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Research Article

Evaluating the Effect of Interactive Digital Presentations on Students' Performance during Technology Class

Kyvete Shatri and Lediana Shala

Faculty of Education, University of Prishtina, Prishtina 10000, Albania

Correspondence should be addressed to Lediana Shala; lediana.shala1@student.uni-pr.edu

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The importance of this research was to highlight the use of interactive digital presentations in the classroom that allow students to interact with the lesson content, work independently, and answer various questions presented on these interactive slides. We used the Pear Deck add-on to create these interactive presentations. The research had a quasiexperimental design and was conducted with two seventh-grade classes in the primary school "Naim Frasheri" in Prishtina, where one of them played the role of the experimental group while the other had the role of the control group. Data collection instruments were used in two tests (pre-test and post-test), a questionnaire for students in the experimental class, and the method of observation in both classes. From the data collected from the questionnaire, we measured the positive effects on students' motivation to learn and the positive effects on achievement were measured by testing students, while our attitudes as a teacher were reflected through the observation process. The results of this study have shown that the use of interactive digital presentations has a positive effect on the memorization of concepts and students' engagement and that this kind of presentations are more efficient to use during the technology class compared to traditional learning methods.

1. Introduction

Nowadays, teachers are still adhering to the traditional forms of teaching, where to explain the teaching concepts, they mostly use PowerPoint presentations or illustrate content via videos taken from YouTube. Students clearly need to break away from such learning routines and embrace new learning streams that make them curious about the learning content, connect them to their smart devices, and make them feel close to each other in class.

Pear Deck is a Google Slides add-on that allows importing Microsoft PowerPoint slides and Google slides to create new educational material. Pear Deck allows the user to create exciting questions to focus on fascinating facts at the center of the study. This platform enables the creation of interactive presentations in the classroom and can be used by both teachers and students.

Some of the possibilities offered by Pear Deck when creating an interactive presentation are as follows: the possibility of interaction with the learning content by the students through smart devices while accessing through a special code; the integration of many animations and slides that fit any subject area, such as mathematics, language, social, or science subject areas; compiling questions for students about the progress of the learning process; or using different options to address and explain a problem, phenomenon, or concept [1].

As stated in reference [2], "students sometimes feel worried whenever they need to answer questions in class. Presentations created with Pear-Deck help the lecturer to ask open-ended questions, engage with every student's answer, and discuss the students' responses. While lecturers use interactive slides with Pear-Decks in online teaching-learning activities, they provide every student with

interactive online activities on their screen. Pear Deck allows only a lecturer to see all students' responses and allows the teacher to show the response anonymously."

Similar to Pear Deck, Nearpod also offers a variety of question types and activities as ways to assess students in the classroom, but more importantly, these tools help increase student engagement and expand where and when students learn. Through Nearpod, all question types were available in the free version (open-ended, polls, quiz, raw, and collaborative) [3].

The purpose of this research is to evaluate the impact of interactive digital presentations on increasing student performance and achieving higher outcomes in technology class. This research will use Pear Deck tools and examine its effectiveness in the learning and teaching process by creating interactive content in the classroom, through which students actively participate in the process of learning, give their opinions about the problems or questions posed to them, raise new issues for discussion, display feelings and attitudes, and enjoy the rich content of graphics and animations through which they gain a new perspective of the learning concepts that are likely to remain long in their memory.

1.1. Research Aims and Research Questions. The methodology of this study was action research. This type of research enables teachers to relate learning theory and research to their classroom practices and helps them become self-critical, analytical, and reflective [4]. The design or research strategy used was quasiexperimental, with quantitative and qualitative methods. The quasiexperimental model is used in situations in which two or more groups of participants can be identified from each other, where one can be used as a control group and the other as an experimental group. Furthermore, qualitative and quantitative methods have helped obtain and analyze qualitative and quantitative data. In our case, the nature of the questions was revealed and evaluated. Around six meetings with experimental and control classes were held while conducting the research. All students were in the seventh grade, with heterogeneous mixtures of both sexes. In the control group, the PowerPoint application, the seventh-grade technology book, and other didactic tools were used, while the experimental group was integrated with Pear Deck, school literature, didactic tools, and smart board.

The research hypotheses are as follows:

(i) H1: Students who use interactive presentations achieve higher learning outcomes and are more interactive in the class.

(ii) H2: The integration of interactive digital presentations positively affects the students' performance during the technology class.

The research questions are as follows:

(i) Do interactive digital presentations help students in achieving better results in learning during the technology class?

(ii) Does Pear Deck platform have a better impact in use during the learning process over traditional forms of lesson development?

In this research, the variables are student results and interactive presentations made through the Pear Deck tool; therefore, the students' results are a dependent variable, while interactive presentations play the role of the independent variable. The student results are measured and compared after the intervention through interactive presentations in the experimental group, respectively, by applying traditional methods in the control group. The topics of the lessons elaborated with the students of both classes were "Electrical circuit," "Data security," and "Counselling and career guidance."

In our case, the teaching process with the control group is conducted through the traditional method as a conventional method, which is mainly used school literature and the white board. The educational content is explained by the teacher who does not integrate any technological alternatives in the class while the students are mainly listeners and try to be attentive in order to reproduce what was explained earlier. Since the control group does not receive the treatment (the interactive presentations through Pear Deck are not integrated during the learning process), the independent variable is held constant. In the other side, the experimental group conducts the learning process through digital presentations where the teacher unfolds the educational content on the big screen and asks the students to give their answers through their personal technological devices (mostly smartphones) while navigating through the slides. That being the case, the experimental procedure is performed in this group and the response or change in the dependent variable (student's results) is recorded.

2. Literature Review

The idea for conducting this research came from the fact that most teachers in Kosovo mainly use the PowerPoint application of the Microsoft Office suite to create various presentations, through which they organize the lessons. Usually, PowerPoint presentations do not show any high level of collaboration between the audience and educators, although there are various writings [5] that highlight the importance of creating interactive PowerPoint slides rich in multimedia, animation, graphics, images, videos, etc. In this context, there is a need to conduct research in terms of examining the use of the pear deck as an interactive tool with a variety of opportunities for primary school students (specifically, in the subject of technology).

In the last decades of the last century, Albanian schools and teaching processes have been prominent in the use of traditional teaching methods. This learning method aims to help students acquire knowledge through rules and exercise applications. However, nowadays, teaching processes require the transmission of information and the learning of concepts through contemporary and modern student-centered methods that aim to highlight problem-solving. Both types of methods need to be combined in the teaching

process using different strategies to enable students to solve problems as well as to think critically and work together [6].

Media integrated with the technology used in the classroom are highly recommended because recent education systems are rapidly improving, and many types of technologies have been used in this global era. This primarily aims to improve the quality of education. In the research of [7] an analysis is given regarding the learning style tendency for vocational students, where among others, it is mentioned that "for teachers, media integrated with technology has been able to help them deliver not only cognitive values but also affective and psychomotor values. It makes it easier to teach and assess their students because they can cover all needed assessments (cognitive, affective, and psychomotor). Students provide a maximum learning experience and improve their retention to ensure that each related component supports the achievement of learning objectives and matches the characteristics of the students" [8]. An important aspect of the applications used in classrooms is their ability to create connections between students. In this way, teachers can synchronize all student equipment in the classroom to provide an interactive learning experience. This level of connection allows students and teachers to immediately explore new topics and communicate their ideas [9]. In this context, a paper by reference [10] addressed the importance of teacher-student communication and interactivity as key elements in the classroom. In addition, other findings in the study related to the use of smartphones as an educational tool in the classroom suggest that lecturers recognize the importance of educational technology, especially the use of smartphones as an essential tool for classroom purposes and do not have negative attitudes toward integrating technology into the classroom environment [11].

Currently, the roles of blackboards and chalks have been replaced by digital projectors and presentations that are stored electronically. Thus, presentations have become an important part of the student education system, in which the quality of a presentation determines the ability of students to understand a particular topic [12]. One publication [13] highlights the impact of technology on education. Some of the effects of technology are easy access to information, easy retention of information, more information storage, better presentation of information, more interactive teaching, more easily shared knowledge, and more interest in learning. Teachers can also use various applications or reliable Internet resources to improve traditional teaching methods [14]. However, students can collaborate with their classmates through technological applications [15]. Students can learn useful life skills using technology. Using technology in the classroom, teachers and students can develop essential skills in the 21st century [16]. By using multimedia in the learning process, students can obtain more useful information provided by interesting learning media accompanying text, graphics, audio, video, and animation [17]. Animated learning media can train students to achieve their learning goals by creating innovative products. The learning media developed emphasize animation and local wisdom as part of learning. The animation was chosen because students had high imagination and curiosity during elementary school. Students' curiosity is also great with the development of this learning media, which will increase interest and learning outcomes to achieve satisfactory results [18]. The supply of students with personal devices has enabled them to experience new and innovative ways of learning both inside and outside the classroom. Interactive projectors, digital whiteboards, and displays have significantly improved how teachers present information. With interactive display technology, students can not only view information but also interact with content [19]. In this regard, multimedia presentations encourage creativity, reflection, and self-confidence in students, especially those who lack self-confidence in language expression or language skills [20].

Pear Deck is a tool that allows presentations and lessons to be converted into interactive learning materials. Through Pear Deck, we can add several question types, including multiple choice, open-ended, and Draggables, and use Pear Deck's premade templates to design interactive presentations [21].

Pear Deck allows students to become self-motivated and active learners by allowing them to ask inquiring and intuition-challenging questions, instead of simply relaying facts [22]. Also, as stated in the study of reference [2], "the use of Pear Deck supports teachers in building engaging activities and allowing students to be active and time-on-task performers. In addition, Pear Deck also allows students to enhance their comprehension by reflecting on the teacher's feedback." They [23] concluded that the Pear Deck is a fun and interactive tool for pupils to practice reading comprehension. For teachers, it provides a platform for creating a student-centered learning environment in which students can participate in hands-on activities. This lowered the teacher's involvement in the learning process and gave students more control over their reading comprehension.

According to reference [23], the ability to synchronize Pear Deck with Google Slides is an added advantage; for example, teachers can use their own saved material (e.g., images, audio, video, presentations, and book screenshots) and add it to Pear Deck. Lecturers can also obtain pear deck add-ons from one of the Google Slides functions.

This platform possesses several strengths, including accessibility, real-time response system, and session review features. Notwithstanding these flaws, this platform has great potential to improve students' engagement and achievement in both face-to-face and online English instruction [24].

The research gap covered by this research tends to evaluate the use of the Pear Deck online tool to improve students' performance through active learning for primary school students during the technology class, to emphasize the difference between traditional teaching methods and accomplishing lessons using the Pear Deck tool.

3. Methods and Materials

3.1. Sampling Techniques and Procedures. This proposed research was conducted in the primary and lower secondary school "Naim Frasheri" in Prishtina. The population of this research was seventh-grade students, and two parallel

classes, 7/2 and 7/3, were deliberately selected as the research sample. The classes that took part in the research were selected with the help of the technology subject teacher in such a way that the preliminary difference in the achievements and results of the classes was as minimal as possible. A total of 35 students from both grades participated in this study (Table 1). Due to the new rules established in the school at the time of the research, for health care against COVID-19, the number of students in classrooms has been almost halved. The age of the students who participated in the research was about 12 years, while gender participation was mixed and therefore not uniform.

3.2. Instruments and Procedures of Data Collection. As we have mentioned, a deliberate sample of this research was assigned two seventh-grade classes for the selection of which assisted the technology subject teacher, as the purpose was to identify two classes that in terms of results of the student's achievement were approximately at the same level or differed very little from each other. In the selected sample, the students were of the same age and belonged to both sexes.

For our research, we used primary data collected during the research activity through questionnaires, observation methods, tests, and checklists, while secondary data were deficient in terms of potential research that may have existed regarding the use of the interactive digital presentations in schools. The collected data were analyzed and processed through a statistical method using the SPSS program, whereas data systematization and analysis were performed using MS EXCEL. Through the pre-test as a research instrument, we obtained evidence on the current level of students on lessons that have been explained in advance by the teacher of technology. Questions were asked about the application of Microsoft Word using 7th grade literature. A qualitative approach was used during the intermediate phase of the study. In this way, students were kept under observation during the learning process so that we could evaluate their engagement and motivation during teaching classes.

The lessons were organized by interactive presentations made with the Pear Deck added on as a manipulative tool for about four weeks for the experimental group, in the presence of the teacher of the subject of technology. The students accessed the teaching content through their smartphones. The interactive slides used in this case were of the most diverse, through which an interaction was required by students, who were asked to express critical thoughts, give opinions, draw diagrams, choose the correct option in the question submitted, show the emotional state, etc. On the other hand, for the control group for the same period, the same units were explained ("Electrical circuit," "Internet data security," and "Counselling and career guidance") but now with the conventional method. This conventional method instrumented is based in traditional teaching where the teacher mainly used the technology class teaching book and the white board to explain educational concepts. Compared to the experimental class in which interactive digital presentations are applied, students of the control group are not exposed to any form of technology in the classroom while they give the answers verbally by raising their hands or by writing them in the white board when asked from the teacher. The students were motivated to keep notes in their notebooks during the class. In cases where tasks are required to be designed, such as drawing an electric circuit, graph, or diagram, one student writes them in the white board while the others copy the content in their notebooks. In this regard, any other type of question regarding the mood of the students, their concentration, students' motivation to learn or whether they are understanding a teaching concept, is presented verbally from the teacher in a frontal way who also receives the answer verbally (partially or from all students). Consequently, there is no clear overview about the percentage of students who can answer positively or negatively as it is during the use of digital slides with the experimental class while integrating the poll as an alternative in the interactive slides.

Table 1: Gender of the students participating in the research.

Grade/Class	Number of students	*Gender*	
		Male	Female
VII/2	16	7	9
VII/3	19	10	9
Total	35	17	18

Approximately a week after the intervention in both groups, a test was performed for the explained lessons. The students were previously informed of the date of the test. During the observation process, notes were kept on the behaviors of students in the classroom, on the changes observed in them because of the application of technology, and on the results achieved by students during the learning process. In addition, the post-test served as a measuring instrument for the students' knowledge gained after the intervention with presentations through the Pear Deck platform in the experimental group and after the explanation with the traditional methods in the control group. The same lessons were explained to both groups, and the post-test questions were also the same for the two classes that participated in the research, while the questionnaire instrument was applied only to the students of the experimental group. The objective of the questionnaire was to obtain data on the acceptability of the integration of the pear deck in the technology class, the impact of this platform on changing student behavior, and the degree of acceptance of the platform by the students themselves. The questionnaire contained open and closed questions and was based on the principles of confidentiality and anonymity of the respondents. The questionnaire scale reliability was measured using Cronbach's alpha, and its items were formulated based on a Likert scale to obtain students' impressions after the intervention.

4. Results

4.1. Post-test Analysis for Control and Experimental Groups. Table 2 presents the statistical analysis of the post-test results for the control group.

Table 2: Statistical analysis–post-test for the control group.

		Number of students	Worked	Grade
N	Valid	16	15	15
	Absent	0	1	1
Mean		1.06	2.33	4.4000
Median		1.00	2.00	5.0000
Mode		1	2	5.00
Std. deviation		0.250	0.488	1.12122
Minimum		1	2	1.00
Maximum		2	3	5.00

From the abovementioned results generated through SPSS, we can see that as in the pre-test, in the control class of 16 students, 15 underwent testing while one student was absent. The grade with the highest frequency in the class is 5, which is also reflected through the median value within the grade column, where students mostly worked partially (the mode value was 2 in the column worked) while the most common grade was identified with a median value of 4 under the column grade, while the arithmetic mean is 4.4, that is, higher than in the pre-test (4.0)

In addition, Figure 1 shows that one student (7%) received a poor grade of 1, no student received a grade of 2, and one student received an average grade of 3. Three students (30%) received a grade of four, while 10 students (67%) received a maximum grade of five.

From Table 3, we can see that in the post-test for the students in the experimental class, the student score increased, so the average grade was 4.8, while the minimum grade was 4. Value 3 of the mode under the column worked shows that most students have worked fully, so the largest number has received the maximum number of points.

As seen in Figure 2, three students received a grade of four (16%), while the number of students who received a maximum grade of five was 16 or 84% (see Figure 2).

4.2. Data Analysis. For data analysis, we used inferential statistics, which are especially useful in experimental and quasi-experimental research designs, and we used the *t*-test to determine the difference between the average performances of both groups.

As mentioned above, our research questions are as follows:

(i) Do interactive digital presentations help students in achieving better results in learning during the technology class?

(ii) Does Pear Deck platform have a better impact in use during the learning process over traditional forms of lesson development?

As shown in Table 4, the control group consisted of 15 students, whereas the experimental group consisted of 19 students. The mean value for the control group, which is 14.40, increases in the post-test to 16.93, the same as it increases for the experimental group from 16.68 to 19.32. The findings retrieved from the tests for both groups answer the first research question: "Do interactive digital

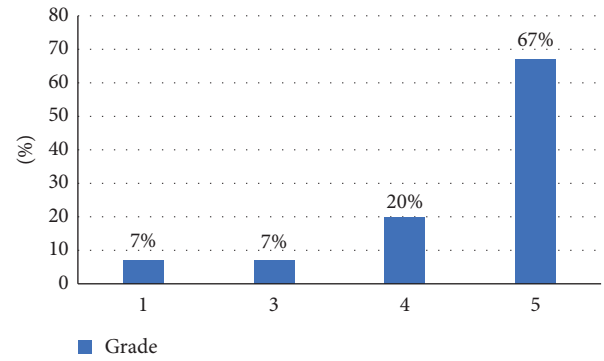

Figure 1: Post-test success statement for the control classes given in percentage.

Table 3: Statistical analysis–post-test for the experimental group.

		Number of students	Worked	Grade
N	Valid	19	19	19
	Absent	0	1	0
Mean		1.00	2.79	4.8421
Median		1.00	3.00	5.0000
Mode		1	3	5.00
Std. deviation		0.000	0.419	0.3763
Minimum		1	2	4.00
Maximum		1	3	5.00

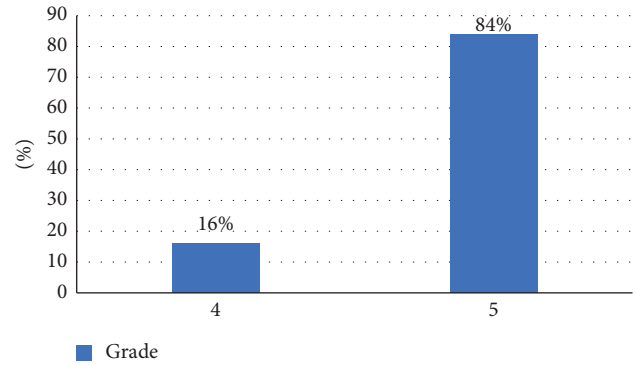

Figure 2: Post-test success statement for the experimental classes given in percentage.

presentations help students in achieving better results in learning during the technology class?." As we can see, the standard deviation is lower for the experimental group than for the control group, while it is noticed that this value decreases easily in the post-tests for both groups. The standard error mean was lower for the experimental group in the post-test (0.367), which indicates an increase in the result of this group after the intervention compared with the control group (0.954).

In Table 5, the Sig values are of interest. (2-tailed) which must be less than 0.05. In our case, these values are 0.016 and 0.031, respectively, which confirms that the difference between the mean values of the two groups after the intervention was notable. Value of Sig. (2-tailed) also supports our hypothesis that "Students who use interactive

Table 4: Group statistics of pre-test and post-test for the control and experimental groups.

Pre-test vs post-test	Control and experiment group	*N*	Mean	Std. deviation	Std. Error mean
	Control group	15	14.40	4.239	1.095
	Experimental group	19	16.68	2.428	0.557
	Control group	15	16.93	6.369	0.954
	Experimental group	19	19.32	1.600	0.367

Table 5: Independent sample test.

		Levene's test for equality of variances		*t-test for E quality of means*				
		F	Sig.	*t*	D*f*	Sig. (2-tailed)	95% confidence interval of the difference lower/lower	
Post-test	Equal variances assumed	7.590	0.010	−2.53	32	0.016	−4.2	−0.468
	Equal variances not assumed			−2.33	18.1	0.031	−4.52	−2.37

presentations achieve higher learning outcomes and are more interactive in the class." In this regard, it is worth noting that the data analyzed in Tables 4 and 5 answer the first question of our research.

What was said is reinforced by formulas (1) and (2).

$$t(df) = t\ \text{value}, \quad p = p\ \text{value}, \tag{1}$$

$$t(18.14) = -2.33, \quad p = 0.031 < 0.05. \tag{2}$$

Therefore, our hypothesis is proved.

4.3. Questionnaire Data Analysis. The designed survey questionnaire contained 12 questions, 11 of which were closed questions, where students chose the answer by choosing an option, and one open question, where students responded in writing. The questionnaire was administered only to the experimental group, as this was the group to which the interactive presentations were applied during the teaching process in the subject of technology. Its reliability was checked using Cronbach's alpha, which was 0.704, indicating acceptable internal consistency in respondents' responses [25].

A total of 19 questionnaires were distributed to the same number of students, of which 9 were boys (47%) and 10 were girls (53%). The findings retrieved from tests for both groups by using the questionnaire as a data retrieving tools, answer positively to the second question of our research: "Does Pear Deck platform have a better impact in use during the learning process over traditional forms of lesson development?" This is illustrated in Figure 3.

In one of the questions of the questionnaire about how much the students enjoyed the use of Pear Deck during the class, 95% answered "Very much" while 5% answered "Somehow," which is also reflected in Figure 3, while none of the students chose "Little" or "Not at all" options to express the lowest level of satisfaction.

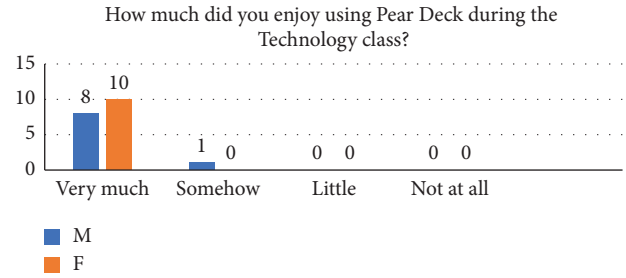

Figure 3: Overview of the results that show how much students enjoyed using pear deck during the technology class.

Based on the results shown in Figure 4, we see 13 students, of whom six boys and seven girls consider that through interactive slides, they have had the opportunity to be more interactive with the lessons explained, while the interactive slides helped "Somehow," claimed six students, them 3 boys and three girls.

In the experimental group, a high readiness for the use of Pear Deck was observed during the lesson with enthusiasm for the development of the lesson by means of traditional methods in the control group. In this context, for example, students were asked to define the parts of an electrical circuit, to draw an electrical circuit, to choose the correct answer, or, in general, to give critical opinions, judge objectively, and evaluate intellectually. The results for this questionnaire question are shown in Figure 5.

5. Discussion

The purpose of this research was to examine the impact and advantages of using interactive digital presentations in the realization of a lesson and to emphasize the importance of using this technology platform to create interactive content in the classroom, through which students increase their level of cooperation with the teacher and actively participate in the learning process. In the context of the results obtained from this study, the importance of building collaborative relationships between teachers and students has been

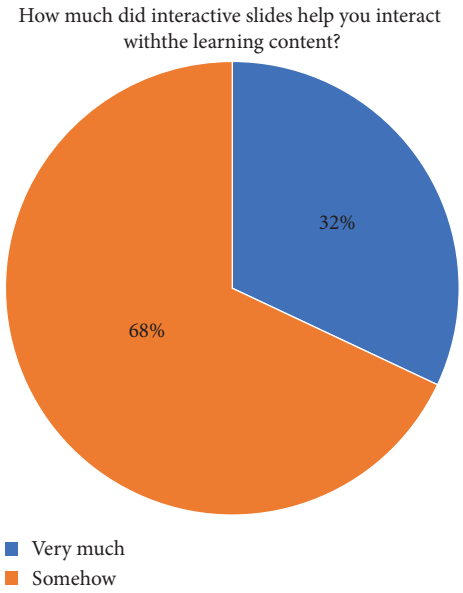

Figure 4: Outline of the results showing how many interactive slides enabled students to interact with the learning content.

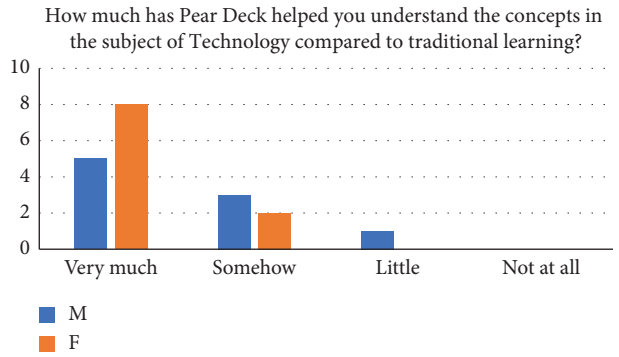

Figure 5: Outline of the results showing pear deck effect in learning concepts over traditional methods.

highlighted, so that students can be more committed to the learning process, while teachers also develop a sense of higher self-confidence about the use of new technologies in the classroom. In this way, students remain satisfied with their learning experience, and at the same time, their motivation to learn increases.

From the findings of this research, we have seen that the experimental class students compared to the control class students, showed higher interactivity during the technology classes, and scored higher in the test held after the intervention. This is reflected in the students' results in the post-test, where the control group had a mean score of 4.4 (see Table 2) compared to the experimental group, with a mean score of 4.8 (see Table 3). This shows that the average grade for the experimental class remains higher after the application of the experiment compared to the other class who have learned with traditional methods and have a lower average. The standard error mean was lower for the experimental group in the post-test (0.367), which indicates an increase in the result of this group after the intervention compared with the control group (0.954). Furthermore, an achievement was marked by raising the minimum grade of the experimental class, which in the pre-test was 3, while in the post-test was 4, in contrast to the control group, for which the minimum grade was 1 and the maximum grade was 5 and did not change even in the post-test.

In his research [26], we examined the use of student response systems (SRS) in a high school mathematics classroom. Three different SRSS were used during this study: eInstruction clickers and two online tools–Pear, Deck, and Poll Everywhere. The findings of this work stated that when asked which SRS students like the best, an overwhelming 54% liked Pear Deck while the remaining students were equally divided between the instruction clickers and "No Preference." Most of the students who chose Pear Deck mentioned that they liked the variety of question types available; they liked to answer questions using drawing tools and draggable dots.

The findings of our research are also supported by the findings in reference [2], which state that students found that Pear Deck engaged them to be more participative in this criterion, as Pear Deck changed students' passive behavior to be active social learners. This is because the Pear Deck platform will inform teachers about students who have responded to teachers' tasks/questions and who have not yet responded to the teacher dashboard in real time. Similarly, the conclusions drawn about student motivation and the opportunities offered by Pear Deck are based on the conclusions drawn in [23], according to which paper the students' motivation was noted to be increasing, and they gave favorable feedback on Pear Deck's application in reading comprehension learning. On the other hand, teachers provide a platform for creating a student-centered learning environment in which students can participate in hands-on activities. Similarly, our findings are reflected in reference [22], where the results show that active learning pedagogy activities are significant factors that increase students' performance in comparison to students in traditional classrooms.

In a study by [27], 155 students were subjected to a 10-item questionnaire to measure how they felt about using presentation graphs compared to traditional classroom teaching. 90% of the respondents believed that presentation graphics were more effective in capturing attention than traditional lectures, and 85% said it was more interesting. In another study [28], students were exposed to traditional lectures or lectures supplemented with presentation graphics where notes were posted online. Students who had undergone teaching with presentation graphs reported that this type of learning was more interesting and enjoyable and that notes posted online improved learning.

Among others, we should understand that this study has some limitations that should be considered in future research. First, we faced a time constraint: the research was conducted for a short period of time due to adaptation to the students' the school calendar year and involved a modest number of students who served as a research sample.

Second, we had limitations in school selection. As we have mentioned, the research was conducted in a lower secondary school in Prishtina and involved about 35 students. It is considered that the selection of a larger number of schools and, consequently, the involvement of more students in the study would provide more valuable data that would strongly support the hypotheses of this research.

The other limitation relates to equipping students with personal computers—one of the obstacles encountered by students in the experimental class—is that they have not been equipped with personal computers to access the Pear Deck platform page from where they can give their answers according to the presentation requirements displayed by the subject teacher. In such cases, students used their personal phones to interact with content.

Poor Internet connection: Another limitation of this research is the weak Internet connection in the school, which has occasionally caused barriers for students to access online lectures. In such cases, some students have utilized the school network, while others have been connected to the network shared by their classmates from their phones through 3G network technology.

6. Conclusion

The results of this study have shown that students have seen the application of interactive digital presentations in the technology classes as positive and useful and have considered it a fruitful alternative in terms of encouraging them to give logical answers and think critically. Among others, the results of this research have given a positive indication of the increase in learning outcomes of students in the experimental class who underwent the intervention compared to the students in the control class who had learned with traditional methods. These achievements and results are reflected throughout the learning process in the interaction of students with the content, as well as in the post-test, where the overall success of this class was notably more positive than that of the control group. From the data analysis, we have seen that the students in the experimental class who used interactive slides organized through Pear Decks during the research period, were able to better memorize the learning concepts as they had the opportunity to draw or sketch the answers, express critical thoughts, write the answer in writing, or choose the correct option through smart mobile devices. Therefore, the interaction with the learning content has positively influenced the students to focus more on the learning process and consequently score higher achievements.

Based on the results of this work, we suggest the widespread and gradual integration of interactive presentations through Pear Deck platform in all classes and subjects to avoid a profound difference between the classes or students who perform learning using interactive digital slides and classes that perform learning based on traditional methods.

The conclusions drawn from this research provide further aid to Kosovo's education system in terms of providing information on the application of various technological tools in the classroom and the impact of these technologies on students' learning and achievement. As this research highlights the positive effects of using interactive presentations through Pear Decks in the classroom, this could serve as an incentive for the country's primary and secondary schools to consider integrating this platform into the learning process.

In another segment, the results from this research represent a contribution that can serve students who are part of higher education, with special emphasis on students of the Faculty of Education, who could use the data from this study to obtain information about the usability of the Pear Deck app. On the other hand, the results of the study will serve current or future teachers to be informed about the integration of this platform in the teaching process. The use of the interactive presentations created through Pear Deck, even if not as a large-scale project that could be implemented in many schools or involve a certain structure or level of education, can nevertheless be used on its own initiative by students, pupils of primary and secondary schools, and various certified teachers or lecturers who see the benefit of using the pear deck compared to other technology platforms of this nature.

7. Recommendations

With all contribution of this research work, it is considered that it should be continued with other similar research which can study vertically and horizontally the impact and features of the Pear Deck platform during the integration of this tool in the interactive presentations in the learning process. Considering the features of this research, such as the population, sample, selected, schools, nature of the research, etc., it is recommended to conduct other research with the below specifications.

7.1. Future Research

(i) To conduct further studies in the schools of the Republic of Kosovo regarding the teacher's experience in applying Pear Deck tools in digital presentations in the classroom. This is because this research was only focused on the experience of students during the integration and use of Pear Deck, while other research would be welcome, which would shed light on the experience of teachers in using this tool during the learning process.

(ii) To conduct further studies on the experience of students when creating interactive presentations through Pear Deck. These presentations can be made in the quality of control tasks by the teachers.

(iii) To conduct research on the difficulties and challenges of integrating Pear Deck technology in lessons and not specifically only in the subject of technology, but the field of study should also include other subjects without distinction.

Data Availability

The data that support the findings of this study, including Power Point presentations and Appendicies, are placed on Google Drive with closed access. We will open access upon request and with a strong enough reason.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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