	Open up chrome, or whatever internet browser you use and go to the Grammarly website. On the site there will be an option to add to the browser, at least there was on chrome, then you go through the steps to download it. Pretty standard for

		downloading an app. Once its on your browser you can start typing and using the app to fix your writing.
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Question 2	<i>What devices have you installed the Grammarly app on?</i>	
Category Label	Respondent ID	Participant Response
1.0 Access	AH - 1	Just on my work laptop, but I plan on using it on my personal laptop as well so I can use it myself.
1.0 Access	DH - 2	I have it on both my school and personal laptop. I also had my own kids download it at home on their laptops to use.
1.0 Access	KO - 3	Just my work computer
1.0 Access	DF - 4	Right now, I only downloaded it on my work laptop. My wife used it before and has it on hers too, so she was excited to hear that we're using it.
1.0 Access	SS - 5	I have it on my school laptop for now, not sure if I'll use it for personal use yet.

Question 3	<i>How many assignments have you uploaded to the Grammarly app?</i>	
Category Label	Respondent ID	Participant Response
2.2 Use: Limited Opportunity	AH - 1	I don't have my own class, but I am working with students who have started using it and at most, they have done 2 writing assignments so far.
2.2 Use: Limited Opportunity	DH - 2	In my class, I have only started using it with 1 assignment.
2.2 Use: Limited Opportunity	KO - 3	We are working on our second writing assignment right now.
2.2 Use: Limited Opportunity	DF - 4	My kids have only started 1 writing assignment with Grammarly, but I'm not sure if they have used it for other classes yet.
2.2 Use: Limited Opportunity	SS - 5	We are working on our final draft right now, so this is the first assignment.

Table 3

Major Question 2 – Integration: Can teachers implement the Grammarly app into their classroom successfully?

Question 1	<i>Tell me about your experience using Grammarly in the classroom.</i>	
Code: Category Label	Respondent ID	Participant Response
4.2 Effectiveness: Concern	AH - 1	I have seen a few kids click to change their writing because Grammarly “told them to” when it didn’t necessarily need to be changed. I am worried that kids will keep doing this who struggle with impulse control and working too quickly without really reading.
3.2 Student Attitude: Receptive	DH - 2	We just finished our first written assignment using Grammarly and the kids loved it. They were excited to see how easy finding their errors were.
3.1 Teacher Attitude: Receptive	KO - 3	So far, I am liking having the app installed on student computers. Since the workshop was so recent, I can’t say how often I will keep referencing it. It’s something that once it’s downloaded, kids have the option to use or not use.
3.1 Teacher Attitude: Receptive	DF - 4	It’s been a big support for my struggling writers just to have one less thing to think about. Hopefully they are still thinking a little though.
4.2 Effectiveness: Concern	SS - 5	It was pretty simple to have the kids download. They have used spell check or something similar and some actually already had Grammarly so they didn’t need to do anything different. I’m not sure how much I’ll let kids use it, probably less in my gifted classes. - <i>Added question to SS: Why?</i> - Response: My gifted kids should not be relying on an app to fix their grammatical errors and see mistakes. I am working more on peer editing and finding mistakes that way. I am using Grammarly more with my struggling students to help build their confidence and writing abilities.

Question 2	<i>How often have you directed students to use the Grammarly app?</i>	
Category Label	Respondent ID	Participant Response
2.1 Use: Directed	AH - 1	I have had my students correct their work through Grammarly everyday that I have had them in my self-contained room.

by Teacher		
2.2 Use: Directed by Teacher	DH - 2	Only once so far
2.3 Use: Directed by Teacher	KO - 3	Twice now
2.4 Use: Directed by Teacher	DF - 4	I have directed them to use it once so far on our first writing assignment.
2.5 Use: Directed by Teacher	SS - 5	We are on our first assignment using it now, but I have reminded them to check their work with Grammarly several times within the last few days.

Question 3	<i>Describe for me a specific instance when you saw one of your students using the Grammarly app.</i>	
Category Label	Respondent ID	Participant Response
4.2 Effectiveness: Concern	AH - 1	Like I mentioned before, I saw one student work on his writing assignment for English and just clicked every suggestion that Grammarly made without paying attention to the correction. Other kids have been a little better with paying attention, so we'll see.
3.2 Student Attitude: Receptive	DH - 2	One of my lower students was using the app as I was standing behind him and he got so excited to make corrections and keep typing. I'm sure his excitement will die down eventually, but it was fun to see at first.

4.2 Effectiveness: Concern	KO - 3	I was working with one of my Sped students and she was writing her latest assignment. She worked fairly quickly and I'm not sure how much she understood in terms of editing mistakes, but she seemed to like it.
3.1 Teacher Attitude: Receptive	DF - 4	I was watching a student use it who already had it downloaded to see if there were functions that I didn't know about. He clicked on the icon from his word doc and pressed the toggle for synonym suggestions. I didn't know you could do that, so that was a cool thing to see.
3.2 Student Attitude: Receptive	SS - 5	In my 3rd period, the roughest class I have, they were all incredibly engaged the day I introduced Grammarly and even more engaged the first day using it. One of my students who is usually the most disruptive kid in the class was quite, focused, and engaged working on his essay and seemed to really like using the app. He was excited he didn't have that many errors to correct and then started making errors on purpose to see what would happen.

Question 4	<i>How often have you witnessed students using the Grammarly app for writing assignments?</i>	
Category Label	Respondent ID	Participant Response
2.4 Use: Limited by Opportunity	AH - 1	All of my 7th and 8th grade students who have IEPs for writing have started using Grammarly, so I've seen it in use everyday since installing it.
2.4 Use: Limited by Opportunity	DH - 2	Twice so far, both for the same assignment.
2.4 Use: Limited by Opportunity	KO - 3	I've used it twice, so on days that I've seen them work on writing, I guess twice. I did see a student use it for an assignment in another class.
2.4 Use: Limited by Opportunity	DF - 4	Once, just with our assignment
2.4 Use: Limited by Opportunity	SS - 5	I think just once so far, but as we get going with more writing assignments, I'm sure I'll see that little green or red mark on bottom of their screens more.

Question 5	<i>What have students shared with you about their experiences using Grammarly?</i>
------------	--

Category Label	Respondent ID	Participant Response
3.2 Student Attitude: Receptive	AH - 1	My students all love using it. I think I am more concerned than they are.
3.2 Student Attitude: Receptive	DH - 2	My kiddos are loving it. I've seen their confidence get boosted just by knowing they will be corrected if they miss something.
3.2 Student Attitude: Receptive	KO - 3	Most of my students have said they like it, but some of them were already using a spell check type app so they didn't see much of a difference.
3.2 Student Attitude: Receptive	DF - 4	They haven't shared anything very specific, other than the fact that they really like using it and it's easy.
3.2 Student Attitude: Receptive	SS - 5	My kids have all expressed that they like using this over No Red Ink*, but I'm not sure if that's because it requires less of them. *No Red Ink is the program our district was already using.

Table 4

Major Question 3 – Attitude: Do teachers feel successful having this tool?

Question 1	<i>What is your opinion of Grammarly?</i>	
Category Label	Respondent ID	Participant Response
4.2 Effectiveness: Concern	AH - 1	I like the idea of it, but I worry that they are not truly learning from this and just blinding making corrections. Since it doesn't work with Google Docs, I am thinking I will start having my students type first in Google Docs before uploading it to Grammarly to check. That way they have experience of checking themselves.
3.1 Teacher Attitude: Receptive	DH - 2	I think I like it, I'm not sure yet. I like that my kiddos are feeling more successful with it though.
5.1 Undecided	KO - 3	I'm hesitant, but hopeful that it will be a good thing to use.
3.1 Teacher Attitude: Receptive	DF - 4	I'm liking it the more the more I use it. I'm glad I had students in my class who had used it though, because I didn't know much about it before I had students download it.

5.1 Undecided	SS - 5	I like the app itself, I'm still working on an opinion about using it in my classroom.
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Question 2	<i>Describe how this tool has affected your instruction related to writing.</i>	
Category Label	Respondent ID	Participant Response
4.3 Effectiveness: Follow Up Instruction	AH - 1	That's a good question. I am trying to talk to my students more about why they are making corrections and what else could be fixed because I don't want them to only rely on the app. We are having more conversations about grammar, which I think is great
5.1 Undecided	DH - 2	Since I have only used it once, I am not really sure how it is affecting my instruction yet.
4.3 Effectiveness: Follow Up Instruction	KO - 3	Well I realized that I want to continue to work on editing grammar and punctuation outside of the app so they are really working on that skill.
4.3 Effectiveness: Follow Up Instruction	DF - 4	The biggest impact so far as been reminding kids to watch their errors and make sure the suggestion makes sense. That seems to actually help them understand the corrections too.
5.1 Undecided	SS - 5	It hasn't made too much of an impact yet, but I know I will need to watch kids writing more and see what I should adjust instruction wise.

Question 3	<i>What obstacles have you encountered using Grammarly in the classroom?</i>	
Category Label	Respondent ID	Participant Response
4.2 Effectiveness: Concern	AH - 1	So far the biggest obstacle is getting my students to slow down and focus on what they are correcting. This was already a struggle without the app and now students might start depending on it too much.
5.1 Undecided	DH - 2	I haven't noticed any obstacles so far, other than it doesn't work on Google Docs, but I don't think of that as an obstacle.

3.2 Student Attitude: Receptive	KO - 3	I haven't encountered an obstacle with using it yet, other than students might get a little too relaxed with fixing errors. Right now they are excited about it, so I'm hoping they keep working on their writing.
5.1 Undecided	DF - 4	Nothing so far!
5.1 Undecided	SS - 5	All my students were able to get the app downloaded and we're all still figuring it out so I haven't noticed anything yet.

Table 5

Major Question 4 – Effectiveness: Do teachers feel this program adequately addresses their concerns of meeting the needs of their Special Education learners?

Question 1	<i>What concerns do you have regarding students with special learning needs and their writing?</i>	
Category Label	Respondent ID	Participant Response
4.2 Effectiveness: Concern	AH - 1	All of my concerns are about my Sped kiddos. I'm worried that they won't actually remember how to edit their own work without the app, but I think using Google Docs will help. Our editing conversations will also help keep it in their brains.
4.2 Effectiveness: Concern	DH - 2	I'm concerned that the app is going to being a crutch and students will still struggle with writing because they don't understand the errors.
4.2 Effectiveness: Concern	KO - 3	I'm worried we're just giving students a "get out of jail free card". The app explains why they offer a suggestion, but I'm worried kids aren't going to pay much attention to that and just correct it.
4.2 Effectiveness: Concern	DF - 4	Some of my kiddos with a disability in written expression aren't really working on their problem areas by using Grammarly. It's covering up errors, but I'm still trying to figure out a way to help them understand it on a deeper level. One of the teachers mentioned writing in Google Docs first and trying to find their own errors first before going into Grammarly. I might try that and see if that helps more.
4.2 Effectiveness: Concern	SS - 5	I was worried before we got started that kids would start depending on this app. I am still using No Red Ink in my classroom and teaching about grammar so I'm not too

		concerned because I'm still going to support kids that struggle regardless of how they view the app.
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Question 2	<i>How has your teaching changed as a result of the Supporting Special Learning Needs Through Technology program?</i>	
Category Label	Respondent ID	Participant Response
4.4 No Change	AH - 1	Honestly, it didn't change anything with how I teach, it just made me change what I teach so we can discuss more together.
4.4 No Change	DH - 2	The program itself didn't change my teaching.
4.2 Effectiveness: Concern	KO - 3	I guess just being more aware that students could fall into patterns and become dependent on the corrections instead of understanding errors.
4.4 No Change	DF - 4	I didn't notice much of a change in terms of how I approach teaching since the workshop.
4.4 No Change	SS - 5	It really hasn't?

Question 3	<i>How has the writing of your students with special learning needs changed after introducing them to Grammarly?</i>	
Category Label	Respondent ID	Participant Response
4.1 Effectiveness: Improved Performance	AH - 1	It's a little too early to tell the full effect, but they are definitely scoring higher on their writing rubrics. *She handed me the pre and post writing samples
4.1 Effectiveness: Improved Performance	DH - 2	The biggest thing I have noticed is confidence so far. I'm excited to analyze their scores.
4.1 Effectiveness: Improved Performance	KO - 3	I saw a big increase in conventions after the first assignment, so it was great the kids are utilizing it so far.
4.1 Effectiveness: Improved Performance	DF - 4	We've only had one assignment so far, but it was a very obvious jump in scores from previous writing assignments.
4.1 Effectiveness:	SS - 5	They are making great strides and their writing is much clearer after using Grammarly. A normal spell checker

Improved Performance		doesn't catch everything that Grammarly does, so I have definitely seen improvement.
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Conclusion

Question 1	<i>Do you have any questions or anything else you'd like to offer about Grammarly or the Supporting Special Learning Needs Through Technology program?</i>	
Category Label	Respondent ID	Participant Response
----	AH - 1	No, I mean I'm always happy to have a new tool in my belt!
5.3 Program Suggestions	DH - 2	Why was the workshop so short? I shouldn't complain because I love short trainings, and I'm not sure what else we could have added. Maybe giving more time to explore the app and see what Grammarly could do.
5.3 Program Suggestions	KO - 3	I wrote this on the survey, but giving a chance for teachers to share with each other ideas on how to implement and how they plan to help kids with Grammarly would have been really helpful.
----	DF - 4	Knowing more about the app would be helpful, but we can figure it out as we go.
----	SS - 5	Nope, can't thinking of anything else

Appendix F

Observation Checklist

- ___ Teacher explained or posted steps to download Grammarly app
 - Open internet browser through computer most used for writing assignments
 - In the search bar, enter the following URL: www.grammarly.com
 - On the home screen, click “add to internet browser” (the name of your preferred ISP will be listed)
 - Follow the prompts to complete download

- ___ Students followed directions and installed Grammarly correctly
 - Once installed, automenu will ask to add Grammarly to browser, select “yes”

- ___ Students had the opportunity to test the app
 - Open a new word processing document to test system
 - Begin to type as you would normally
 - When red line appears, hover mouse over word until drop down menu is presented
 - Select the correct word from the drop down menu or add word(s) to dictionary
 - At the bottom right corner of current page, once all the mistakes have been corrected, look for green checkmark (if red cross appears, go through document and find uncorrected mistakes)

- ___ The teacher had students using Grammarly to complete a written assignment

- ___ Students were engaged in the lesson and participating in the written assignment