

## **The Effects of PowerPoint Presentations on EFL Learners' Performance and Attitude**

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### **ABSTRACT**

This study examined the effects of PowerPoint presentation on sophomore university students' performance and attitudes. The participants from intact classes were randomly assigned into experimental and control groups; the experimental group was instructed via PowerPoint presentations along with the textbook in simple prose texts whereas the control group was taught only through the textbook. The results of an independent sample *t*-test demonstrated that the experimental group outperformed the control group in terms of their post-test scores. Besides, these students had strong positive attitudes towards the use of PowerPoint in the course.

*Keywords:* PowerPoint, performance, attitude, simple prose texts

### **INTRODUCTION**

The impressive advances in science and technology along with an increasingly pressing need for the application of new technological apparatus in various kinds of disciplines are assumed to be among many key factors leading to the quick emergence and employment of these technological apparatus for different purposes. Nowadays, the application of varying modes of technology in almost every presentational setting has become necessary. Moreover, the application of innovative learning technologies urges the pedagogical institutions to come up with serious challenges in relation to the possible consequences of introducing these unique tools to students. As one important environment among others which really needs

to be in line with the developing nature of new instructional practices, universities have not been an exception. Consequently, the status of education in the university context has changed greatly regarding the acknowledgement and acceptance of new

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instructional techniques supplemented by a mode of innovative devices using computer-based systems. Every qualitative difference in the teaching methods because of the employment of any technological modes can possibly create a difference in students' learning experiences.

Considering prior research on the effects of PowerPoint utilisation for presentation or teaching, there searchers have come up with different outcomes. Some studies have confirmed the positive impact of PowerPoint on increasing the learning outcomes and positive attitudes about the course (e.g. Tang & Austin, 2009; Kahraman, Kodan, & Cevik, 2011); other studies have appreciated the significant role of PowerPoint in eliciting positive attitudes but not in enhancing performance (e.g. Apperson, Laws, & Scepanisky, 2006; Babb & Ross, 2009; Johnson & Christensen, 2011).

### **THEORETICAL PERSPECTIVES**

Teachers' preferences concerning the application of various teaching methods is assumed to be one of the important factors that can significantly overshadow learners' educational experiences (Marton & Booth, 1997). The incorporation of new technologies as supplementary devices can be carried out specifically with an aim to cater for different individuals' needs and preferences, which in turn may bring about better transmitting of information on the part of the presenters (Milliken & Barnes, 2002). Innovative technologies like PowerPoint as one facet of multimedia

presentation are commonly believed to be much more efficient in enhancing students' performance in recalling materials later as it is possible for the presenters to take advantage of different modes of materials (visually-based or auditory-based) used to deliver the gist of information being communicated. Apperson, Laws, and Scepanisky (2006) suggested the existence of close interrelations between the presented graphics and students' satisfaction with the way they receive the new information. However, here the appropriate organisation of information for creating the needed schemas in the mind is considered among the priorities which any multimedia-supported presentation should observe. It is generally believed that the learner is enabled to process information received through two channels more fruitfully if the upcoming information has a right connection with previously stored materials in the mind (Mayer, 2001). Similarly, Baddeley (1992) stated that using multiple channels can increase the amount of information processing in the brain. Mayer, (2005) as one leading figure in multimedia learning, notes that the incorporation of words with pictures triggers more content to be internalised in long-term memory. In addition, he states that the efficacy of multimedia utilisation (pictures plus words) relies on the simultaneous use of them in delivering the materials because simultaneously, learners can focus more intently on the information.

However, as Ayres and Sweller (2005) proposed, the use of multiple channels (e.g. auditory and visual), although it can

compensate for working memory limitations in organising huge amounts of information, does not preclude the problem of memory overload. In a definition of learning technologies, Ellis, Hughes, Weyers and Riding (2009) referred to these technologies as the tools which could help learners to achieve the desired outcomes better through providing more learning opportunities. As the definition demonstrates, it is the learner and the learning outcome which should be closely taken into consideration in every pedagogical setting. In general, all learners with varying individual characteristics, styles and strategies need to be closely considered to make sure of any possible outcomes resultant from bringing innovative experience of deliverance into the classes.

The wholly advantageous idea of employing PowerPoint in enhancing learning was confronted by Tufte (2003) regarding the tool hindrance role in the right transmission of concepts discussed due to its complex nature. It was believed that PowerPoint would avoid the learners to have any control over the presented materials because of its pre-planned and already created nature; it could also lessen the amount of class discussion and interaction.

Hulls (2005) asserted that although electronic projection has become the ubiquitous tool mostly due to its ability in the employment of different modes of materials manifesting information being presented in every presentation context, it is also assumed among the key factors leading to ineffective information handling. Nevertheless, it is proposed that

the presenter can eliminate the lack of interactivity and engagement on the part of learners who used to be exposed to complete and one-way presentations via displaying just the basic and key points on each slide and encouraging the students to have an efficient participation in completing the remaining parts of the information.

### **EMPIRICAL STUDIES**

The study by Susskind (2005) investigating the effect of PowerPoint on general psychology students' performance, self-efficacy, motivation and attitudes revealed that lecture style (with PowerPoint and without it) was not of any significant importance in enhancing the amount of audiences' academic achievement; however, the use of PowerPoint could be efficient in increasing positive attitudes towards the presented materials. In a measure obtained from the participants from five faculties regarding the impact of PowerPoint in influencing students' experiences in the classrooms, Apperson, Laws and Scepanisky (2006) argued that PowerPoint can affect the presentation organ is at ion, clarity, entertainment and presenter's behavioural though this is not the case in increasing the performance.

Elsewhere, Babb and Ross (2009) carried out a study aimed at examining the role of slide availability on the learners' attendance, participation and end performance. The results confirmed that those students who used to download the materials before attending the session were more enthusiastic to participate

in the classes. It was suggested that the availability of information to be discussed in the classroom on the Internet allowed the learners to decide whether they needed to attend the classes forgetting more information regarding the complex parts. However, there was no significant difference among the scores of those who downloaded the materials before the class, those who got the materials on the day of presentation and those who downloaded the lectures after the session. The finding related to the lack of any significant difference in the learners' achievements due to the use of PowerPoint was also confirmed in the results of the study by Grabe (2005).

Tangen, Constable, Durran, Teeter, Beston and Kim (2011) analysed the responses of 90 participants' who were exposed to three different presentation conditions, namely, slides with consistent images and information combination, those with only the images which were relevant to the texts but not the exact transmitter and just text-based ones. The participants showed strong desire and accuracy for the slides accompanying pictures related exactly to the written information. It was discussed that this mode of presentation could be of more efficacy and meaningfulness, because the images could directly elaborate on the information content and could provide a great number of connections among the different parts of information in the memory.

In an attempt to investigate whether there were individual differences affecting students' attitudes towards pedagogical technologies, Tang and Austin (2009)

found that the application of one teaching technology could not suffice different needs and learning styles. It was also suggested that PowerPoint had a considerable role in directing into the better learning outcomes compared to the other technology modes (such as video, projector etc.) studied.

In an effort to examine the lectures' delivery styles, Lanir, Booth and Hawkey (2010) revealed the advantages of solving the problems of space limitedness in slides forcing the presenters to put only a small amount of information through employing the two-stream screen. It should be mentioned that in this study, a regular one-stream lecture was used which was supported by slides in the role of visual aid, and a two-stream presentation mode was utilised with the use of two screens: one for showing the basic content and the other as a subsidiary tool in the role of clarifier. Overall, it was discussed that this mode of presentation could improve the power of retention by providing the needed input. Besides this finding, it was also found that there was no significant relationship between using more visually based information and the recall of verbally communicated parts.

Wecker (2012) contended that concise slides increased the memory capacity to internalise the necessary parts that could actually serve to improve the learners' retention ability because slides which did not have excessive written information on them would not distract the learners' attention. It was also suggested that verbally and visually presented information could be better remembered compared to just

one-channel based ones. As noted in the theory of comprehension (Mayer, 1984; Wittrock, 1990), the courses in which the deliverance of both kinds of information (visual and verbal) is intended, the instructor should be careful about the pace and order of presentations in order to help learners make the needed connections between the materials coming from two channels.

Mayer (1997, 2001) attributed the occurrence of meaningful learning to the construction of relevant and urgent interconnections between the visually-based parts displayed via illustrations and verbally-based parts presented via explanations in text-based materials. However, it was contended that multimedia opportunity could not always cater for all learners to achieve the better outcomes, as was the case in low-ability learners who did not have the ability to produce the aforementioned connections between the two separated parts to gain the consistent whole that could lead to the comprehension. Therefore, care should be taken when dealing with low-ability learners as they are not able to connect these two channels.

In a study reviewing critical perspectives towards PowerPoint integration into different contexts, Harris (2011) challenged the complete and prefabricated nature of some electronic-based presentation materials that did not leave any room for user's creativity and critical view to question the essence of some provided materials. It was also noted that the close consideration of every context for which the application of

any mode of the technology was aimed could guarantee beneficial effects of utilisation.

As one necessary learning material in the EFL context in universities, reading-based courses are considered among those courses which call for more interest and concentration on the part of the learners to be understood. This is mostly because reading practices are perceived by many learners as uninteresting and somehow monotonous activities. The nature of reading-based materials is such that students need to go through the lines to be able to answer the comprehension questions later. In addition, the subject of many reading texts is not of any interest to the students to make them read the text eagerly. In this situation, the utilisation of some visually-supported materials that can be of any help in encouraging learners towards the reading of the material and assisting them towards better comprehension and retention of the materials can be efficient. The application of PowerPoint presentations seems to actualise the possibility of adding the image-affluent parts to the text-affluent materials.

Although the employment of PowerPoint for many pedagogical and non-pedagogical purposes has been the subject of many previous projects, the application of PowerPoint in reading-based materials instruction has not been to date the concern of these studies. In order to fill this gap the present study aimed at finding answers to the following questions:

**Q1:** *Is there any significant difference between the experimental*

*group, which is instructed with PowerPoint along with the textbook and the control group, which is instructed with the textbook only?*

**Q2:** *What is the attitude of the participants in the experimental group towards the use of PowerPoint?*

The null hypothesis for the first research question is presented below. Since the second research question is of a qualitative nature, no null hypothesis was produced for that.

*H<sub>0</sub>: There is no significant difference between the experimental group, which is instructed with PowerPoint along with the textbook, and the control group, which is instructed with the textbook only.*

## **METHOD**

### *Participants*

Measures were obtained from 40 sophomore EFL students (21 males and 19 females, 18-24 years of age) from Mahabad Azad University, who were randomly assigned to two comparison groups, which aimed at investigating the learners' post-test performance and attitudes. All of the participants were non-native students majoring in English translation. These 40 EFL university students were included in this quasi-experimental design in order to answer the research questions of the study.

## **MATERIALS**

### *Oxford placement test (OPT).*

In order to arrive at the final number of the participants to be considered in the study, a test of language proficiency, the Oxford Placement Test (OPT), was administered to the total of 48 students of the university in two intact classes with an aim to see whether there was any difference between the students regarding their general proficiency level. On the basis of the scores on the OPT, eight participants were omitted as the outliers and the remaining 40 were included in the study.

This test consisted of two parts: grammar and reading; the number of items comprising each subpart was 100 prompts followed by multiple-choice response format. The marking kit with users' guide and diagnostic key comprised a separate marking mode for each subpart of the test. The reliability of the test was checked; the Cronbach's Alpha for the grammar and reading sections were 0.85 and 0.79, respectively. The content validity of the test was checked by three experts from Mahabad Azad University and it was confirmed to be valid.

Since the Simple Prose Texts course is a kind of reading comprehension course, the OPT was considered a suitable test for checking the reading comprehension skill of the participants. Therefore, this test was used to make sure of the homogeneity of the sample before the treatment.

### *Attitudinal questionnaire tapping PowerPoint*

An adapted version of the attitudinal questionnaire first developed by Uz, Orhan and Bilgiç (2010) was distributed to measure the experimental group's attitudes towards PowerPoint application in their course. It consisted of three main parts. The first part focused on the demographic information on the learners' age and sex. The second part included 23 items in a 4-point Likert scale ranging from "strongly disagree" (1 point) to "strongly agree" (4 points), all of which were about the learners' ideas on the integration of PowerPoint in their course and some specific items about the different parts used in each slide. The third part of the questionnaire contained 4 open-ended questions asking about the learners' perspectives on PowerPoint. This last section was used to provide the collection of the responses, which could not be anticipated.

A pilot test was conducted to check the reliability and validity of the questionnaire; Cronbach's Alpha test of internal consistency was used, which confirmed the reliability of the attitudinal questionnaire at 0.80. This shows that there was consistency among the answers given to the questions in the survey. The content validity was inspected by three professors of Mahabad Azad University.

### *Simple prose texts*

The material covered in both groups was a textbook written by Rezai and Oliyaie-Niya. The book consisted of 28 short stories of various lengths. Each story was followed

by a vocabulary section, some questions to gauge reading comprehension and asking about the writers' ideas and, finally, some on literary techniques used in the story.

### *Test after the treatment (Post-test)*

After the completion of treatment, the students participating in both groups took part in the test after the treatment. The test was prepared by the teacher who was the instructor in both groups. The test was based on the materials of the book and all the other pieces of information that were covered in the class. This test consisted of 35 multiple-choice items, 30 on the stories covered during the treatment in both groups, and 5 reading comprehension questions based on an unseen text. The test was piloted on a similar sample and the Cronbach's Alpha reliability was 0.72. The content validity as the degree of the correspondence between the test content and the content of the materials to be tested was also addressed. To achieve the desired content validity, two experts familiar with the book reviewed the test.

## **PROCEDURE**

This study aimed at investigating the effects of PowerPoint on improving the Iranian EFL university students' performance and attitudes. To do so, the following procedures were followed.

The first step in carrying out the project was the administration of the Oxford Placement Test (OPT) to discover the learners' general proficiency, especially in reading comprehension. The test was

distributed among the 48 students, who constituted the two intact classes of Simple Prose Texts. The proficiency test was conducted in one session. Eight participants who were the outliers were omitted from the study. After ensuring the homogeneity of the participants in terms of their general proficiency, the two intact classes were assigned randomly to the experimental and control groups. There were 20 students participating under experimental condition and 20 students participating under control condition.

During the treatment, the control group was taught using the traditional textbook-based approach, without the utilisation of PowerPoint and the experimental group was taught using the PowerPoint software alongside the textbook during 12 sessions of treatment. To make sure of fair comparison, it was attempted to make all the other instructional parts the same except for the use of PowerPoint. Therefore, it was attempted to make the utilisation of PowerPoint software the only difference between the two comparison groups. Participants in both conditions were told to read the text before attending the class; that allowed the classes to begin by giving the summary of the story by the students and discussing the objectives of the text. Then, the students in the experimental group were exposed to slides related to each part of the story. Almost all the first slides of each story were allocated to the pictures of the writer and his family (if there was one) taken from the Internet; then, it was followed by the picture of some the

characters who appeared in the story. The attempt was made to include pictures similar to those of the characters described in the texts. There were also some slides which showed different scenes from films made of the stories. The remaining slides included information related to the specific short story. Both groups completed 12 sessions of instruction and one additional session devoted to the test after the treatment.

## RESULTS

### *Performance*

As for the test of normality (TABLE 1), the results of the Kolmogorov-Smirnov test showed an on-significant result (a significance value of more than 0.05) that was indicative of normality. As shown in Table 1, the significance value for the experimental group was 0.20, and the significance value for the control group was 0.07. This suggests that the assumption of normality had been met. Therefore, the *t*-test could be carried out.

The results of independent-samples *t*-test for proficiency (TABLE 2) demonstrated that the two groups were the same in terms of proficiency level as assessed by the OPT. The results of the analysis could be summarised as:  $t(38) = 1.10$ ,  $p = 0.28$ ;  $p > 0.05$ . As shown, the mean score of PowerPoint group ( $M=73.50$ ) was very close to that of the control group ( $M=71.45$ ).

Independent-samples *t*-test of the test after the treatment (post-test) was conducted to compare the final simple prose cores of the experimental (PowerPoint) and control (traditional) groups (see TABLE 3 and 4).

The results of the analysis revealed that there was a significant difference in scores for the experimental group ( $M=16.08$ ,  $SD=3.51$ ) and the control group ( $M=9.65$ ,  $SD=0.85$ );  $t(21.19)= 7.96$ ,  $p=0.00$ ;  $p < 0.05$ . The magnitude of the differences in the mean (mean difference =6.43) was very large (eta squared =0.62). Thus, the first null hypothesis is rejected. In other words, the students who were instructed by PowerPoint as a supplementary apparatus performed better than those taught only by the text book. As a consequence, it was concluded that the use of PowerPoint had a significant effect on the achievement of the experimental group.

### Attitudes

TABLE 6 shows the distribution of responses for the questionnaire. In the case of item one, 100% of the learners believed that the layout and design of the slides assisted them in understanding the subject of the passage. For item two, 90% agreed that the design of the slides did not distract their attention. Sixty-five percent of the students confirmed that the important points of the texts were highlighted in the slides. For item four, 75% chose that the font size of the texts was not problematic for them to read. Regarding item five, in total 85% were satisfied by the length of the texts displayed

TABLE 1  
Test of normality

	Participants' Group	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistics	df	Sig.	Statistics	df	Sig.
Proficiency test scores	Powerpoint	.13	20	.20	.95	20	.40
	Traditional	.19	20	.07	.93	20	.18

TABLE 2  
Independent sample T-Test for the proficiency test

Test score	Equal variances assumed	Levene's Test for Equality of Variances					Mean Difference
		F	Sig.	t	df	Sig. (2-tailed)	
Test score	Equal variances assumed	1.37	.25	1.10	38	.28	2.05
	Equal variances not assumed			1.10	34.99	.28	2.05

TABLE 3  
Descriptive statistics for the proficiency test

	N	Mean	Std. Derivation	Std. Error
Power Point	20	73.50	6.71	1.50
Traditional	20	71.45	4.96	1.11

on the slides. The students' reactions to the visuals used on the slides to help them understand abstract concept, increase interest in the course, direct attention to the passage and remember the story during the test were 95%, 100%, 95% and 100%, respectively. In addition, 75% wanted more visuals to be used on the slides. Questing for the amount of visuals' irrelevancy to the subjects being taught, 85% was disagreeing. Ninety-five percent agreed that they preferred using PowerPoint in all their courses while 100% of the students had positive attitudes toward clips used in slides, 75% believed that PowerPoint could help teachers to be well-prepared for the lessons, 65% stated that PowerPoint did not kill the time of the class or teacher and 95% confirmed the provision of PowerPoint for giving additional information. As expected, a great number of the students was positive in their attitude towards the application of PowerPoint in class.

Similar analysis carried out in the case of the closed-ended attitudinal questions were used to examine the results of the open-ended question. In response to the question 'Do you think that integrating PowerPoint with the text book is beneficial to learning?' 100% of the students viewed the PowerPoint as an efficient tool in guiding towards more efficient learning because with PowerPoint, the instructor could highlight main points. In addition, the participants believed that PowerPoint could focus learners' attention more effectively, and avoid note taking, which the learners thought did not allow them to attend to oral explanations. In every respect, PowerPoint helped them employ visual and auditory memory simultaneously, could be helpful in creating the big picture of the materials in the learners' mind and could introduce variety, which is helpful in learning.

With regards to the question 'Which one seems interesting to you, teacher's oral

TABLE 4  
Independent sample *t*-test for the post-test

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means			
		F	Sig.	<i>t</i>	df	Sig. (2-tailed)	Mean Difference
Post-test scores	Equal variances assumed	38.34	.00	7.96	38	.00	6.43
	Equal variances not assumed			7.96	21.19	.00	6.43

TABLE 5  
Descriptive statistics for the post-test

	Participantgroups	N	M	Std.Derivation	Std.ErrorMean
Post-testscores	Powerpoint	20	16.08	3.51	.79
	Traditional	20	9.65	.85	.19

presentation or slide-based presentation?' almost 16 (80%) learners chose the slide-based presentation. They believed that PowerPoint was more motivating, was better in retaining their attention, was beneficial in helping them recall the material because of visually-assisted parts, was organised and time efficient and could incorporate additional information. However, 4(20%) learners preferred both of styles of teaching.

With respect to the question 'Do you think that the number of images used in each slide is enough?' 85% was satisfied with the amount of visuals used. In response to the question 'Do you think that the use of PowerPoint presentation will help you in recalling the information?' almost all the students answered in the affirmative. The majority of the participants believed that the success of the slides in helping the learners to remember the material taught in the class depended on their visually-supported materials, which motivated the learners to attend to the lessons carefully and enthusiastically.

## DISCUSSION

This study aimed at investigating the impact of PowerPoint integration with a course book on EFL university students' performance. The results of the independent samples *t*-tests indicated that there were statistically significant differences in the post-test scores of students who were taught through the PowerPoint-supported method and those who were taught using only the text book.

The results, which confirmed the positive effects of PowerPoint on the experimental group, are in line with the findings of the study by Tang and Austin (2009), in which the impact of PowerPoint in increasing learning and motivation was confirmed. In addition, the same results were found in the study by Kahraman, Kodan and Cevik (2011).

The results of the present study are not inline with the results of studies by Apperson, Laws, and Scepanisky (2006), Babb and Ross (2009), Johnson and Christensen (2011) and Susskind (2005), who all found no improvement in final scores with the employment of PowerPoint.

The beneficial effect of PowerPoint in bringing about the significant difference between the conditions can be due to the novelty of its application in the context of Iran. The learners' appreciation and satisfaction, confirmed by their answers in the questionnaire, seem to have resulted in their better performances. It can be thought that the application of PowerPoint, through catering for different learning styles, can affect the learners' learning ability. The application of PowerPoint can help students have access to various kinds of information in different shapes and manner so this variation can possibly make the learners attend to the materials more carefully and eagerly at the same time.

The second aim of the study was to discover the experimental group's opinions regarding the application of PowerPoint. The qualitative analyses of the attitudes and beliefs questionnaire supported the fact that

TABLE 6  
Distribution of Responses

Item	Strongly disagree (%)	Disagree (%)	Agree (%)	Strongly agree (%)
1. The layout and the design of the slides help me to understand the subject as a whole.	0	0	40	60
2. The layout and design of slides do not distract my attention during the course.	5	55	55	35
3. I can understand the important points about the texts from the layout and design of the slides.	0	5	30	65
4. The font size of the texts used in presentations does not make it difficult to read for me.	10	15	30	45
5. I think the length of the texts presented in one slide is appropriate.	0	15	50	35
6. The visuals used in slides enable me to realize abstract concepts.	0	5	50	45
7. The visuals used in slides increase my interest in the course.	0	0	65	35
8. I want more visuals to be used in slides.	0	25	40	35
9. The visuals used are related to the subjects being taught.	0	0	55	45
10. I understand the course better when Power Point presentation is used along with the teacher's explanations.	0	0	50	50
11. The pictures used in slides help me more in recalling the story.	0	5	50	45
12. The pictures used in slides help me direct my attention to the texts.	0	5	65	30
13. The use of pictures is excessive and irrelevant.	60	25	5	10
14. The films used can help me in reminding the subjects and characters of the stories.	0	0	25	75
15. Use of Power Point in all courses can be helpful.	0	5	50	45
16. The visuals used in each slide motivate me to listen carefully to the course.	0	15	50	35
17. I prefer all courses to be presented using Power Point presentation.	0	5	55	40
18. Power Point presentations do not cause the course to be routine.	5	5	20	70
19. I understand the course better when a Power Point presentation is used.	0	0	55	45
20. Power Point presentations help me to direct my attention to the course.	0	10	60	30
21. I think that the lecturers using Power Point are better prepared to their courses.	5	20	40	35
22. Power Point presentations decrease the time available for teacher to explain the important parts of the textbook.	15	50	30	5
23. Use of slides enables the teacher to give additional but relevant information.	5	0	40	55

the experimental group had positive attitudes toward the application of PowerPoint in the course. The majority of the learners were satisfied with PowerPoint and the accompanying visual elements used in each slide. This part of the findings are in line with the findings related to the participants' attitudes found in the study by Kahraman, Kodanand Cevik (2011). It can be noted that in the majority of studies in which the role of PowerPoint have been investigated according to various variables, it has been proved that PowerPoint has significant positive impact on arousing learners' satisfaction towards the presented materials.

## CONCLUSION

It was supposed that the employment of PowerPoint would help learners in achieving higher levels of learning in their educational experiences. As the results show, the experimental group did illustrate significant gain in terms of achievement. In other words, the application of PowerPoint along with the teacher's typical instructional procedure was successful in improving learners' reading skill and enhancing their comprehension from texts. However, these findings should not by any means encourage the use of PowerPoint as a replacement tool for the teacher/himself; the presence of the teacher is the initial and necessary factor that creates the impression of being in the classroom and being instructed. The device is just for displaying some materials that much more fruit fully carry the whole purpose of the information; it cannot put the significant role of the teacher as a vital

member guiding the actual procedure of eliciting more ideas, encouraging group discussion and activating critical view points from the learners in secondary importance.

Regardless of whether the technology achieves the goals that the instructor desires, it affects the students significantly enough that its absence in today's classes may result in less motivation and interest than students experience with the presence of it. This feeling of interest may be among the important factors that lead to the quick acceptance and maintenance of PowerPoint software in the experience of teaching at the university. Consequently, the employment of PowerPoint has generated an enormous benefit towards education whereby students are more satisfied with the courses, and as a result of this satisfaction, they have more pleasant attitudes toward their learning environment. Thus, one possible conclusion that might be drawn from the findings is that although the use of PowerPoint would not be successful in bringing about the students' achievement as it was concluded in previous similar studies, there seems to be one common view on the use of PowerPoint that is shared by the researchers of the majority of the studies i.e. that learners show a great preference for it. Therefore, the use of PowerPoint in the classroom is probably worth all the resources needed to equip classrooms with the tool.

Examining the effectiveness of technological tools used in the pedagogical settings is an important focus for research into learning in higher education because of the increasingly ubiquitous use of technology

in student experiences of learning. Without studies into this area, integrated perspectives to design and teaching by means of technology could result in complex experiences. Consequently, it is important that we develop a deeper understanding of qualitatively better ways of thinking about and using technology to support student learning (Ellis, Hughes, Weyers, & Riding, 2009).

As other studies designed to examine the role of educational technology (e.g. PowerPoint) in order to find the possible merits or pitfalls of using the new technological apparatus, this study has some limitations too. Taking these shortcomings into account would be beneficial in improving on some related aspects of the current study. The first limitation is related to the samples in which the number of participants was small. More studies are needed into how learners experience teaching when technology is used to enable better learning if the instructors desire to eliminate glitches connected with the use of technology and technological devices.

## REFERENCES

- Apperson, J. M., Laws, E. L., & Scepanky, J. A. (2006). The impact of presentation graphic on students' experience in the classroom. *Computer & Education, 47*, 116-126.
- Ayres, P., & Sweller, J. (2005). The split-attention principle in multimedia learning. In R. E. Mayer (Ed.). *Cambridge handbook of multimedia learning* (pp.135–146). New York: Cambridge University Press.
- Babb, K. A., & Ross, C. (2009). The timing of online lecture slide availability and its effect on attendance, participation, and exam performance. *Computers & Education, 52*, 868-881.
- Baddeley, A. D. (2002). Is working memory still working? *Science, 7*, 85-97.
- Ellis, R. E., Hughes, J., Weyers, M., & Riding, P. (2009). University teacher approaches to design and teaching and concepts of learning technologies. *Teaching and Teacher Education, 25*, 109–117.
- Grabe, M. (2005). Voluntary use of online lecture notes: Correlates of note use and note use as an alternative to class attendance. *Computers & Education, 44*, 409–421.
- Johnson, D. A., & Christensen, J. (2011). A comparison of simplified-visually rich and traditional presentation styles. *Teaching of Psychology, 38*(4), 293-297.
- Harris, D. (2011). Presentation software: Pedagogical constraints and potentials. *Journal of Hospitality, Leisure, Sports, & Tourism Education, 10*(1), 178-192.
- Hulls, C. (2005). *Using a tablet PC for classroom instruction*. Paper presented at the 35<sup>th</sup> ASEE/LEEE Frontiers in Education Conference at the Department of Electrical and Computer Engineering, University of Waterloo, Canada.
- Kahraman, S., Kodan, H., & Cevik, C. (2011). Investigation of university students' attitude toward the use of PowerPoint according to some variables. *Procedia Computer Science, 3*, 1341-1347.
- Lanir, J., Booth, K. S., & Hawkey, K. (2010). The benefits of more electronic screen space on students' retention of material in class room lectures. *Computers & Education, 55*, 892–903.
- Marton, F., & Booth, S. (1997). *Learning and awareness*. New Jersey: Lawrence Erlbaum Assoc. Publishers.
- Mayer, R. E. (1984). Aid stop rose comprehension. *Educational Psychologist, 19*, 30–42.

- Mayer, R. E. (1997). Multimedia learning: Are we asking the right questions? *Educational Psychologist*, 32, 1–19.
- Mayer, R. E. (2001). *Multimedia learning*. New York: Cambridge University Press.
- Mayer, R. E. (2005). *The Cambridge handbook of multimedia learning*. New York: Cambridge University Press.
- Milliken, J., & Barnes, L. P. (2002). Teaching and technology in higher education: Student perceptions and personal reflections. *Computers & Education*, 39, 223–235.
- Rezai, A. A., & Oliyaie-Niya, H. (1998). *Simple Prose Texts* (6<sup>th</sup> ed.). Tehran: The center for studying and compiling university books in Humanities (SAMT).
- Susskind, J. E. (2005). PowerPoint's power in the classroom: Enhancing students' self-efficacy and attitudes. *Computers & Education*, 45, 203-215.
- Tang, T. L., & Austin, J. (2009). Students' perceptions of teaching technologies, application of technologies, and academic performance. *Computers & Education*, 53, 1241–1255.
- Tangen, J. M., Constable, M. D., Durrant, E., Teeter, C., Beston, B. R., & Kim, J. A. (2011). The role of interest and images in slide ware presentation. *Computers & Education*, 56, 865-872.
- Tufte, E. R. (2003). *The cognitive style of PowerPoint*. Cheshire, CT: Graphics Press.
- Uz, Ç., Orhan, F., & Bilgiç, G. (2010). Prospective teachers' opinions on the value of PowerPoint presentations in lecturing. *Procedia Social & Behavioral Sciences*, 2, 2051-2059.
- Wecker, C. (2012). Slide presentation as speech suppressors: When and why learners miss oral information. *Computers & Education*, 59, 260-273.
- Wittrock, M. C. (1990). Generative processes of comprehension. *Educational Psychologist*, 24, 345–376.

