

## Effectiveness of Tablets in Improving Reading Fluency

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i7/14236>

DOI:10.6007/IJARBSS/v12-i7/14236

**Published Date:** 06 July 2022

### Abstract

This study aims to examine the effectiveness of tablets in improving reading fluency within school environment. It also attempts to show that technological tools like tablets can make a difference in enhancing reading fluency. To that end, I apply a mixed approach that combines qualitative and quantitative tools such as Interview, survey, observation, and reports. A class size of 17 students in grade 7, reading a daily block of 55 minutes 5 times a week will be the sample of this study. The collected data will be used to analyze how tablets allow students to fully understand and comprehend the components of a story which can be valuable for students with learning difficulties that are intimidated by the length of what they are being asked to read. The study reaches several results, the most important of which are: first, school administrations should make such technology available for each student with learning difficulties. Second, they should also encourage teachers to introduce it to their students with learning difficulties.

**Keywords:** English, Fluency, Reading, Tablet.

### Introduction

Reading fluently is one key feature of academic excellence at our school because it is always related to most of our practices. With that said, students with reading difficulties will feel challenged in most of our academic contexts because they won't be able to keep up with their colleagues. That is why in our school we started thinking of innovative ways and creative ideas to try to find solutions and help those students to improve their reading skills and fluency.

With changing the admission criteria and lowering the admission levels at my school, the new influx of students showed a disappointing attitude for a number of reasons such as, but not limited to, their weak communicative skills and weak English language reading skills. In the beginning, the students were always absent-minded and distracted or misbehaving due

to learning difficulties especially when it comes to reading assignments and reading the lesson. Students with such weak language and learning, especially learning difficulties are in need for a way to get them back to the track and innovate new experiences in order to reach a satisfactory level of reading and consequently adequate success. We started looking for ways to improve their reading and language skills in an interesting and engaging way.

Well-adjusted reading block refers to several literacy components that all work together as one to teach reading. The goal of an integrated reading block is to create independent readers by inspiring a veritable love and appreciation for reading among students. Integrated reading block fosters many skills in the student like fluency, comprehension, perseverance, collaboration, and focus and energy (Fialding,1994).

With a class size of 17 students in grade 7, reading a daily block of 55 minutes 5 times a week, technological tools like tablets can make a difference. Read aloud features for some books can strip away the importance of allowing the student to fully understand the comprehension component of a story. Students can change the size of the text on the tablet to show larger text, which reduces the quantity of text on the screen. This can be valuable for students with learning difficulties that are intimidated by the length of what they are being asked to read. Students can also easily access the simplification of a word they do not know through the interactive dictionary. This is extremely comfortable for students with learning difficulties that would not normally make the effort to look up a particular word in the dictionary. Another helpful feature is the ability to highlight and take notes on the tablet. The use of these technologies helps to create catchy and interactive lessons that promote student participation.

Tablet integration, I believe, will be fruitful because of the huge array of features we can invest in an attractive and effective way throughout their reading classes. Therefore, a research question that came up is "How effective is tablet integration in improving Grade 7 students with reading difficulties?"

### **Literature Review**

In this literature review, I will reflect on some academic research results related to the effectiveness of using tablet PC's in teaching reading for students with difficulties. Using technology devices motivates reluctant readers during literacy instruction in elementary schools. Using tablet PC's is an effective tool for developing the students' reading fluency. It is an innovative way to encourage interaction among students through the use of more than one sense while reading, such as sight, hearing and touching. This technology helps to increase the involvement in the classroom activities because all children are attracted towards technology (Shanahan, 2016). Flewitt et al (2014) found that the experience of human touch often enhances the student's motivation, control, and independence when engaged in literacy endeavors with the iPads. The research results show that iPads are an effective tool to stimulate excited responses from students in the support group. Thus, the iPad is considered as an interesting innovative tool to stimulate good responses from students in the support group (McCarthy, 2016). Contemporary, neuroimaging tools have been used not only in marketing, neuromarketing, and medical sectors but also in education. For example, the electroencephalography has used to examine the spent time in the reading text [e.g., skim and depth reading] (Alsharif et al., 2021b; 2021c; 2021e; 2021g; 2022, 2022).

Research studies proved that students are more engaged and interested when they use their sensory skills. Our society has become completely influenced by the new technological devices, and therefore integrating them inside the classroom to motivate students to read (McCarthy, 2016). In a research study conducted by Ness (2016) a group of fifth-graders became self-dependent in using iPad's for their fluency work. They selected the reading text, recorded their reading, watched and reflected on them. They continue to work in this cycle. The most effective part was to record their readings and reflect on them after getting immediate feedback from their peers. This action research showed that after a few weeks, students in the support group made significant progress (Ness, 2016). One researcher from Emirates stated that iPad's can be used as a testing tool in reading classrooms. Teachers can upload different applications that can help them assess students' work. She added that these applications are continuously developing and offered online for use with multiple teaching using tablets (A-Ali, 2016).

Students in support groups usually are not intrinsically motivated and cannot be focused on the task for a long period of time. Studies proved that devices such as iPads with sensory integration of touch are very helpful in keeping students with learning disabilities motivated and engaged (Flewitt et al., 2014). conducted a study to test the probability of using Speech Recognition (SR) technology on tablets to help weak elementary students. Results indicated that the use of SR was very helpful for weak students. He also said that some applications on the tablet PC's give the chance to students from different levels to do small projects that have auditory, verbal and visual options.

Thus, students can create their own projects based on their knowledge about the subject and technology, and their teacher's instructions. These projects target offering hands-on activities that involve the four skills: listening, reading, writing and speaking; and students can even get help from web resources (Baker, 2017). Mango indicates in her research results that students think that iPads helped them to improve besides enjoying using the iPad's experience itself. She also added that they viewed the iPads as useful device that helped to improve their results (Mango, 2015).

Technology is a mediator to convey instruction. Therefore, teachers should be careful when they are using technology-based lessons by making sure that effective instruction and planning is taking place rather than causing distraction and wasting time (Ok, 2016). The iPad activities should be carefully designed to engage learners enthusiastically in the classroom activities by providing them with opportunities to cooperate use their creative skills, and claim responsibility and ownership of their work (Mango, 2015).

The findings of one research study suggest that clear, strategic involvement using iPads is an encouraging practice to teach disabled students (Ok, 2016). Teachers can communicate and collaborate with others all over the world to prepare engaging and effective activities that contribute to the progress of their students. The use of tablet in reading has been gaining more influence on both teachers and students (Connell et al., 2012). The integration of tablets in the educational process offers more elements of interaction between the device, the student and will ultimately help achieve the general objective of education (Chen et al., 2014). As a result, tablets have different impact and indicate different results from reading through traditional books (Hermena et al., 2017). Tablets have even reshaped the techniques and

procedures that teachers use within their classrooms to achieve specific educational objectives (Juarez, 2014). Digital devices have also been used by teachers to investigate the validity of their performance as well as the progress that students achieve (Seifert & Paleczek, 2022). To summarize, students tend to read more from tablets than from traditional books. They feel more connected to tablets as they allow more interactive elements within the educational environment (Delgado & Salmerón, 2022).

### **Methodology**

I will adopt an experimental research methodology by applying the “tablet integrated method” in one class during their reading block. With this experimental class, I will start collecting data through a survey I designed that checks students’ preferences during their reading, the challenges they face when reading in a classic way either independently or within a teacher-fronted class.

As for the academic data collection, this will be in two different stages; first by recording the number of words each student read correctly and be able to apply the decoding and comprehension skills as they finish reading the assigned book. Then, the second stage will be when the students switch over to reading on the tablet as the second marking period begins. The marks obtained during these two stages will be compared. Another survey will be conducted after 4 weeks of the beginning of this method in order to examine students’ progress and analyze their opinions.

Interview, survey, observation, and reports will be the tools used to conduct this research. Interview will be applied to let students discuss their opinions in using tablets and the influence on their reading fluency. The survey will be used to highlight their reading styles and tools. Observation will assess and follow students’ progress, and reports will be used to analyze students’ attitudes and will also be compared with previous reports.

The teacher observed the number of words students read independently for two periods. Students read traditional books for the first marking period. At the beginning of the second marking period, the Tablets were introduced the new program and students began reading their books electronically. The number of words the students read of traditional books were recorded, as well as the number of words students read on the tablet.

During the time of the study, students were asked to read for twenty minutes each day. They recorded the words they read in a log and wrote a summary of what they read each day. The teacher conducted conferences with each student about their reading selections, goals, and progress before and after the tablet integration. Students read independently and continued to choose a new book each time they completed one.

### **Results**

The study monitored the number of words the students read independently traditional books for the first marking period. At the beginning of the second marking period, the iPads were introduced and students began reading electronic books. As illustrated by table1 and table 2, the number of words students read of traditional books were recorded, as well as the number of words students read of electronic books.

Table 1

*The number of words by using traditional books and tablets.*

Student	Number of words by using traditional books	Number of words by using tablets
1	2270	2670
2	1950	2120
3	2120	2430
4	2180	2400
5	2050	2190
6	1980	1950
7	2090	2280
8	2120	2290
9	2200	2240
10	2160	2270

Table 2

*Arithmetic number of words by using traditional books and tablets.*

#	Arithmetic mean	Arithmetic Median	Standard Deviation
using traditional books	2112	2120	93.648
using Tablets	2248	2275	182.546

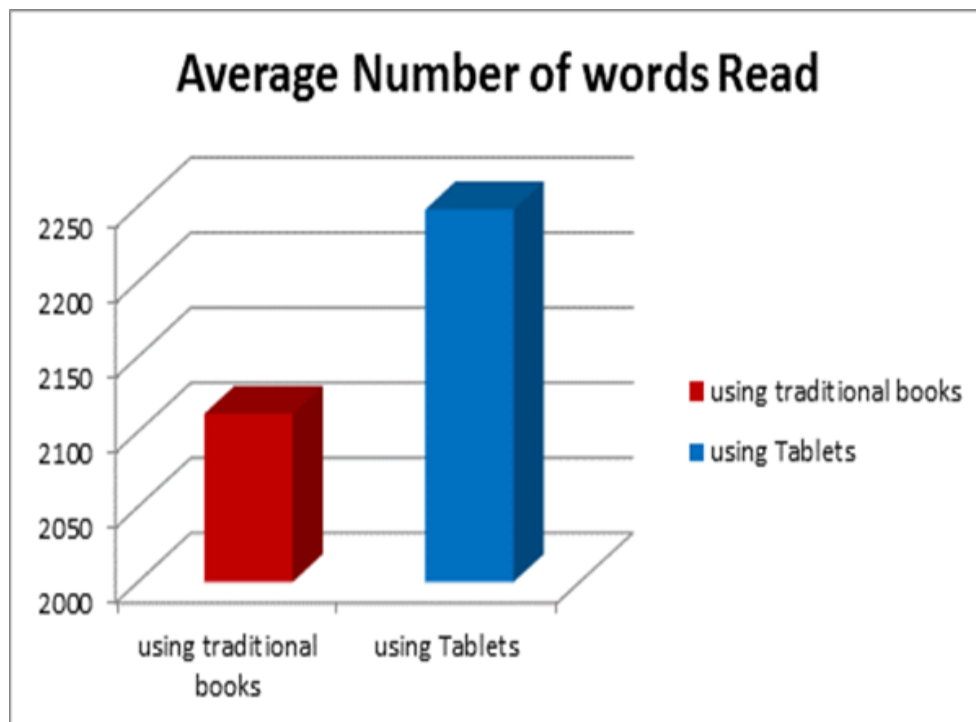


Figure 1: Average number of words read.

As shown in figure 1, the results indicate that the average number of words read of traditional books was less than the average number of words read on a tablets. Students read an average of 2112 word with traditional books while they read an average of 2248 words on tablets.

### Results Significance

In this study, ten students were monitored through two marking periods. The use of technology in the classroom can be motivating to students. The use of the tablets for reading was helpful in allowing students more options when choosing a book to read.

Tablets, when used appropriately, motivated some students to read more than they did when only given the option of reading traditional books. It also allowed students to choose books that were at an appropriate reading level without having the concern that other classmates were judging their selection. Reading electronically is a more private way to read and minimizes these issues for students that struggle with difficult text.

**Students' Survey Analyses**

**1. Do you Enjoy Doing this Reading Activity?**

17 responses

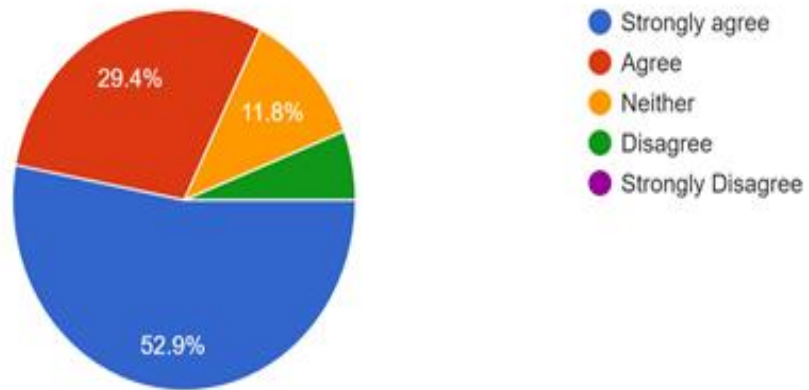


Figure 2: Percentage of students who enjoy the activity.

As illustrated in figure 2, an overwhelming 52.9% of students strongly agreed that they enjoyed the reading activity on the tablet whereas a little over half of those who strongly agreed simply agreed when asked at only 29.4%. A meager 11.8% didn't feel either way.

**How well were you Concentrating when you were Studying?**

17 responses

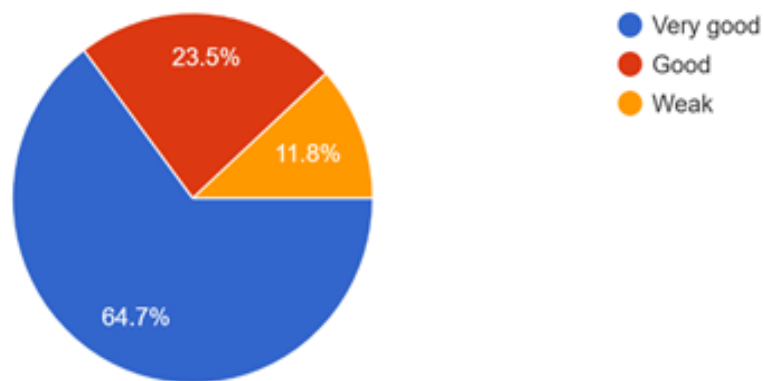


Figure 3: Students' concentration while studying.

As we can see in figure 3, over half of students strongly agree when asked whether they enjoyed doing the reading activity on the tablet with close to 30% agreeing. A meager 11.8% of students didn't agree or disagree when questioned and still less than that disagreed.

**Are you Capable of Solving, or able to get Help to Solve, your Reading-related Problems?**

17 responses

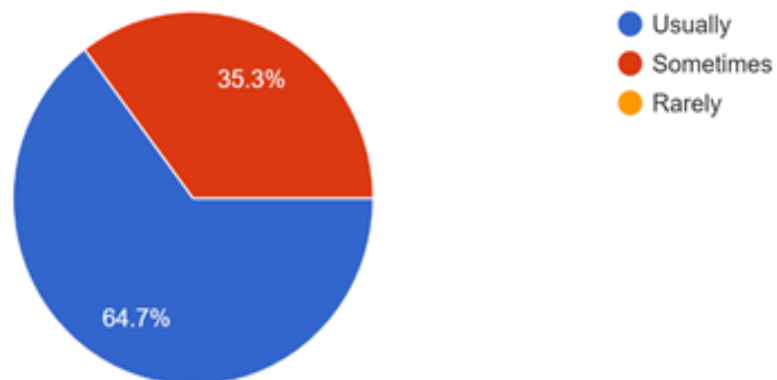


Figure 4: Students' ability to solve reading related problems.

As illustrated in figure 4, the majority of students are confident that they can get the assistance they need or are able to solve problems related to reading at 64.7%. However, 35.3% waver in their ability to do the same.

**Do you go to most of your classes with questions in mind when you study?**

17 responses

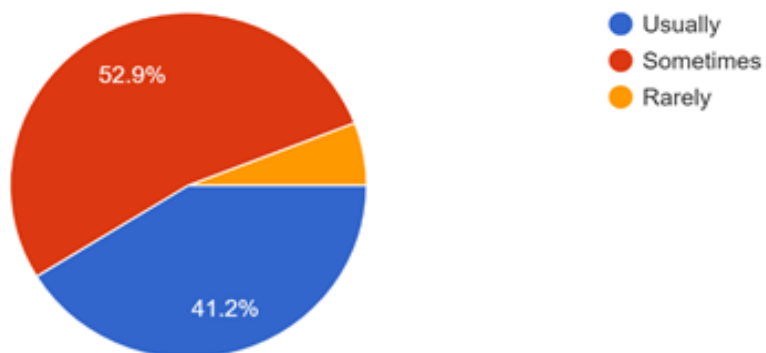


Figure 5: Students' preparation of class questions while studying.

As shown in figure 5, as over half the students questioned at 52.9% admitted to sometimes coming to most of their classes with questions in mind to study, a healthy portion of 41.2% of students said that they usually come prepared with questions for studying.



**Do you usually take notes during the lesson?**

17 responses

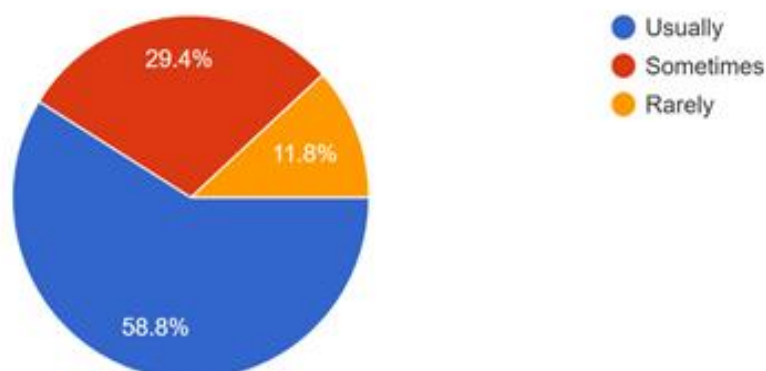


Figure 6: Taking notes during the lesson.

As illustrated in figure 6, the majority of students (nearly 60%) usually take notes during their lessons. Approximately 30% of students admitted that they sometimes took notes and only 11.8% said that they rarely take notes at all.

**Do you feel the difference between regular study and using tablets during the lesson?**

17 responses

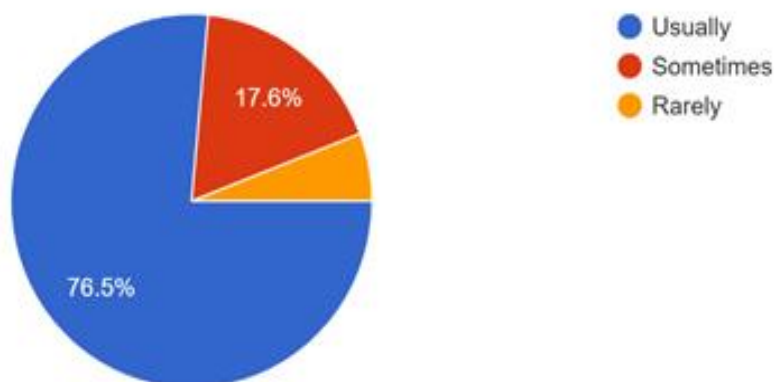


Figure 7: Feeling the difference between regular study and tablets.

As shown in figure 7, a whopping 76.5% of students said that they usually feel a difference when using the tablet while studying whereas only 17.6% said that at times they notice a difference between studying with a tablet as opposed to not studying with one.

**Student's Interview**

The interviews lasted approximately 10 minutes. The one-on-one interviews produced two different themes relating to reading from tablet PCs and regular lesson.

According to student interviews, reading with the use of tablets is a definite positive factor in student reading engagement. Overall, students felt more comfortable and confident when reading on a tablet as opposed to a printed source. For most, the idea of being assigned

a book to read was a very intimidating feeling. This is prior to even reading it. They instantly felt tablets were more accessible mentally, if not in content.

In terms of content, students enjoyed various types of reading and assignments. Generally, teachers use the tablet reading 2-3 times a week across various curriculums. Students did not show any real preference for types of books/texts, but definitely enjoyed interactive assignments to go with the reading. Assignments that allowed the students to use/view audio/video components to go along with the reading helped them make connections they might have missed if just reading a book.

As for their general experience using tablets, students were overwhelmingly positive about reading on/using the tablets. Unlike those of older generations, who have mixed feelings about reading on a tablet vs. a print source, our current students are so used to “screen time” that the print sources are the ones that feel out of place. While some prefer certain devices to others, they are all comfortable using any type/style/brand/etc. of tablet in the classroom.

Finally, of course the students all felt teachers should use the tablets more in the classroom. For teachers, I think this becomes the real key question. How to use tablets to help engage and develop readers without becoming reliant upon too much technology.

### Teacher Observation Checklist Analyses

15 responses

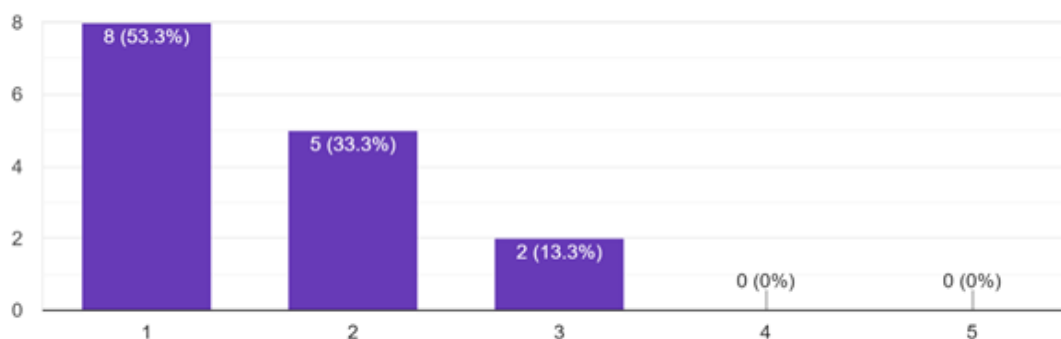


Figure 8: Student’s understanding of the IT environmental slideshows in classroom.

As shown in figure 8, Over half of the 15 students were observed that they totally understood the IT environmental slides while in class. One-third of them understood the slides with minimal difficulty. While only a fraction over 13% felt they struggled with the slides variably.

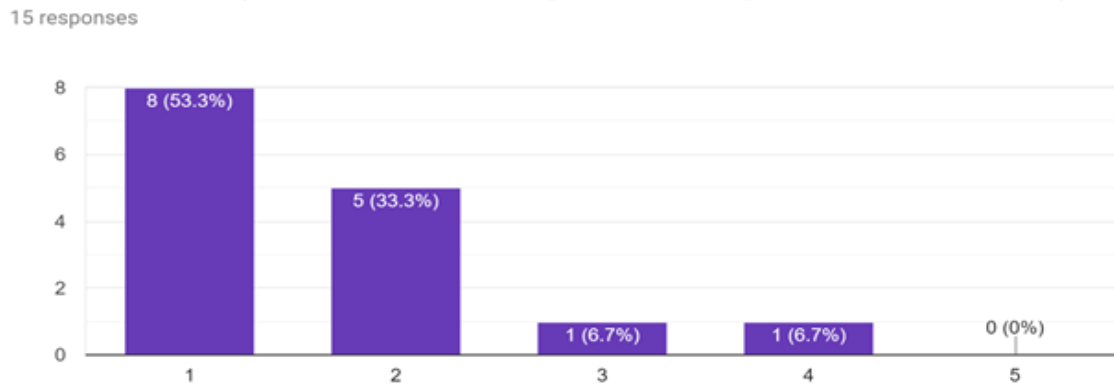


Figure 9: Student’s ability to identify reading materials

Figure 9 suggests that while reading the provided materials on the tablet, it was found that 53.3% of the 15 students were able to identify the materials appropriate for their own reading level. Over a third of the 15 students had nominal trouble choosing the pertinent materials for their level. However, only one student found it occasionally or extremely difficult.

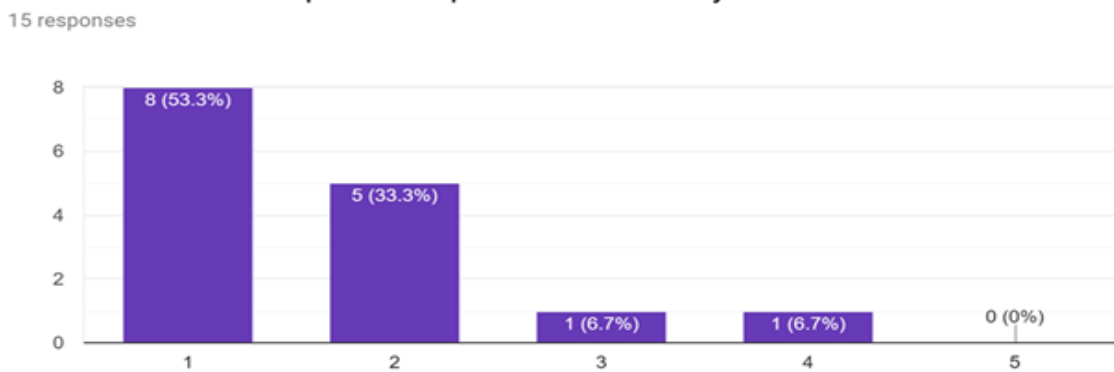


Figure 10: Student’s ability to explain the problem

As shown in figure 10, it was found that over half the students observed at 53.3% could explain the “problem” within the story they read on the tablet while a little over a third experienced some dilemmas. Still only one student either had an occasional to considerate issue explaining the “problem”.

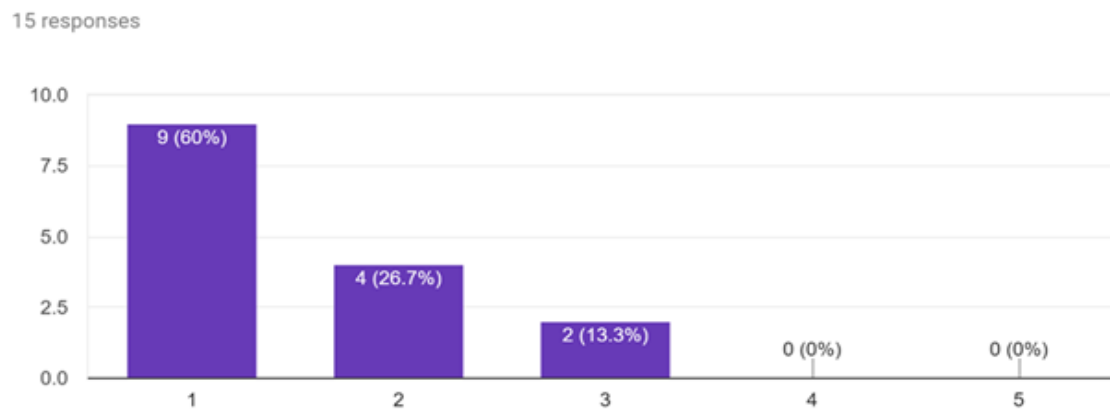


Figure 11: Student's ability to predict an upcoming part of a story

As illustrated in figure 11, the vast majority of students counted at 60% had no problem making predictions from what they read on the tablet. Though, nearly a third had minimal trouble doing so; only 13.3% found moderate complications. No student found making predictions about an upcoming part of the story considerably or absolutely difficult.

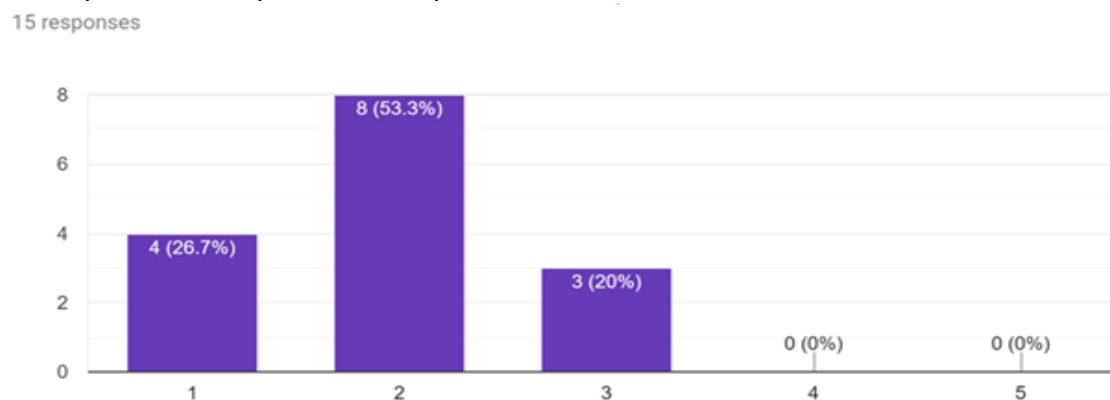


Figure 12: Student's ability to connect self to the story

As shown in figure 12, while using the tablet in class, over half of students at 53.3% complained that they could modestly connect themselves to the story they read. Nearly a third could absolutely connect themselves while only 20% had medium difficulties doing so. There weren't any students who either had considerable difficulties connecting themselves to the story or altogether could not do so.

46.7% of students had no hindrance in recalling specific facts from the story read on the tablet provided. However, almost the same percentage of students at 40% experienced incidental trouble doing so as opposed to two students who said they faced considerable

obstacles

15 responses

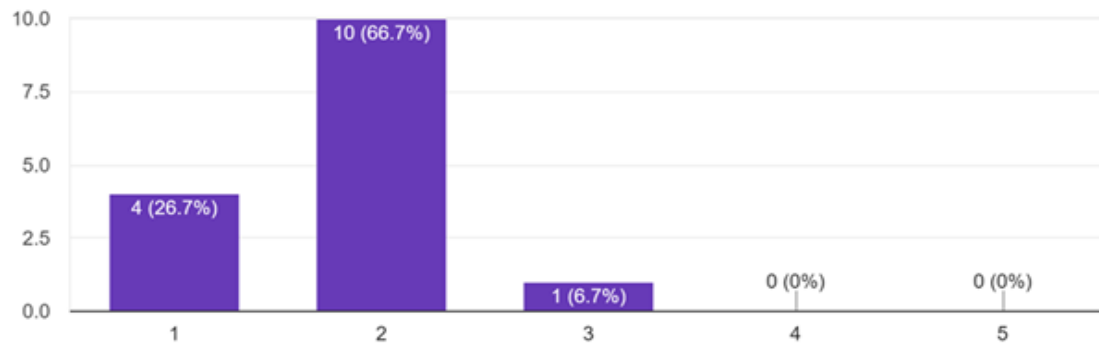


Figure 13: Student’s independent following and reading of directions.

As illustrated in figure 13, an overwhelming 66.7% of students observed minimally struggled in reading and following directions on the tablet with four students having none at all. Still, another one student encountered a modest issue with reading and following directions.

15 responses

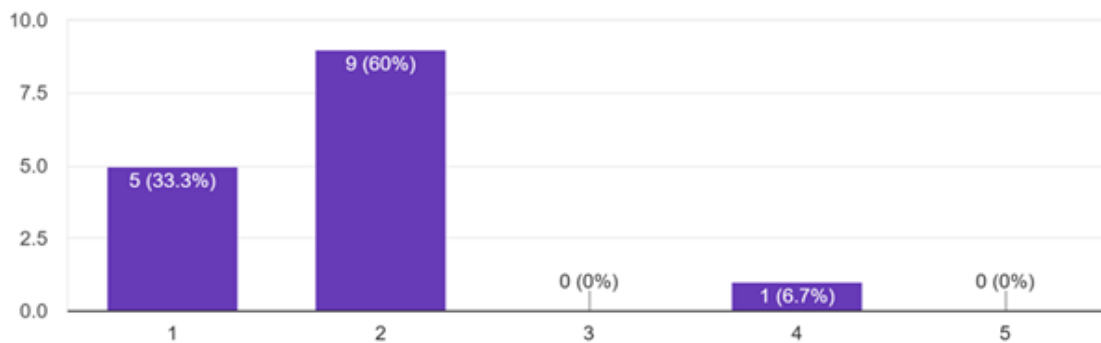


Figure 1.14: student’s ability to use text features.

As shown in figure 14, the majority of students (60%) felt they could use text features effectively with nominal issues. Over one third had no problems at all whereas only one student had substantial adversity using the tablet to find text features.

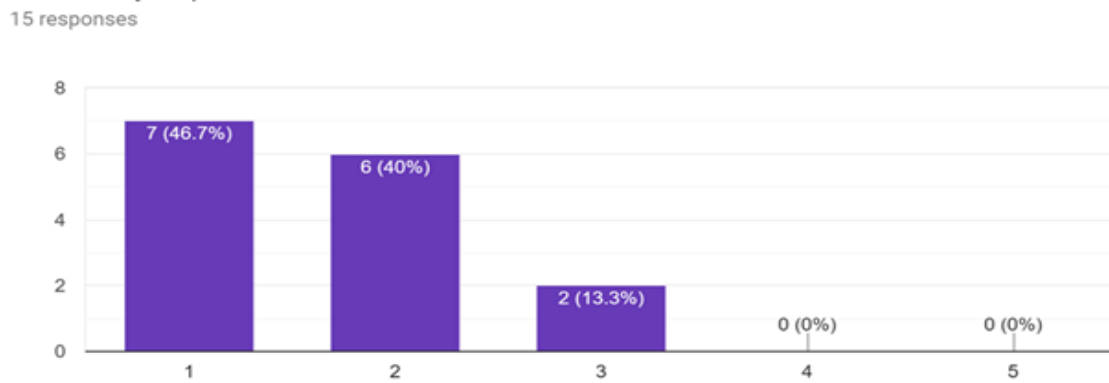


Figure 15: Student’s ability to apply background knowledge to the text.

As illustrated in figure 15, with no students having considerable to consummating issues in applying background knowledge to the text read on the tablet, seven had absolutely no complications, six had some and only 2 students faced.

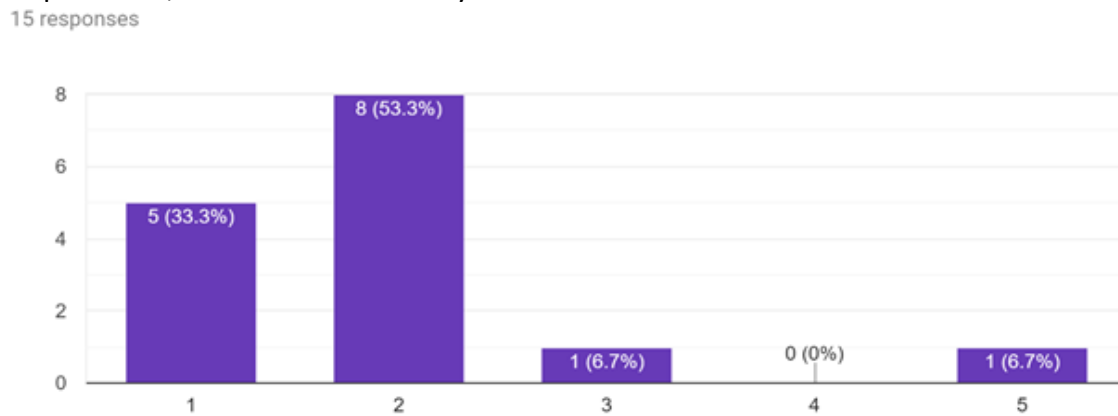


Figure 16: Student’s understanding of cause and effect relationships.

As shown in figure 16, over half of the students were found to understand cause and effect relationships with some difficulty while using the tablet. A little over a third had absolutely no trouble with understanding. One student each found the task either moderately difficult or entirely troublesome.

15 responses

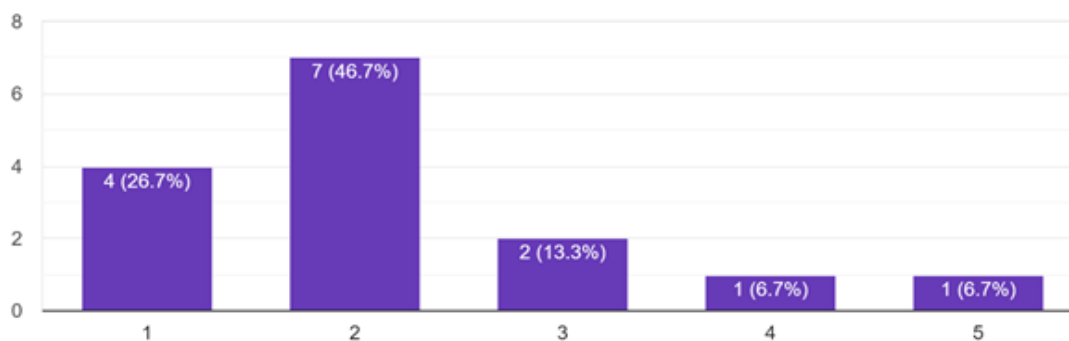


Figure 17: Student's ability to identify supporting details for the main idea.

As illustrated in figure 17, nearly half of students were able to nominally identify supporting details for the main idea of the passage read on their tablet. 26.7% of those students had no difficulty at all. Only two students found an occasional dilemma while one student a piece felt the task on the tablet was either extremely difficult or consummately drudging.

### Conclusion

The study answered the research question "How effective are Tablets in enhancing reading." After reviewing the data, the data collected demonstrated a positive trend; all 7th Grade students showed that tablets were an effective tool in increasing independent reading.

Further research should be conducted to ascertain whether electronic reading benefits struggling readers with learning disabilities that focus on perception and fluency skills.

- School administrations should make such technology available for each student with learning difficulties.
- They should also encourage teachers to introduce it to their students with learning difficulties.

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*International Journal of Educational Research*, 113, 101948.

<https://doi.org/10.1016/J.IJER.2022.101948>

### **Appendix “1”**

#### Student’s interview

The interviews lasted approximately 10 minutes. The one-on-one interviews produced two different themes relating to reading from tablet PCs and regular lesson.

1. How often do you read on a tablet? What types of books or text do you like to read?
2. What types of reading activities or assignments do you enjoy doing on tablets?
3. Are you familiar with any types of devices? If yes, what kinds?
4. How often do your teachers use technology in your classrooms?
5. Did you like using the tablet in reading activities? Why or why not?
6. How did you feel about reading on the tablet?

### **Appendix “2”**

#### Questionnaire

1. Did you enjoy doing this reading activity?  
“Strongly agree - agree – disagree – strongly disagree “
2. How well were you concentrating when you study?  
“Very good - good – weak “
3. Are you capable of solving, or able to get help to solve your reading-related problems?  
“Usually – sometimes – rarely “
4. Do you go to most of your classes with questions in mind when you study?  
“Usually – sometimes – rarely “
5. Do you usually take notes during the lesson?  
“Usually – sometimes – rarely “

**Appendix “3”**

Observation Date(s):

Observer’s Name:

**Reading Comprehension Observational Checklist**

	Excellent	Very good	Good
The student can identify reading materials that are at an appropriate reading level for himself (However, students may choose to read books above or below their reading levels, E.G. A-Z reader).			
The student is able to explain the “problem” of a story.			
The student can make predictions about an upcoming part of a story as it is being read.			
The student is able to connect self to the story.			
The student can recall specific facts from the reading text.			
The student reads and follows directions independently.			
The student understands the IT environmental slideshows in the classroom			
The student is able to use text features (glossary, titles, table of contents, etc.) effectively.			
The student is able to apply background knowledge to the text. (Comparison and analysis)			
The student understands cause and effect relationships.			
The student can identify supporting details for the main idea.			