

Evaluating use of powerpoint for teaching in schools



**ASSIGN
BUSTER**

Microsoft PowerPoint Program is a presentation software programme that can be used effectively in academic sector (Bartsch and Cobern, 2003). PowerPoint was developed as a business software tool, but its inherent capabilities led to its adoption in education, and this has been the subject of ongoing research. PowerPoint is an easy-to-use software application (Holzl, 1997) and can be used to give dynamic and engaging presentations in the visual mode. Some of the features of the PowerPoint are helpful for lecturers, for example, to highlight key points, and to show assignment information. Additional features such as clipart and cartoons can add interest to presentations (Sammons, 1997).

Several researchers have analysed the effects of PowerPoint on student performance and student preferences towards Power Point. These studies have used different methodologies and there are a range of empirical results. These are described in the following sections, where each study's merits and demerits of using Power Point are presented, followed by analysis and conclusions.

It is one of the most useful things to know about the secondary school perspective on styles of teaching, and how this impact on the student's future. In olden days, it was very difficult for the school teachers to make use of technology in classroom teaching. One of the main reasons is lack of training and equipment. The use of electronic media in school laboratories, classrooms are being increased and are being used in science and technology lessons by teachers who are confident in the usage of modern technology in the classroom (Ofsted, 2002). Nowadays, it is also common for the school teachers to give lectures through modern packages and <https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

PowerPoint, particular during practical classes. In spite of availability of technologies, still delivery the lecture through chalk and talk approach is dominant one (Dudley and Timothy 2006).

Nowadays, in developed countries, the use of PowerPoint in education has become widespread. However in some schools in Saudi Arabia, its usage is not ubiquitous but restricted to some important lessons and topics. This may in part be due to teachers' limited knowledge of how to use PowerPoint, so broadening their knowledge might give benefits and make it easier for students to learn. However, in most schools, the classrooms are simply not equipped for PowerPoint presentations – a single classroom in the whole school may be the only one equipped for PowerPoint. In addition to that, there may be resistance by some teachers to alter, while others are still hesitant, given the debate over the extent of any positive influence of PowerPoint on the educational performance of students. Past studies are inconclusive about PowerPoint, with contradictory views. However in Saudi Arabia, some studies supported the usage of such technology in Saudi schools for the benefit of learners (Al-Sharhan, 2006).

In general, the discussion about the use of PowerPoint in teaching practice has two important problematic issues:

How effective is the technology at improving the quality of teaching received by learners.

How consistent is PowerPoint's use – have teachers the required skills and enthusiasm for its use

The first issue can be manifested in the level of satisfaction that may be inspired by the technology. For some researchers, the simplicity of the technology removes more of the teaching professional load and leads to a non-stimulating delivery of content (Pauw, 2002). The second issue tells about the inconsistency within the educational setting due to absence of suitable training and opposition in implementing the technology by someone. This may have negative effects on learners, who were given the different modes of approach in delivering the PowerPoint presentations within the same discipline. Therefore, it is more important in selecting the technology to ensure that it is compatible with the aims of training in order to bring the successful implementation.

Purpose of the Study

This present study evaluates the use of PowerPoint for teaching in schools. The factors involved in implementing PowerPoint in schools are also explored. Based on this study, it has been found that computer technology and multimedia presentations have no guaranteed effect on quality of learning. On the other hand, It has also been found that the use of such technology motivate the students for positive learning. Moreover, it has been proposed that use of technology is in harmony with the adoption and familiarity of learners of such technology, and so connects prevailing learner and educational cultures.

The present study also addressed the factors to implement the way of effective adoption of technology, proper deployment of PowerPoint, training and development, models of teaching practice in mixed formats. At the same time, it is also important for the teachers to keep update the technology and <https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

technological changes. Then only, the content delivery and driving force for learning will be maintained. Though, PowerPoint is in greater use among teachers and researchers, but the best format to deliver materials based on learner assimilation needs to be found (Heines, 2000).

Research Questions

How does the use of PowerPoint presentations in educational institutions compared to traditional presentation, including the use of overhead projectors and handwritten blackboard notes?

Does the use of PowerPoint increase the student performance?

What are the advantage and disadvantage of use of PowerPoint in teaching?

What are the factors affecting the use of PowerPoint presentations effectively?

What are the benefits of existing debate on the use of PowerPoint presentations in the classroom setting?

What are the opinions of the students in PowerPoint presentations regarding lighting, use of colours, backgrounds, images, and sound, and the way of delivering the lecturers through of slides?

Literature review

INTRODUCTION

Several researchers have made an attempt to analyse the student performance and preferences based on the effects of PowerPoint. In their

attempts, different methodologies were used and based on that a range of empirical results have also been proposed. These were discussed based on the use of PowerPoint and its merits and demerits were also presented in the following sections.

There has been a lot more discussion over different methods to deliver lecture to the students. In particular, many lecturers use written material delivered on a chalkboard, whiteboard, or by transparent sheet on an overhead projector, and, in last fifteen years or so, the method of presenting the visual information directly from a computer onto a screen. These types of computers and projection technology devices can be seen in the classrooms. This gives the facility to engage the learners through graphics and multimedia presentations. Many faculty members and administrators felt that PowerPoint was initially considered as a cutting edge technology for use in the classroom. Later students felt that the PowerPoint should not be used more often because it is too passive. For example, Creed (1997) argues that the use of computer-based presentations makes the teacher to be too focused. Kask (n. d.) and Parks (1999) suggested that the computer-based presentations make the students to take a nap in larger auditoriums, where the some of the lights in the auditorium have to be dimmed. Prior to lecture, if the lecture notes are provided to the students, students may show less interest in attending the class.

Others feel that the PowerPoint offers the ability to provide more concentration to the students. For example, Stone (1999) argues that the discussion in the classroom is improved by the use of computer-based presentations. In the part of the presentation, the discussed questions can <https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

be displayed on the screen. Based on the student's interaction and response, the students' names and comments can also be projected in the presentation. Finally, these interactions and responses can then be printed or given to all students. He also discusses how the exercise and experiments given to the students can be facilitated by incorporating them in the presentations. It can also be argued that the students take less time for taking their notes, whereas the PowerPoint allows more time for interactive activities.

Based on the controversy about PowerPoint and its usage, some studies have attempted to measure the impact of computer generated presentations on student performance. Overall, the results have been mixed. A Very few said that the PowerPoint presentations did not have an effect on the student performance, while others said that PowerPoint presentations enhances the student performance.

Educational Technology

The one of the oldest and most common forms of educational technology is chalkboard. Through chalkboard a current topic of discussion, points to be discussed, points to be noted, end result of the discussion, important issues to be remembered up to certain period of time, summaries of discussion and lines of reasoning. In olden days, the major medium of communication followed by professor to take lecture was chalk and blackboard (Frost & Fukami, 1997). The use of pictures, tables, and charts on the chalkboard will add an advantage to the information publicly communicated. This way of delivering lecture is suppressed by the more expensive and sophisticated technologies such as the overhead projector, the video-tape player, the more

<https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

interactive video-disc player, PowerPoint, computer for computer assisted learning and most interactive whiteboard (Ghrist et al, 2003). In colleges, nowadays several studies have emerged on the use of multimedia in classrooms. Professors are using these technologies in mixed and creative way to promote the most learning techniques for the students to satisfy their aims and needs (Thomas, 2009).

Nowaczyk et al. (1988) observed that the student interest and awareness of relevancy of topics were enhanced by videos. The static media such as overhead projector contributed to better understanding of the material presented in that instance. Video (VHS or DVD) presentations were made the students to engage in business activities, news, stories, integrate theory, R & D activities and new challenges in the workplace and all these activities provide higher value of entertainment than other technologies (Caudron, 1997; Salomon, 1984). In some cases, video presentations and watching videos on particular issue is interesting than other technologies (Fulk et al., 1995).

Astleitner (2002) reported the studies concerned with critical thinking of teaching via web lectures. The information's in the audio recording lectures were greatly influenced than video recordings. Though, the difference between the two modalities in terms of retention was nil. During subjective evaluation, students showed better evaluations for audio recordings.

Interactive whiteboard is the present educational technology makes the things easier for the teacher to include the presentation content in wider range such as images from the internet, graphs from the excel sheet, text from MS word. Apart from that, student and teacher annotations could be <https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

done on the objects. The one of the drawbacks of the Interactive whiteboards is cost. It is more expensive than conventional whiteboards, projector, and screen combination. Their surfaces can be damaged and quite often replacement is required.

The negative perceptions of PowerPoint compared to other interactive presentation tool were reported by Wolf's (2007). In his comparison, the use of PowerPoint and electronic presentation tool were compared. Wolf's (2007) studied and compared the students' interests in content and perception of pace over the course for 2nd year's student. This was done by splitting the participants into two groups. The first group consists of 36 students and the duration was about 50 minute's lectures for each class. The instructor used PowerPoint to project the course content. The second group consists of same number of students and the classroom presenter was used. The classroom presenter is like PowerPoint slide presentation with more interactive features such as write on the digital screen with digital pen, connection can be performed between student and instructor, information can be shared between instructor and student system. Instructor has a laptop computer, whose monitor swivels, lays flat and allows the user to write on the digital screen using digital pen (notepad). The PowerPoint in the laptop could able to utilize linking features. However, PowerPoint alone doesn't have these features. Hence the classroom presenter had greater impact on the survey results. To predict the difference between two methods, optional web-based post-class survey provided to the group. The advantage of classroom presenter is that it allows the instructor to interact with the device by digitally highlighting information and also have the features to write on the

digital slide. Though, the difference in the result is not significant. However, out of 17%, 3% perceived attending lectures using classroom presenter to be more interesting. One of the speculations is that most of the students preferred the added interaction of classroom presenter. This may be cause for speculation of students interaction and instructor presence compared to effectiveness of any presentation tool (Cited in Kevin, 2008).

Thomas, (2009), compared five teaching technologies approaches like Projector, PowerPoint, Video, the Internet, and Lecture. And the results are overlapping and merging together. Such as, video can be shown in PowerPoint and internet and PowerPoint slides through web. They also used projector screen as blackboard using black films. Hence, in natural teaching environment, it is difficult to segregate Lecture, Projector, PowerPoint, Video, or the Internet. However, it is believed that the cognitive abilities of the students can be used to focus these five teaching technologies individually. The separate general perceptions about use of each technology can also be provided (Thomas, 2009). In his study, integrated computer workstation used for lecture in all classrooms and the teaching materials were presented on the same large screen using projector, PowerPoint, Video (VHS or DVD), and the Internet. The PowerPoint slides were replaced with traditional overhead color transparencies for lecture outlines and information.

Students use internet effectively for business organization, to refer the links cited in the books, research journals, reports, papers, case studies etc. Apart from this, the current events, news and many other types of information are also accessed in the internet. Internet acts as a largest digital library tool for the instruction. The specific type of classroom presentation will not serve the <https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

student's needs. Different technologies can be used for different learning objectives. Among all the education technologies, the Lecture and PowerPoint are less active and interesting and also boring than other different approaches. Still these the Lecture and PowerPoint technologies contribute to student performance. All technologies have their own characteristic strength and weakness. There is an urge to develop the practical impacts of these new available technologies on education and students (Thomas, 2009).

USING TECHNOLOGY IN THE CLASSROOM

In some studies, it was mentioned that the PowerPoint presentation increases the students' motivation and achievements in their lessons (Mantei 2000). In addition to that, most of the students mentioned that it helped them in taking notes and study for exam if instruction is provided in PowerPoint presentations (Noppe, 2007), and they prefer PowerPoint lectures to traditional lecture (Frey and Birnbaum, 2002). Researchers explored that the end-result of preparing PowerPoint presentations by the students are very limited. Gunel et al. (2006) compared the effectiveness of the students in writing summary report and preparing PowerPoint presentation about two units in physics lesson. In this particular case, It was observed that the students prepared the PowerPoint presentation scored significantly better than the students prepared summary report format. In another study, Marmiené (2006) investigated the ability of the students in choosing the material and the content of PowerPoint presentations on professional topics via the internet and also he investigated the students' ability to prepare and deliver the presentation in front of the audience. As a result, it was

mentioned and reported that preparing and delivering the material through PowerPoint presentation improved the students gaining skills in addition to listening, speaking, reading and writing skills. That is the use of such technologies is more time-efficient compared to traditional way of delivering the presentation i. e. using whiteboard or overhead transparency projector. Hence, more time can be given on interaction and instruction rather than using the traditional way (Mantei, 2000).

Susskind (2005) taught two courses on “ Introduction to Psychology”. In these courses, half of the courses, he taught with the help of PowerPoint and other half without PowerPoint presentations in a counterbalanced order across classes. Gradewise, there was no significant difference in student performance. However, the students’ performance has not increased in many courses that used multimedia presentations (Susskind & Gurien, 1999; Szaba & Hastings, 2000). In one of the studies, it was demonstrated that there was a decrease in student performance when the instructor switched from transparencies to PowerPoint (Bartlett, Cheng, & Strough, 2000).

Ahmed (1998) compared the two methods (overhead projector and PowerPoint) of information presentation. He observed very little difference in the performance on exams resulting from the use of these two methods. It was also indicated that that the difficulty of the lectures had a greater impact on the performance of the student than the use of PowerPoint itself. Szabo and Hastings (2000) presented three different lectures; first lecture with overhead transparencies; second lecture with PowerPoint; and third lecture with power point and handouts of the Power Point slides. All these lectures were tested for the same group of students in a physical education <https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

course. One week later, mock tests were conducted to the students. While there was no significant difference in grades between two tests on lectures delivered with PowerPoint, the grades from the two PowerPoint lectures were higher than the grades scored with the lecture provided with overhead transparencies.

In 1995, Lowery (1999) taught Environment Science course through overhead transparencies. In 1996-1997, the same lecture was provided to the students with the help of Power Point. He found statistically significant differences on comparing the average test scores. The material taught in the year of 1996 and 1997 with the help of PowerPoint have higher average test scores than the course taught with overheads in the year of 1995.

In the survey of Sazbo and Hasting (2000), 80% of the students felt that PowerPoint lectures were highly beneficial and that visual emphasis to recall the lecture material during the exam time. The presenters often highlight the main ideas and points with bullets. Based on this information, the audience members and students aware of the tips included in the presentation. In the latter stage, they may specially focus on the points presented in the slides and ignore the elaboration talk given by the speaker (Savoy, Proctor and Salvendy 2009). According to Savoy (2009), the use of PowerPoint, webcasts and podcasts have tremendously increased in university lectures to focus the student's attendance and expose the student to the lecture material effectively.

However, the easy way of preparation and distribution of information digitally does not always mapped to the enhanced student performance. In

one of the interesting parallels with Susskind (2004), a traditional lecture format to a PowerPoint multimedia format has been compared. By doing this, they observed that students thought themselves to be equal and capable if they had learned from the format similar to the E-lectures in this study, as they were learned through traditional lectures. Paradoxically, these were not reflected their performance during exams. It also does not seem to be linked to the presence or absence of multimedia delivery.

Using PowerPoint effectively

Due to the presence of mixed results among the studies investigated relate to the beneficial effects of PowerPoint on performance, a new perspective fine-grained analysis is needed to assess the impact of delivery style on student performance (Susskind, 2005). All the above studies, did not investigate and concentrate the complexity of the presentations which is also one of the factor directly impacts the performance. For example, PowerPoint presentations can be written with simple text in single coloured screen. Presentations can also be made complex with tables, pictures, graphs, animation effects such as sound effects, visual effects, video clips. The effectiveness of PowerPoint and other multimedia presentations directly depends on the complexity of the presentation. However, several researchers have demonstrated that a few lectures include material which can reduce overall performance of PowerPoint presentations, such as irrelevant sounds (Moreno & Mayer, 2000), clusters of text (Schraw, 1998), and irrelevant and unwanted pictures (Mayer, 2001, p. 113).

According to Robert & Kristi (2002), in the detailed PowerPoint presentations, the items which are relevant (e. g. most of the pictures), and not relevant (e. <https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

g. most of the sound effects) to the context were presented. The level of the performance is diminished because of the irrelevant items presented in the presentation. These irrelevant items detract the student's concentration. It was also found that the graphics related to the context may be beneficial, and the graphics not related to the context not at all helpful in learning. Also, for a simple presentation, the graphics items are not necessary. But graphics items will be helpful for tedious, complex and difficult lectures. If the graphics items are desired, then the PowerPoint presentations should have the special features to accommodate them in an easy manner. It can be concluded, that the relevant items should only be given in the presentation. (Robert & Kristi 2002)

It is also worth to mention that some of the flexible features of PowerPoint such as colour, variation in font, image, dynamic model building, or multimedia capabilities bring the student attention close to the context. For digital lecturing, the student enthusiasm depends on the structured pattern of the PowerPoint presentation. Hence, the presenter or the instructor should follow a well-organised and structured pattern of the presentation. Susskind (2005) mentioned about the way of delivering the lecture styles that there is no difference on various styles of delivering the lecture. In his experiment; a mixed participant design and counterbalanced lecture format order were involved. This eliminated any confounding between delivery style and order. Apart from that, it reduced the potential cohort effects via within the subject comparisons. However, methodological issue regarding student assignment has not been carried out. Susskind observed that the students were not

assigned randomly. The results of his experiments could be reflected the pre-existing conditions of academic ability, preparation and motivation.

STUDENT PREFERANCE AND IMPACT IN COURES EVALUATION

Besides evaluating the student performance based on the impact of computer-generated slides, several studies concentrated the perceptions of PowerPoint. For example, Daniels (1999) found that the three-quarters of the students in her analysis preferred PowerPoint presentation rather than chalkboard. Similarly Szabo and Hastings (2000) reported that 90% of the students thought that the “ PowerPoint lectures grabs more attention than the traditional lecture”. Furthermore, 65% of the students in the study preferred PowerPoint and said that the PowerPoint lecture motivate the students to attend the class and 72 % of the students said that they prefer to see PowerPoint used in all courses.

In the survey, there was an exception found in students of economics majors (612 students) at Radford University (Hashemzadeh and Wilson, 2007). In their study, students were asked to compare the course lecture provided with and without PowerPoint (not taught by the same professors). It was found that the majority of the students felt that they could able to understand lecture better because they felt more involvement and better interaction with the instructor in the sections taught with PowerPoint. The majority of students preferred courses taught with PowerPoint rather than courses taught without PowerPoint.

Frey and Birnbaun (2002) found that the students preferred lectures using PowerPoint than those using chalkboard or whiteboard. They also perceived that the lecture is to be more structured and organized. In their study Students appreciated the advantages of PowerPoint, such as easy to read the slides, keeping the lecture on-track, enlivening the lecture by providing the combinations of pictures and more concise text. They also often criticised badly-prepared and poorly-presented lectures. In common, too much information provided on the single slide and slide was fully composed of similar words leading to boring rather than interesting. Students were less engaged for chalkboard or overhead transparencies techniques were used in delivering the lecture. (Frey and Birnbaun, 2002)

Advantages

The advantages of presenting lecture through PowerPoint presentations can be generalized as follows:

Using the PowerPoint, the course content and the way of delivering the lecture could be framed properly (Nouri & Shahid 2005).

According to students, observing the lecture through PowerPoint presentations is quite interesting. Thus, giving lecture through PowerPoint presentations affect the students in positive way (Parks, 1999; Nouri & Shahid, 2005; James, 2006; Atkins-Sayre et al 2006).

In PowerPoint presentations, poor handwriting issues, decrease in visibility due to chalk, perennial issue of dirty blackboards (if blackboard were used for long time) were avoided. (Carlos, 2008)

PowerPoint presentation enhances the student's interest for attending the classes (James, 2006; Sugahara & Boland, 2006).

Through PowerPoint presentations, the learning capacity of the students is increased. (Harrison, 2006)

According to Lowry (1999), after introducing the PowerPoint lecturer classes to first year environmental science course a remarkable improvement was observed in student performance and cognition.

Because of PowerPoint presentations, time taken for the students in taking notes was reduced. Most of the students brought their PowerPoint slides printout to the classroom and annotate to them as required. (Carlos, 2008)

Providing PowerPoint presentation classnotes to the students indicates a organised set of notes that allows students to transform into a detailed form without putting much effort on it. (Carlos, 2008)

In some of the studies, it was found that supply of PowerPoint presentations along with student notes lead to achieve better performance and retention (Kiewra, 1985).

It was also found that some studies show that segregating the notes from notes what students taken while observing can also lead to better retention (Aiken, 1975).

Another big advantage of PowerPoint presentations is that the instructor can present a lot of material in single lecture such as giving concepts in problem solving, discussion, or review of articles in terms of class materials. Because

of this students need not to dedicate more time in taking the elaborate class notes. (Carlos, 2008)

Photos, videoclips and hyperlink for elaborare discussion can be added in the PowerPoint presentation only.(Carlos, 2008)

According to Young, 2004, it was proclaimed in one of the most public endorsements of PowerPoint that the students performance and learning experiences are enhanced by the use of multimedia. Students also mirrored this thought. Because the PowerPoint presentation enlighten a lecture with images, pictures that provide additional support to the key points and improved clarity to the texts compared to chalkboards (Young, 2004).

And also, it is possible in PowerPoint presentation that the instructor can cover the previous class notes in a single slide to make the students to remember. (Carlos, 2008)

Instructors indicated that PowerPoint can be used to update their lectures from time to time and believe that PowerPoint presentation is a valuable tool that help to organize the class notes. (Schwartz, 2005)

Disadvantages

The disadvantages of presenting lecture through PowerPoint presentations can be generalized as follows:

One of the major disadvantages is that instructor has to spend more time in preparing the notes and relevant pictures from the World Wide Web and place the pictures, graphs or tables in the appropriate place. .(Kristi, 2003)

Most of the lecture presentation will be reused subsequently for next batch students with less time effort. This initial time taken for preparing the presentation by the faculty member is reasonably considered as major disadvantage.(Kristi, 2003)

From the study by Dudley (2006), it was observed that the electronic presentations were disliked. The main reasons were given; hard copies of the class notes were not given, through presentation lot of material could be covered, complicated pictures and diagram were provided, lectures were delivered very quickly.

The additional material had to be added in the PowerPoint presentation notes to reinforce it. (Carlos, 2008)

Using chalkboard or a whiteboard in the classroom allows more time in spending a single topic. This gives natural pauses and provides delays in the presentation and discussion before moving to next topic. (Carlos, 2008)

Opposition of PowerPoint notes is that the structure of PowerPoint lecture commands a degree of linearity that may creates artificial misleading hierarchies of information's provided in the lecture (Tuft, 2003), hierarchical organization of content is to be removed (Doumont, 2005), and discourages the chances to redirect or expand upon the delivered points (Schwartz, 2005).

Besides adherence usage of pre-designed template, PowerPoint urge to use bullets, which convey the message in detrimental or effective way (Boehle, 2006, Tufte, 2003 & Mayer, 2004). Edward Tufte (2003), claimed that the

<https://assignbuster.com/evaluating-use-of-powerpoint-for-teaching-in-schools/>

bullets lead to gross generalization, inaccurate logical and superficial reasoning and more often leads to indifferent conclusions. Hanft (2003) also supported that the PowerPoint presentation depress the discussion.

Most of the students have positive opinions about the instructors in terms of PowerPoint presentation. Some of the students were complained that instructors used too much text and pictures and information in the slides and makes the slides to be clumsy manner, because of this the material in the slides were difficult to see (Doumont, 2005; Young, 2004).

One student at Connecticut College said that her professor would write too long sentences or complete sentence in the PowerPoint slides, rather which she would then read. Because of that the information presented in the slides were become complicated and convoluted (Young, 2004).

Further, some of the instructors