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A comparative study on power point presentation and traditional lecture method in material understandability, effectiveness and attitude

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The aim of this study was to compare PPT and traditional lecture method in material understandability, effectiveness and attitude among university students. Comparative descriptive survey research design was employed to answer the research questions raised. Four hundred and twenty nine participants were selected randomly using stratified sampling followed by lottery method. Questionnaire was used to get data from the study participants. Descriptive statistics like percentage, frequencies, means and t-test were used to analyze data. The study revealed that, lecture method was more helpful than power point presentation in material understandability and effective in teaching/learning process, and it was statistically significant. Students have more positive attitude towards lecture method than PPT, which implies it was more entertaining/engaging. Students perceived the instructor using power point as putting less effort in the class, and the difference was statistically significant. That means, those instructors who use PPT put less effort than lecture method. Even though it is not safe to conclude and generalize, for quantitative and qualitative courses students were preferred to be taught by lecture method regardless of their department and faculty. In effectiveness, lecture practice was more effective than PPT method. In general, the result of this study is discouraging, given the high level of investment in and the spread of power point teaching technology. So, an intelligent use of teaching technologies and methods is very crucial in increasing students' achievement.

Key words: Power point presentation, traditional lecture method, material understandability, effectiveness and attitude.

INTRODUCTION

There is a wide variety of technology available for use in teaching in higher education. Earlier, many lectures were presented on a chalkboard, whiteboard, or by transparencies on an overhead projector. In recent years, technology started to make a significant presence in classrooms and education technology becomes a "necessity" (Thomas, 2002). One of the most predominant types of technology used in the classroom is projecting

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information directly from a computer onto a screen (Rim and Dorine, 2012).

Nowadays, the use of power point (a form of multimedia) presentations (PPT) in classroom instruction has significantly increased globally without examination of their effects on student learning and attitudes (Brill and Galloway, 2007). Most lecture classes are conducted using power point presentations, assuming that incorporation of computer technologies would enhance student learning and sustain interest in the topic. Many professors are switching from the traditional form of teaching of chalk and talk to computer assisted presentations and they even attempted to move to a paperless classroom (Navarro, 1998). Previously, the new method required the instructor to spend time preparing slide presentations and organizing them. In recent years, this method is becoming easier and less costly to use, as more and more textbooks are packed with computer generated slides. Even some administrators are pushing instructors to use this technology (Carlson, 2002). But is it fulfilling its purpose?

Power point presentations were introduced ten years prior to this study in the form of overhead projector in Gondar University. It was a novelty initially with very few takers. As teachers gained confidence with the new technology and facilities for such presentations became available for most classrooms, regular use became a feature, leaving chalk boards and over head projectors. In this study PPT refers to a teaching technique or aid predominantly used by instructors using LCD projector with laptop to display lessons on a wall and supported by oral description and explanations. Traditional lecture technique/method refers teaching classes using board with chalk/marker which is supported by oral description and explanations.

In Gondar University, a base line survey was conducted by Walelign et al. (2012) on PPT problems in medical college and the group identified problems. Majority of presenters do not know the guidelines and tips for proper power point slide preparation and presentation on the following criteria: Use appropriate font size, use appropriate font style, use appropriate color, use appropriate bullets, same background on each style, and use of much animation. In addition, the authors indicate teachers did not appropriately implement PPT. Moreover, inside the class students simply watch what teacher display and talk. Throughout the class there is no interruption or room for participation, which make students passively follow lessons. Above all, PPT has been used to support teacher teaching not facilitating students learning and it seems that nobody consider how much students benefit from usage of this technique as a major means of instruction.

Walelign et al. (2012) concluded that, poor power point presentation would have its own impact on the lesson to be learned and the objective to be achieved. However, this study did not involve students; hence it is appropriate and reasonable to see the issue also from students' angle since they are the first beneficiary or victims for this new teaching technology.

In the present study site there is growing number of instructors to use PPT as a major means to deliver lessons especially to cover lager portions and courses in short period. Particularly, in the modularization program PPT has been extensively used as a better option for instructors since the time is programmed short. Using this new technology to support lessons is advisable from pedagogical point as the teaching learning process is simplified and facilitated very well.

Nonetheless, the usage or implementation of this new teaching technique at large scale is not free from complaint. It is not uncommon to hear the misusage PPT, for instance, teachers completed a semester courses and portions with few days using PPT, in slides preparation; huge notes, contents, concepts and issues presented in a single slide, teachers read simply from the slide displayed (which is more severe than normal chalk and talk), missing class if there is power cut or interruptions which show the increasing depends of teachers on PPT, presenting calculations in slides, lack of preparation and more reading once the slide prepared. From students' side, they simply watch what the teachers display in the slide; most of them do not take notes since they will have the PPT slides copy, most of the time there is no opportunity to make the lesson active via participation at least at intervals, feeling boredom because of mere reading of slides etc.

Problem statement

Higher education has not been immune for the growing influence of power point and the use of power point has caused much debate (Rim and Dorine, 2012). The debate centered at attitude and performance level. Most of the studies have shown that students respond positively to the use of power point in the classroom and display positive attitudes when lectures are accompanied by power point presentations (Atkins-Sayre et al., 1998; Szabo and Hastings, 2000). For example, Daniels (1999) stated that students' reaction to power point presentation was "overwhelmingly positive".

Power point presentations are perceived as more interesting and entertaining, better structured and organized, as well as emphasizing key points more efficiently than traditional lectures (Nouri and Shahid, 2005). Due to its better organization, students feel that it is easier for them to follow and understand the materials explained with power point and to take notes, which in turn, helps them to organize, understand, and use these notes for test preparation (Susskind, 2005).

Additionally, results of previous findings in the United States, United Kingdom, and Russia where students reported a greater preference for power point to the

chalkboard (Atkins-Sayre et al., 1998; Daniels, 1999; Sammon, 1995; Beets and Lobingier, 2001; Frey and Birnbaum, 2002; Perry and Perry, 1998).

However, along with its exploding growth, power point presentations have produced a growing body of criticism. The most prominent critic is Tufte (2003). He argues that power point is making us stupid, degrading the quality and credibility of our communication, turning us into bores, and wasting our colleague's time. Some agree with Tufte by accusing power point of negatively editing our ideas (Parker, 2001), asking "Is power point the Devil?" (Keller, 2003), requesting that power point "die in peace" (Simons, 2002), and referring to the power point as "insidious walk" (Bly, 2001).

One of the major problems is that its current use is frequently limited to an information transmission mode, often with excessive content, a usage that obscures the wider potential for diverse professional and pedagogically sound presentations (Szabo and Hastings, 2000; Lowry, 2003). With power point, people feel that they can get away with practicing less, as they have words in front of them. It has thus, slowly and steadily become a method to disperse large number of facts; mix together with illustrations and animations, all packed in 45 min of lecture time (Mantei, 2000). With power point, students indicated some dissatisfaction with the classroom interaction. Studies also found that power point decreases the teacher-student interaction, makes the students sleepy, and depersonalizes the class (Sammons, 1995).

In students' performance debate, studies argue that graphics improve student recall and that power point enhances students' performance (Kask, 2000), whereas, others have found that the use of power point is not associated with a significant improvement in students' performance (Szabo and Hastings, 2000). Few studies only, found a decrease in students' performance when power point was used. For instance, students performance in the social psychology course dropped by 10% when lessons are presented by power point in comparison to when the lessons are presented on the board (Bartsch and Cobern, 2003). Amare (2006) found that students' performance was higher in the sections using the traditional methodology, although most students stressed their preference for power point. Similar results were obtained by Sosin et al. (2004).

In material understandability lecture method is more organized, easier to understand, make material clearer, better, and quickly understood (Rim and Dorine, 2012; Wilmoth and Wybraniec, 1998). Similarly Hashmenzadeh and Wilson (2007) reveled at Radford University where the majority of economic students felt that they could understand the lectures better and find logic easier in the section taught without power point.

In addition, Vashi et al. (2012) pointed out the value of chalk and talk declared as the more effective and useful teaching tool in students learning experience compared to power point and recommended it for teaching. It is often argued that teacher immediacy is an effective instructional strategy that enhances students' learning in the United State (Witt and Wheeless, 2001).

In student's preference of instructional method, as suggested by Astin (1984) since involvement focuses on the student's active participation in the learning process and enhances satisfaction, students prefer to take courses with traditional methodologies which offer more room for involvement. This result suggests that students prefer the medium that enhances their learning.

In the current study area, there are two types of techniques often observed (practiced) across the university; running classes predominately employing the power point technique in educating students, and the second one instructor/s are still adopting the conventional traditional lecture way of teaching using a black/white board and marker. Actually, there are some instructors who are jointly and effectively use the two teaching techniques and these are not the focus of the study since they are very few cases.

The researchers have had the opportunity to observe and attest most of the stated problems in the university classes. As a teacher this technology is helpful in completing tasks on time and presenting contents easily but the question is from the perspective of students, how much teachers are supporting students to know more and read much simply presenting slides and giving PPT copies.

The value of teaching technology such as power point presentations depends on whether it is possible to demonstrate that the technology is able to deliver benefits for teaching and learning (Turk, 1996). This requires sound evaluation of its implementation. In order to evaluate the effectiveness of using power point presentations and lectures, we must consider whether the presentations help students to learn. Relatively little is known about this issue in developing countries in general and in Ethiopia in particular. Thus, in this paper we tried to address this issue empirically by testing the perceived impact of the power point presentation and lecture technique on students learning, attitude and preferences. In this research it is believed that, the practices of teaching and learning assessed from the side of students and very significant implications would be drawn from the findings to question the current practices and adjust accordingly.

The main purpose of this study was to examine and compare students experience in the two teaching techniques, i.e. material understandability, students' perception of learning effectiveness and attitude. Consequently, it is worthwhile, especially when first using power point, to ask the students for feedback as to whether they consider the presentation to be useful and whether it is enhancing the learning process. If it does not enhance student learning, it should not be used. Hence, it

was rational to conduct a study on these issues and asking the following questions for this purpose:

1. Which teaching technique is more helpful on materials understandability to students?
2. How is the effectiveness of the two teaching techniques on the teaching/learning process?
3. What is students' attitude towards the two different teaching techniques?
4. Are there statistical significance differences in the amount of efforts instructors put in class between the two different teaching techniques?
5. Which teaching technique students prefer for qualitative and quantitative courses learning?
6. What is the perceived effectiveness of PPT and lecture technique?

METHODS

Study design

The research adopted a comparative descriptive survey research design, under which, it tried get answers to the research questions it had set and test them under two different teaching techniques. Moreover, this study is classified as a media comparison study because it was compared the effects of two instructional delivery media (power point and conventional instruction) on students' learning and attitude. It was to measure perceived teaching techniques comparison and attitude for more than 429 regular students.

Study area

This study was conducted in Gondar University. The rationale behind this study in Gondar University was that, one thing the researchers do have living experiences in the university and have been observing problems of lesson presentations in classes at different times. The other thing is non-existence of studies on teaching techniques and their effectiveness in students learning.

Study population

The target population for the purpose of this study was all regular students of Gondar University in 2012/13 academic year. According to the registrar office of the university, there were about 9,047 males and 4,124 female regular students enrolled and attending their learning.

Participants and sampling techniques

Probability sampling was employed. It is appropriate if the aim is to measure variables and generalize findings obtained from a sample to the population. The student population in 2012 was 13,171, and for a survey design based on a defined population number, first there should be a need to determine sample size. The calculated sample size required was 373.16 ≅373.

The researchers anticipated the non response rate was to be 15% and to compensate these additional respondents were calculated by the formula and resulted in 56. To this end, at 95% confidence interval and +/- 5 % significance level and if 15% (56) of the non respondent is assumed, the sample size required would be 429 participants.

Sample selection procedure

For survey, samples selection could be done based on the simple random sampling method. For instance, in Gondar University the nine faculty was taken as the source population, and from each of faculty one department was selected randomly and then to each department proportional allocation of study unit was determined or calculated and finally the study subject was selected from each department by random sampling, specifically lottery method.

In proportion determination, college/faculty/school was taken as strata. This is done in assigning the fraction or percentage of sample to each department which was proportional to their population under the study. In determining the proportion of each faculty, the following formula was applied, n1=n/N; 429/13,171(X). The detailed profile of the sample is presented below.

Table 1 shows the largest number of participants were from internal medicine (101, 23.54%), biology (84, 19. 58%), civil engineering (71, 16.55%), psychology (67, 61%) and management (55, 12.82%). The remaining participants were law (18, 4.19%), veterinary medicine (13, 3.03%), agriculture (11, 2.56%), and the smallest number special needs education (9, 1.16%).

Instrument

Data were collected using questionnaire. The questionnaire was prepared based on literature and adapted from Nouri and Shahid (2005). A self-completion questionnaire, employed by Nouri and Shahid (2005) with several modifications, was finally distributed to more than 429 students. Students were asked to best describe their experience and attitude towards the teaching techniques; their instructors were adopting, using a five-point Likert scale; going from strongly disagree (SD) (represented by 1), disagree (D=2), to neutral (N=3), agree (A=4) and to strongly agree (SA=5).

First students are expected to consider those courses taking with instructor/s predominately employing the power point technique in educating students, and the second one was where instructor/s are still adopting the conventional traditional lecture way of teaching using a black/white board and marker. The questions were presented the same for both lecture and PowerPoint responses; the reason was to compare the two techniques at a time and to manage entrance variable effect. Students were ahead introduced to the presentation of the questions; they are identical and same in number but assessed two different teaching techniques. To make the subjects more valid for the questionnaire, senior students were selected as participants of the study. Here, three and above year students who have exposure to different teaching techniques were believed to be appropriate to comprehend the issues raised in the questionnaire.

The questionnaire consists of three parts. First, there are some questions to analyze the participants' demographic situations: sex, department, faculty and GPA. The second part is the statements aimed at determining the students' agreement about the two teaching techniques in relation with materials understandability, effectiveness of the teaching/learning process, entertainment (positive attitude) and dullness (negative attitude). The final part is the statements which are designed to identify the students' method preferences for learning qualitative and quantitative courses.

When the contents of the items were looked, basically there are four major factors. The following statements loaded high on factor

Table 1. Demographic characteristics of respondents.

	College/faculty/school	No of students	Department	Proportion determined	Percent
1	Business and Economics	1,716	Management	55	12.82
2	Veterinary Medicine	336	Veterinary	13	3.03
3	Law	530	Law	18	4.19
4	Agriculture	279	Agriculture	11	2.56
5	Education	236	Special Needs	9	1.16
6	Social Sciences	2,077	Psychology	67	15.61
7	Technology	2,167	Civil Engineering	71	16.55
8	Natural Sciences	2,729	Biology	84	19.58
9	Medicine & Health Sciences	3,142	Internal Medicine	101	23.54
	Total	13,171		429	100

one, 'this teaching technique is more efficient with explaining theories; makes materials presented in a way I understand better; makes materials concise; easy to follow; clear; more organized; better understood; quickly understood and needs less efforts at home'. Factor one; thus, describes the "materials understandability".

Whereas, the following statements loaded high on factor two: 'this teaching technique makes note taking easier; encourages class participation; challenges me to think; leads to more concentration; stimulates critical thinking; is more efficient in problem solving; allows greater interaction; helps me to learn'. This factor describes the "Effectiveness of the teaching/learning process".

The third factor describing the students' positive attitude towards the teaching technique employed is labeled "entertainment" and has the following statements under its umbrella: this teaching technique is entertaining; makes materials enjoyable; makes materials more interesting.

The fourth factor describes the students' negative attitude towards the teaching technique adopted and is labeled "dullness". The following statements loaded high on it: this teaching technique is tiresome; is boring.

Moreover, additional two items are included in the questionnaire to measure 'the overall effectiveness of the teaching method as 1excellent, 2 very good, 3 satisfactory, 4 less than satisfactory and 5 poor, and students' preference for qualitative and quantitative courses (1.PowerPoint 2.Traditional: black/white board and markers)'.

Factor analysis

Factor analysis was conducted on the different statements describing the teaching methodology adopted by teachers. The instrument of this study has different statements describing the two different teaching techniques (PPT and lecture) and their loadings on the two factors extracted. The following statements loaded high on factor one, "this teaching methodology (TM) is more efficient with explaining theories; TM makes materials presented in a way I understand better; TM makes materials concise; easy to follow; clear; more organized; better understood; quickly understood and needs less efforts at home'. Factor one thus, describes the "materials understandability".

Whereas, the following statements loaded high on factor two: "TM makes note taking easier; TM encourages class participation; TM challenges me to think; TM leads to more concentration; TM stimulates critical thinking; TM is more efficient in problem solving; TM allows greater interaction; TM helps me to learn". This factor describes the "Effectiveness of the teaching/learning process". The third factor describing the students' positive attitude towards the teaching methodology employed is labeled "entertainment" and has the following statements under its umbrella: "TM is entertaining; TM makes materials enjoyable; TM makes materials more interesting". The fourth factor describes the students "negative attitude towards the teaching methodology adopted and is labeled "dullness". The following statements loaded high on it: "TM is tiresome; TM is boring".

Reliability and validity

Cronbach's alpha, one of the standard ways of measuring the reliability of a test, was used in this research to assess the internal consistency of the questionnaire and was administered to 30 students in the university; especially given that this questionnaire used the Likert scale. The previous Alpha was found to be 0.89 (given that alpha can range from 0 to 1). And, in current study it is 0.78. The specific reliability of the four factors was 0.80 Material Understandability, 0.77 Effectiveness of the Teaching/Learning process, 0.76 Entertainment, and 0.76 Dullness. The internal consistency of the questionnaire for all participants was very high (0.92); the result of four factors was 0.93, 0.91, 0.89 and 0.90 respectively.

The validity of the instruments was checked by professionals from pedagogies. Particularly the content validity of the items was assessed; how much items measured the objectives intended to measure. The expert panel examines all the items, how much they are related, addresses the objectives set, reflects the questions raised, and language appropriateness to measure the construct. The feedback from the experts was positive and constructive one, with minor modification. The experts decided to use the instrument for pilot and the actual data collection. The validity of the questionnaire was also measured when the questionnaire was administered to all participants using face validity and the result from the expert panels strengthens the instrument applied in this research, which has a very good construct validity.

Administration procedure

First of all, the researchers gave brief orientation about the objectives of the study, the instructions of the tool and assure confidentiality to the respondents. And then, the questionnaire was distributed to be filled by participants in a free classroom.

Table 2. t-Test comparison summary between PPT and lecture method (n=429).

Variables	PPT		Lecture method		t-value	Sig
	Mean	SD	Mean	SD		
Material understandability	22.03	5.82	29.76	5.70	-5.97	.00
Effectiveness of the teaching/learning process	17.41	6.28	30.00	6.79	-8.58	.00
Entertainment	7.52	2.22	10.45	2.52	-5.80	.00
Dullness	5.92	2.13	4.90	1.94	0.04	.96

*P<0.05.

Data analysis

The Statistical Package for Social Sciences (SPSS), Version 20, was used to code and analyze the data collected from questionnaires. Descriptive statistics were used first; like percentage, frequencies calculated for demographic and students' preferences of teaching method. Cross-tabulations were also used on some variables to examine how scores on effectiveness and material understandably of the two different teaching styles are related. Subsequently, means were calculated for the two different sets of data under the PPT and traditional and test of significance checked. And, in order to check if the teaching method in that way has any significant impact on the way the students understand materials, evaluate effectiveness of the teaching/learning process, and show any positive or negative attitude towards it, the dependent t-test was used.

Ethical considerations

This research was totally based on the consent of participants and willingness of Gondar University administrative bodies. Those students who participated were willing and the information about single individual is not written on this research. Generally, all the necessary ethical considerations were kept to respect the rights of the participants.

RESULTS

As shown in Table 2, the mean score of the lecture method is higher than the mean score of PPT in material understandability. The close analysis of these results shows that there is a statistical difference in material understandability in the two teaching techniques (t=-5.97, P<0.05). This significant difference indicated that the lecture method is more helpful than power point presentation in material understandability.

The other variable is effectiveness of teaching/learning process; here also there is significant variance in the two teaching methods with t=-8.58, P<0.05. This result indicates, lecture methods are very effective in teaching/learning process, and a further comparison of the result reveled lecture method is by far effective for students' learning than PPT, as mean result bears out wide gap (30.00 and 17.41 respectively).

The third variable is about measuring attitude towards the two teaching methods. Here also again observed significant variance in PPT and lecture methods with t=-5.80, P<0.05. That means, students have more positive attitude towards lecture method than PPT, which implies it is more entertaining. The last finding depicts dullness, and as the mean scores shows PPT make students more dull than lecture method. That means students have more negative attitude for PPT and less for lecture method but not statistically significant.

The same attitude scale is used, enabling students to show their attitude towards their instructors' effort in the class room in the two methods. As Table 3 indicates, significant number of respondents acknowledges in teaching methods instructors are putting less efforts in the class, a further close comparison of the mean result revealed that, those who use PPT put less effort than lecture method and this result is statistically significant (t= 3.558, P<0.05).

Students have been also asked about their preferences for the teaching method to be assumed in quantitative and qualitative courses. As Table 4 and 5 summarize the results, 87.3% of students prefer quantitative courses to be taught using the lecture method and 72.7% of students prefer qualitative courses to be taught using lecture method. From this result, it is easy to imply that for both courses students preferred to be taught by lecture method. The above result was regardless of the department and faculty of students.

Students were asked the perceived effectiveness of the two teaching methods in their learning. Among their responses 45.5% rated lecture as excellent, 23.6% as very good, and 25.5% as satisfactory, contrary to the PPT method; 34.4% rate as satisfactory, 21.8% as less than satisfactory and 38.2 as poor. From this figures it is easy to understand that lecture technique is more effective than PPT method (Table 6).

DISCUSSION

Material understandability

In this study, it is found out there is a statistical difference in material understandability in the two teaching techniques. This significant difference indicated that the

Table 3. Students attitude towards the amount of efforts instructors put in class (n=429).

Variables	PPT		Lecture method		t-value	Sig
	Mean	SD	Mean	SD		
Enables the instructor to put less efforts in the class room	3.87	1.46	2.74	1.41	3.558	.001

*P<0.05.

Table 4. Teaching method preference for quantitative courses (n=429).

Teaching method	Percent
Power Point Presentation	12.7
Lecture Method	87.3
Total	100

Table 5. Teaching method preference for qualitative courses (n=429).

Teaching method	Percent
Power Point Presentation	27.3
Lecture Method	72.7
Total	100

lecture method is more helpful than power point presentation in material understandability.

This finding is inconsistent with Nouri and Shahid (2005). Power point presentations are perceived as more interesting and entertaining, better structured and organized, as well as emphasizing key points more efficiently than traditional lectures. Due to its better organization, students feel that it is easier for them to follow and understand the materials explained with power point and to take notes, which in turn, helps them to organize, understand, and use these notes for test preparation (Susskind, 2005).

However like to this study finding, lecture method is more organized, easier to understand, make material clearer, better, and quickly understood (Rim and Dorine, 2012; Wilmoth and Wybraniec, 1998). Similarly, Hashmenzadeh and Wilson (2007) revealed at Radford University where the majority of economic students felt that they could understand the lectures better and find logic easier in the section taught without power point.

The reasons for this difference would be one thing students spend less time taking notes with power point; the instructor can cover more materials in a single session, which might negatively affect the degree to which materials are understood (Rim and Dorine, 2012). On the other hand, because writing on whiteboards takes time and provides more natural pauses and delays the presentation, students may have more time to reflect on the materials before discussion moves on to new topics.

Learning effect

The second issue is effectiveness of teaching/learning process, and the current study found out that, lecture method is very effective in teaching/learning process, and a further analysis of the result revealed that the lecture method is more effective by far for students' learning than PPT, as mean result bears out wide gap.

Inappropriate use of PPT by professors i.e. the style of the teacher not the method of presentation (Walielign et al., 2013) could be the main reason for the differences between the current results and other results that have found that students prefer PPT.

In relation to interaction, results from Hlynka and Mason (1998) indicate interaction might have been reduced in the power point presentations due to the sequence of slides which make it harder to jump from point to point, thus reducing the tangency introduced by the students as well as instructors. Parks (1999) mentioned that the PPT made it easier for students in US universities to sleep, maybe due to the light that is dimmed.

On the other hand, discussion tends to be more spontaneous with lecture, resulting in the appearance of the more student engagement in the section of the class in which PowerPoint was not used. Thus, students felt more involved and enjoyed a greater level of interaction in the sections taught without PowerPoint (Rim and Dorine, 2012). Pipper and Moore (1999) found that the use of PowerPoint not the technology itself might lower the quality of teacher student interaction. This result might reinforce our previous findings that since students in the traditional section participate and interact more; they become active learners and thus evaluate this methodology as higher on attributes such as efficiency and understandability in comparison to students in the PowerPoint section who are experiencing passive learning.

This result might also help to explain why traditional lectures are more effective in increasing students' learning. It is often argued that teacher immediacy is an effective instructional strategy that enhances students' learning in the United State (Witt and Wheeless, 2001). PowerPoint lectures, through reducing the connections

Table 6. Teaching method effectiveness comparison between PPT and lecture method (n=429).

Teaching methods	Excellent	Very good	Satisfactory	Less than satisfactory	Poor	Total
PPT	1.8	1.8	34.4	21.8	38.2	100
Lecture Method	45.5	23.6	25.5	1.8	3.6	100

between teacher and students in, will also reduce learning outcomes (Pauw, 2002).

Students' attitude

Entertainment/engagement

The third variable is about measuring attitude towards the two teaching methods. Here also again observed significant variance in PPT and lecture methods, i.e. students have more positive attitude towards lecture method than PPT, which implies it is more entertaining.

This study finding is supported by Vashi et al., (2012), who value chalk and talk as the more effective and useful teaching tool in students learning experience compared to power point and recommended it for teaching.

On other hand, the current study is inconsistent with that of Nowaczyk et al. (1998), who found that PowerPoint entrainment is a significant factor and as more interesting than lectures. This inconsistency between the studies could be due to the repeated use of the power point teaching technique in the majority of the courses. The significant finding for entertaining in the work of Nowaczyk et al. (1998) may be due to Clark's novelty effect of new media as suggested by Clark (1983), where students may enjoy a new medium simply because of its newness. Clark points out that the positive effect of the technology tends to diminish with time as students become more familiar with it. The present researchers strongly share this logical analysis.

Dullness

The last finding depicts dullness, and as the figures above shows PPT makes students duller than lecture method. That means students become bored and tired with PPT but less for lecture method. Students might think that the material which is not presented on a slide is not important. Thus, they might feel that there is no need to take additional notes next to each slide. Consequently, they might believe that there is no need to listen so attentively, which will in turn make the PPT classes more boring to them (Rim and Dorine, 2012). However the difference is not statistically significant.

On the other hand, traditional lectures are found to be less tiresome than PPT. The results might be attributed to the same logic. Since traditional lectures require more class participation and more attention from students' part, these lectures are less tiresome. They have to stay attentive in order not to miss any single detail discussed by the professor. They have to do some kind of filleting while taking notes in order to judge which ideas are worth noting and which examples are to be highlighted making materials easier to understand at home (Rim and Dorine, 2012). This section process requires extra effort during the session. Thus, the students in traditional classroom were asked to undertake two tasks; first understanding the material while following the instructors' flow of ideas, and second keeping prefect records of what is being said because there will be no soft or hard copies for the materials distributed by instructors.

Students' attitude towards the amount of efforts instructors put in class

Students perceived the teachers using power point as putting less effort in the class, and the difference statistically significant. That means, those who use PPT put less effort than lecture method. Instructors might not be seen as working too hard in the class; therefore, it is not surprising that the students' motivation might decline, and their enthusiasm toward the class might weaken. Students' perception of instructors putting less effort in the class might have a negative impact on students, which in turn leads them to put less effort in the class (Rim and Dorine, 2012). They might also be less inclined to listen attentively to the lectures, knowing deep down that the lecture materials will be available for them, and beforehand in most of the cases (Rim and Dorine, 2012). Therefore, students will need to spend more efforts at home to study the materials and understand them properly.

Preference for the teaching methods

Students have been also asked about their preferences for the teaching method to be assumed in quantitative and qualitative courses. As Table 5 and 6 summarize the results, 87.3% of students prefer quantitative courses to be taught using the lecture method and 72.7% of students prefer qualitative courses to be taught using lecture method. From this result, it is easy to imply for

both courses students preferred to be taught by lecture method.

Since involvement focuses on the student's active participation in the learning process and enhances satisfaction as suggested by Astin (1984), students prefer to take courses with traditional methodologies which offer more room for involvement. This result suggests that students prefer the medium that enhances their learning.

Results in this study contradict previous findings in the United States, United Kingdom, and Russia where students reported a greater preference for power point to the chalkboard (Atkins-Sayre et al., 1998; Daniels, 1999; Sammon, 1995; Beets and Lobingier, 2001; Frey and Birnbaum, 2002; Perry and Perry, 1998). But, in this study, it is not safe to conclude and generalize all students preferred lecture since the data are only descriptive.

Teaching method effectiveness

Students were asked the perceived effectiveness of the two teaching methods in their learning. Among their responses 45.5% rated lecture as excellent, 23.6% as very good, and 25.5% as satisfactory, contrary to the PPT method; 34.4% rate as satisfactory, 21.8% as less than satisfactory and 38.2 as poor.

From these figures, it is easy to understand that lecture technique is more effective than PPT method. This study finding is supported by Vashi et al. (2012), who value chalk and talk as the more effective and useful teaching tool in students' learning experience compared to power point and recommended it for teaching.

Susskind (2005) revealed that as power point allows information to be easily presented in bulleted format, students may feel more confident, believing that they are recording the main points of the lecture. Furthermore, students reported that the use of power point make them learn the course material more effectively and have higher motivation to attend such classes (Sugahara and Boland, 2006). In general, students show more preference for power point presentations (Daniels, 1999). But, in this study, it is not safe to conclude and generalize only lecture technique is effective since the data are descriptive and need further analysis.

Implication

In general, the result of this study is discouraging, given the high level of investment in and the spread of this teaching technology. What is worrisome is that, the technology usage is perceived and practiced as effective and helpful for students, but on ground it is the opposite. Instructors only focus on completing courses on time using PPT but not about quality of lesson delivery and students' achievement.

Surprisingly, though technological advancement has occurred over years, chalk and talk has maintained its significance for the current generation also. Students place greater value on lecturing skills in their learning experience than on whether or not technology is intensively used in the classroom.

Based on this survey, we can say that technology can interfere with the learning process and therefore, great care must be taken when adopting it. Technology can limit spontaneous interaction between instructors and students; it can disengage students and thus, negatively impact student achievement. Most troubling is that the focus on technology intensive instruction appears to be taking priority over efforts to improve and enrich lecturing skills.

This study also supports the view that technology intensive instructional innovations like PPT do not necessarily increase students' attitude, engagement or achievement. On the contrary, goals appear to be better served by traditional pedagogies like chalk and talk method.

RECOMMENDATION

Teachers are trying to adopt the PPT in all courses without evaluating its effect on students' learning. This new shift should be halted and there is a need to critically reflect on the benefits students are getting out of it.

1. Lecture method still a significant preferred instructional means by students, so teachers must design how to make lecture live and interesting rather than leaving it aside.
2. It is obvious that PPT is also important in students teaching and learning, but to make classes suitable for students' learning, there is a need for teachers to integrate PPT use with lectures than use PPT or lecture method alone.
3. Teachers' use of PPT in a way that encourages student engagement, critical thinking, etc.
4. Overall, an intelligent use of teaching technologies and method is very crucial in increasing students' achievement.

Limitation

The study is survey one, which does not well address different variables that would affect the study result directly or indirectly like; teachers' personal effectiveness in using teaching aids or technology, preparation and organization of PPT and lectures, quality of power point slides and lectures, departments subjects or course nature etc. In addition, it would have been better if

student's performance was included in the study to clearly know the impact of the two teaching techniques on student's achievement.

So, further research should examine the effect of these two methods on students' performance using experimental design, and assess the issue from teacher's perspective. Besides, studies should be conducted on collecting data on students' performance within the same, as well as in, different cultural context. However, the findings of this study are an ice breaker in the silent usage of PPT with its harm at large scale in Gondar University and the country as a whole.

Conflict of Interests

The authors have not declared any conflict of interests.

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REFERENCES

Amare N (2006). To Slideware or not to Slideware: Students" Experiences with PowerPoint vs. Lecture. J. Technical Writ. Commun. 36(3):297-308.

Astin AW (1984). Student involvement: A developmental theory for higher education. J. College Student Personnel, 25(4):297–308.

Atkins-Sayre W, Hopkins S, Mohundro S, Sayre W (1998). Rewards and liabilities of presentation software as an ancillary tool: prison or paradise? Paper Presented at the 84th Annual Meeting of the National Communication Association, New York. (ERIC Document Reproduction Service No. ED430260).

Bartsch RA, Cobern KM (2003). Effectiveness of PowerPoint presentations in lectures, Comput. Educ. 41(1):77–86.

Beets DS, Lobingier PG (2001). Pedagogical techniques: Student performance and preferences, J. Educ. Bus. 76(4):231–235.

Bly RW (2001). The case against Power Point, Successful Meetings. 50(12):51-52.

Brill JM, Galloway C (2007). Perils and Promises: University Instructors Integration of Technology in Classroom- Based Practices, Bri. J. Educ. Technol. 38:95- 105.

Clark RE (1983). Reconsidering research on learning from media, Rev. Educ. Res. 53(4):445-459.

Carlson S (2002). Wired to the hilt, Chronicle Higher Educ. A33–A35.

Daniels L (1999) Introducing technology in the classroom: PowerPoint as a first step, J. Comput. Higher Educ, 10(2):42–56.

Frey BA, Birnbaum DJ (2002) Learners" perceptions on the value of PowerPoint in lectures. Pittsburgh: University of Pittsburg. (ERIC Document Reproduction Service No. ED467192).

Hashmenzadeh N, Wilson L (2007). Teaching with the lights out: What do we really know about the impact of technology intensive instruction? College Student J. 41(3):601- 612.

Hlynka D, Mason R (1998). PowerPoint in the classroom: what is the point? Educ. Technol. 38(5):45–48. Intelligence Inc. The Principles of Recitation, http://webus.com/memory/memory_and_related_learning_prin.htm.

Kask S (2000). The impact of using computer presentations (CAP) on student learning in the microeconomics principles course. Paper presented at the meeting of the American Economic Association, Boston.

Keller J (2003). Is PowerPoint the Devil? Chicago Tribune (January 22).

Lowry RB (2003). Electronic presentation of lectures – effect upon student performance, University Chemistry Educ. 3 (1):18–21.

Mantei EJ (2000). Using internet class notes and power point in the physical geology lecture, J. College Sci. Teach. 29 (5):301-305.

Navarro P (1998). Notes from the electronic classroom. J. Policy Anal. Manage. 17(1):106-115.

Nouri H. and Shahid, A. (2005). The Effect of Powerpoint Presentations on Student Learning and Attitudes. Global Perspectives Account. Educ. 2(1):53-73.

Nowaczyk RH, Santos LT, Patton C (1998). Student perception of multimedia in the undergraduate classroom. Int. J. Instructional Media 25(4):367-382.

Parker I (2001). Absolute PowerPoint: Can a Software Package Edit Our Thoughts? The New Yorker (May 28):76-87.

Parks RP (1999). Macro principles, power point and internet: four years of the good, the bad, and the ugly. J. Econ. Educ. 30(3):375-377.

Perry T, Perry L (1998). University students" attitudes towards multimedia Presentations. Br. J. Educ. Technol. 29(4):375-377.

Pippert TD, Moore HA (1999) Multiple perspectives on multimedia in the large lecture, Teach. Sociol. 27(2):92-109.

Pauw AP (2002) Discoveries and dangers in teaching theology with PowerPoint, Teach. Theol. Religion. 5(1):39-41.

Rim E, Dorine M (2012). Power point in accounting classrooms: constructive or destructive? Int. J. Bus. Soc. Sci. 3(10):240-249.

Sammons MC (1995) Students assess computer-aided classroom presentations. T.H.E. J. 22(10):66-69. http://www.editlib.org/p/78937/

Simons T (2002). The least we can do is allowing PowerPoint to die in peace, Presentations 16(9).

Sosin K, Blecha J, Agarwal R, Bartlett RL, Daniel JI (2004). Efficiency in the Use of Technology in Economic Education: Some Preliminary Results, Am. Econ. Rev. 94(2):253-258.

Sugahara S, Boland G (2006). The Effectiveness of PowerPoint Presentations in the Accounting Classroom, Account. Educ. 15(4):391–403.

Susskind JE (2005). PowerPoint's power in the classroom: Enhancing students" self-efficacy and attitudes, Computer Educ. 45(2):203-215.

Szabo A, Hastings N (2000). Using IT in the undergraduate classroom: Should we replace the blackboard with PowerPoint? Comput. Educ. 35(3):175-187.

Thomas DE (2002) Technology Integrated Classes versus Traditional Classes and their Impact on User Performance and Perceptions. Proceedings of the International Conference on Computers in Education (ICCE„02).

Tufte E (2003). The cognitive style of PowerPoint (Cheshire, CT: Graphics Press).

Turk C (1996). Effective Speaking: Communicating in Speech, (JW Arrow Smith Ltd, Bristol, 1996).

Vashi K, Vishnu D, Kishan, Aditya V, Bhanuprakash (2012). Comparative study on the teaching effectiveness of chalk and talk and micro soft power point presentation from the student perspective. Int. J. Pharm. Pharmaceut. Sci. 4(1):191-193.

Walelign B, Bealy H, Sisay B, Dagachew M (2012). How to Improve Power Point Presentation among Medical College Instructors in Gondar University. Unpublished material.

Witt PL, Wheeless LR (2001). An experimental study of teachers" verbal and nonverbal immediacy and students" affective and cognitive learning, Commun. Educ. 50(4):327-342.

Wilmoth J, Wybraniec J (1998) Profits and pitfalls: Thoughts on using a laptop computer and presentation software to teach introductory social statistics, Teach. Sociol. 26(3):166-178.