Motivating Young Readers

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Abstract: More elementary-aged students are emerging as struggling and unmotivated readers and their teachers are faced with the challenge of motivating them to reach proficiency. As a result, many computer software programs were created and designed to help motivate students to read. The researcher conducted an action research project to examine the effects of a computer software program called Imagine Learning English (ILE). The researcher collected data to determine how motivated and engaged first grade students were towards reading as well as ILE. Each student completed five sessions on the program and was observed by the researcher both on and off the program. The study produced unanticipated results due to the fact that students started using ILE at the beginning of the school year. This early start could have affected the data and their overall motivation towards reading. The data also suggests that majority of the students had a favorable attitude towards reading and using ILE because they wrote about their experiences in their notebook and made a lot of positive comments about it during whole-class discussions.

Introduction

Each year, more elementary students are reading below their grade level and teachers are having a harder time motivating them to become proficient readers. As these students get older, the texts become increasingly difficult (Gomez & Gomez, 2007) that by the time they get to middle school, reading on grade level is fundamental to their success (Collings, Engler, Romig, & Zhao, 2005). Thus, literacy intervention is especially needed for elementary students to help them build a strong foundation for reading so they become successful readers for life (Cadle, Jones, O'Byrne, & Securro, 2006). The current, more traditional didactic approaches, methods, and curriculum used to teach reading do not engage and motivate all students. Therefore, teachers need to enhance their reading curriculum and teaching practice to ensure that all students become proficient readers.

The purpose of this action research project is to evaluate the effects of a computer software program, Imagine Learning English (ILE), on student motivation and behavior towards reading while meeting the needs of 21st century learners at a Leeward Elementary School in Hawai`i.

ILE is a type of educational software program that provides language and literacy support to struggling readers in grades K-12 (Imagine Learning, Inc, 2010). It is especially effective for English Language Learners (ELL), special needs students, and emerging readers. ILE assesses each student's literacy, language development, listening, and speaking at the beginning of the program in order to determine the needs of the student. Once the assessment is complete, ILE

provides differentiated instruction to meet those needs. Throughout the program, ILE constantly assesses students and provides them with immediate feedback necessary for their development. ILE has been especially effective for young students as it provides a fun, interactive, and engaging learning environment where students explore a place called Imagination Island.

Background

As early as the 1960s, computer-based instruction was used to help tutor, test, and supplement instruction at the elementary level to help students and adults learn (Kulik & Kulik, 1991). In the 1980s computer-based instruction was often a combination of the behavioral-based learning theory and Skinner's method of branching. Specifically, the software programs that employ "Skinner's methods of branching: dividing into small units, rewarding collective responses, and teaching discrete facts" (Anderson, Foertsch, Hawkes, McNabb, Raack, & Valdez, 2000, p. 12) proved to be effective for student learning. Those software programs relied heavily on drill-and-practice activities in order to teach small units of content and skills (Anderson, Foertsch, Hawkes, McNabb, Raack, & Valdez, 2000). As a result of these software programs, student learning became less passive because they were given more opportunities to move through the lessons at their own pace. Educators also found these programs to be useful when collecting data. Most computer-based instruction provided immediate data to educators while also giving immediate feedback to students when they selected a right or wrong answer. Students were able to learn from their mistakes and improve their understanding of the content. The most effective software programs to show developmental gains were those that provided more open-ended opportunities as opposed to drill and practice ones (Cabuk, Judge, & Puckett, 2004). One possibility that researchers suggested for the occurrence was that students were encouraged to think more creatively and flexibly, which is crucial to their cognitive development. However, computer-based instruction that provides open-ended opportunities requires students to spend a lot more time on the program, which is very difficult for many educators to fit into their schedule.

Due to the greater emphasis placed on schools to provide data that reflect how well their students are progressing academically, computer-based instruction quickly gained popularity. More schools relied on quick, rote memorization methods to ensure that their students pass the annual tests, which is in accordance to the No Child Left Behind Act (Agodini, Campuzano, Dynarski, Rall, 2009). As a result, more computer software programs were created with the idea of No Child Left Behind in mind to help aid student learning. The programs aim to teach students quick facts, while including a lot of drill-and practice as well as rote memorization activities to help these schools pass the test. Although there are many educators who support computer-based instruction, there are still many others who do not believe it is effective. Therefore, as a result, they do not use it in their classroom (Long & Steffey, 1991).

Different types of software programs lead to different student learning outcomes. Majority of the software programs used in elementary schools claim to teach a particular content area or teach English to second language learners. As these software programs and technologies are constantly changing, educators need to understand how to integrate them into their curriculum effectively. They should also know their goal for using the technology in the classroom and be

able to teach their students how to use it properly and appropriately. Without proper planning, preparation, and implementation, the computer-based instruction will not be effective.

According to Bosseler & Massaro (2003), "computer-based instruction is emerging as a prevalent method to train and develop vocabulary knowledge" (p. 654) for all students. In 2009, the researcher worked with low proficiency readers on ILE, which provided differentiated literacy instruction to students in kindergarten through sixth grade (K-6). Through her experience, ILE met the needs of 21st century learners as it stimulated their senses and provided a digital learning environment. In addition, it is a type of literacy intervention especially needed in grades K-3 to help students learn to read (Cadle, Jones, O'Byrne, & Securro, 2006). Unfortunately, limited research has been conducted to determine the impact ILE has on student motivation towards reading.

Methodology

The target population for this action research study was first grade students at a Leeward Elementary School. Most of the students had little experience using computers and were beginning readers. Students ranged in age from 6 to 7 years old and consisted of 12 boys and 15 girls. The study was conducted in the action researcher's classroom as part of the normal educational practice. Three computers, three headphones, and 27 ILE licenses were used in the study. Twenty licenses were generously donated by ILE to help the researcher ensure that all students were able to gain access to the program during the period of the study.

The action researcher for this study is a full-time certified teacher at this school. Before the intervention was implemented, human subjects approval was acquired through the University of Hawai`i's Institutional Review Board. Since the study was part of the normal educational practice in the classroom, the data from all students could be used.

The study was conducted for a period of three weeks starting on January 18 and ending on February 8, 2010. As an action research project, qualitative data collection methods were used and student names were eliminated to help keep the anonymity of student identities.

Data was gathered based on the level of engagement students had with the software program as well as their classroom behavior. In order to obtain the data, the following data collection methods were used: observations, whole-class discussions, written student reflections, and reports generated from the software program.

Since ILE was used to help supplement the researcher's reading instruction, a routine was established for students to follow. It included a schedule for students to see what days they would work on the program. The routine also included how to start the program, when to use it, and what to do after their session was complete. At the beginning of the school day, the researcher setup the computer to automatically run the program. Seven student sessions ran each day, where each session lasted approximately 20 minutes long. Once the students completed their session, they wrote a short reflection about their experience on the program in their Reader's Notebook, noting what they learned, liked, and disliked. On their reflection, students

placed a happy, neutral, or sad face to indicate how motivated they were to use ILE. This helped the action researcher better understand the students' motivation to use ILE.

While the students were on the software program, field notes were taken to observe the students' behaviors on and off the program. A checklist was employed to help determine their level of engagement and motivation towards the program, and consequently an indication of their motivation towards reading. All student names were omitted to keep student identities anonymous. In place of names, student numbers were used to help the researcher identify the individual students. The checklist was designed with four columns to track student data. The researcher indicated the degree to which students showed their level of engagement by placing a number, 1-4, where 1 is the lowest and 4 is the highest. A total of four categories were employed to help measure their engagement and motivation: book selection/handling, reading sustainment, peers, and teacher. The data was collected daily.

The written student reflections provided students an opportunity to share their thoughts about the program, which would help to indicate their engagement as well as motivation. During whole class discussions regarding ILE, students had a chance to hear how their peers felt about the program as well as voice their opinion. Lastly, the reports generated from ILE indicated how well the students were progressing through the program as well each of their reading ability. It also determined their motivation and engagement towards ILE through the amount of time they spent on the program and how well they were progressing.

To ensure validity, students wrote their reflections in their Reader's Notebook, which is a personal notebook seen only by the student, teacher, and student's family. The teacher is knowledgeable of each student's writing, which helped to ensure the validity found in his or her writing. In order to ensure that the information received from students remained accurate, they needed to provide an explanation and be more descriptive of what they liked or disliked about ILE while also including a smiley, neutral, or sad face to show the degree to which they were motivated.

Results

Data from the teacher checklist, anecdotal notes, student reflections, and ILE-generated reports were analyzed to determine the overall effectiveness ILE had on student motivation and engagement. ILE was implemented into the classroom at the beginning of the school year as part of standard educational practice. In addition, the students were well adjusted to the program and went on it at least once a week prior to the study. Therefore, most of the students spent over five hours on ILE, which was unanticipated as the maximum number of hours projected on ILE was three hours. The most time spent on ILE was 27 hours, while the least was two and a half hours. Since the study was conducted in the second semester of the school year, the data may not truly reflect ILE's impact on student motivation and engagement towards reading as the students were also exposed to a daily reading curriculum taught by the teacher, reading conferences, and guided reading in the classroom.

Teacher Checklist

Based on the results of the teacher checklist, the students seemed to be highly motivated and engaged readers. (See Figure 1). Specifically, the students showed that they had good reading sustainment. Approximately 88% of the students were able to read alone for 20 minutes, while 11% could read for 10 minutes alone. In addition, all students had good book handling and book selection skills. For first graders, these are significant skills they need to possess by the end of the year as it shows they are able to identify books that are at their reading level, while also understanding that they need to follow and read the text from left to right.

Criteria	Amount of Students	Percentage
Reading Motivation and Engagement		
Reading Sustainment		
Not able to read alone	0	0%
Able to read alone for 3 minutes	0	0%
Able to read alone for 10 minutes	3	11%
Able to read alone for 20 minutes	24	88%
Book Handling/Book Selection		
Not able to select and hold book	0	0%
Able to select book	0	0%
Able to hold book with 2 hands	0	0%
Able to select book and point to words	27	100%
ILE Motivation and Engagement		
Peers		
Negative comment to >1 peer about ILE	0	0%
Negative comment to 1 peer about ILE	0	0%
Positive comment to 1 peer about ILE	0	0%
Positive comment to >1 peer about ILE	27	100%
Teacher		
Complained about ILE	0	0%
Never asked for more time on ILE	0	0%
Asked once for more time on ILE	3	11%
Consistently asks for more time on ILE	24	88%

Figure 1. Teacher checklist results.

The teacher checklist also showed that the students were motivated towards using ILE through their interactions with the teacher and peers. All the students made at least one positive comment about ILE to their peers, which showed their high interest and motivation to use the software program. Regarding interaction with the teacher, approximately 11% of the students never asked the teacher for more time on ILE. However, 11% asked the teacher once for more time on ILE and approximately 88% of the students consistently asked for more time on ILE. The action researcher noticed that the several students stayed in for recess and stayed after school just to use ILE. These particular students showed an increase in motivation towards reading over the course of the study.

Student Reflections

Initially, the researcher used a plus-delta chart to compile data from student reflections and teacher notes from whole class discussions. However, that method proved ineffective as it was unclear to determine what exactly the students liked and disliked because most of the items were under both, the plus and delta, categories. In addition, the researcher wanted to know how many students felt the same way about a response. Therefore, the researcher decided to look at the

students' written reflections after their use on ILE to determine the positive and negative aspects of ILE and decide if further intervention would be necessary for them. Although the researcher asked the students to write a reflection immediately after their ILE use, not all students chose to do the task. In addition, some students wrote irrelevant answers in their reflections, which is reflected in the data. An irrelevant answer meant that they did not write anything pertaining to ILE.

Most of the positive comments made pertained to the specific types of games featured on ILE. (See Figure 2.) One student wrote, "Space Ace is my favorite game. I have to find a word and shoot it. I get 100 points if I shoot it." The students also enjoyed reading the texts ILE provided, which is significant to the study as it showed how motivated students were towards reading. Many students wrote in their reflections, "Reading is fun."

Student Reflections	Number of Responses	Comments
What They Liked		
Playing the Games	12	Specifically Space Ace, Word Hunt, and Silly Animals
Singing/Recording Voice	3	
Reading	6	
Learning New Words	2	Helps me become a better reader
Clicking Items to Make Sounds	1	
Alphabets	1	
Irrelevant Answer	2	
What They Disliked		
Singing Songs	3	Friends laugh at me because I sound funny; it's loud
Playing Games	2	I'd rather practice reading
Hard Stuff	1	
Clicking Stuff and it Moves	1	
Saying the Wrong Word	1	
Irrelevant Answer	1	
What They Learned		
Alphabets	2	
Letter Sounds	2	
New Words	2	
Reading	1	
Spell Things	1	
Irrelevant Answer	1	

Figure 2. Student reflections regarding ILE use.

As for the negative comments, the students had a variety of things to say about ILE. Some did not like the games featured on ILE because they would rather spend their time reading. Also, three students said that they did not like singing the songs, which is interesting because the same number of students wrote that they liked ILE for that reason. This anomaly could be due to the open-ended nature of the student reflections since the students were able to write anything they liked and disliked. One student wrote, "the music is loud so I sing loud. When I sing loud, people laugh at me." It was apparent that singing songs in the classroom embarrassed the student.

Besides having the students write what they liked and disliked, the researcher wanted to know what the students learned on ILE. It was interesting that two students learned the alphabets through ILE use. Most first graders should have learned all the alphabets including letter sounds by the end of the first semester of school. However, it seemed as if these two students still struggled with it and were glad they learned it in the process. In general, based on the data collected from the students' written reflections, it seemed like the students had more positive things to say about ILE rather than negative ones. In addition, the results revealed that students seemed to have acquired more skills, knowledge, and appreciation to become better readers.

At the bottom of each of their written reflections, students had to indicate their feelings towards ILE using a happy, neutral, or sad face. Theses faces were calculated to determine the students' degree to which they were motivated towards ILE. All the students drew a happy face on their reflections, which showed how much they enjoyed ILE.

ILE-Generated Reports

ILE not only provided immediate feedback for students regarding incorrect and correct responses, but it also provided the researcher with feedback on how each student progressed over the program. It generated reports to help teachers determine each student's areas of strengths and weaknesses in reading, as well as how the class was doing as a whole. Since ILE tailors its program to meet the individual student's needs, the reports generated show a wide range of student reading abilities. Majority of the students showed proficiency in the areas of: letter recognition, story comprehension, phonemic awareness, conversation, songs, and vocabulary. According to the report, one student in particular did not show proficiency in those areas. This particular student was also the only one who worked on ILE for the least amount of hours, two and a half hours, and only asked the teacher once for more time on the program. However, once on the program, he or she seemed thoroughly engaged and would say nice things to their peers about it. Unfortunately, when the student had to write his or her reflection, it always appeared irrelevant. For example, one response he or she wrote was, "Math fun." Since this student is also ELL, he or she may not have understood the directions when asked to write a reflection. However, based on the student's behavior towards ILE, it showed his or her lack of motivation and engagement towards ILE and reading.

Implication

With the latest computer software programs emerging everyday, it is important for teachers and administrators to be aware of which ones are the most effective for their students. In order to support and motivate young readers, the computer software program employed in the classroom must be engaging as well as intrinsically motivating. The teacher must also feel the technology is necessary in the classroom and be able to integrate it properly and appropriately. With the proper planning and professional development, teachers can learn how to use and integrate the technology in the classroom successfully.

Based on the research conducted regarding the qualities that most effective technologies employ, there is a discrepancy between the effect open-ended opportunities have in comparison to those

that provide drill and practice ones. The research also noticed that the technology should understand each student's cognitive load and therefore, be individualized and differentiated. Cognitive load essentially means the amount of information students can retain. Oftentimes, when students have to learn too many concepts at the same time, they exceed their cognitive load and cannot process any more information. Effective technologies also provide a self-monitoring strategy so students are aware of what they must do in order to be successful learners. Through having a self-monitoring strategy, students developed more confidence in their learning and believed that their efforts made a difference to their learning. Although research has proven inconclusive in regard to the effect computer software programs have on student reading ability at the elementary level, there has been positive results in regard to student engagement after each use.

Conclusion

Based on the data collected, ILE has proven to be effective in engaging and motivating elementary-aged students to become better readers. The way it presented itself to students was through a fun and educational environment where students explored a place called Imagination Island. While exploring, students were presented with a variety of activities and games. Most of the students indicated in their written reflections that they really enjoyed playing the games on ILE. In addition, a few students enjoyed the activities in which they were required to read text. This showed that the students value reading and prefer it to other games or activities featured on ILE, such as singing songs, which some disliked.

Since the researcher was able to observe the students since the beginning of the school year, she noticed that most of them started off as emerging readers. Some could not even hold a book independently while most of them struggled to read a few words on a page. By the end of the study, she noticed that most of her students were very independent and proficient readers. Many of them chose to read chapter books and spent their recess time borrowing books from the school library. Since ILE supplemented the reading instruction provided in the classroom from the very first day of school, it certainly played a role in engaging and motivating the students to become readers. As a result of this study, ILE has been effective in engaging and motivating students to read. However, a further study could be done to prove the effects ILE has on student motivation and engagement towards reading over an entire school year as well as across grade levels.

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