

Effectiveness of Various Lecture Delivery Methods on the Learning of College Students:

By

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Abstract:

This study aimed to explore the “effectiveness of various lecture delivery methods on the learning of college students”. The research was carried out in various colleges of Quetta Baluchistan. This research was conducted following a pre - post Quasi Experimental design. The purposive sample of 30 students was equally divided into two groups. Group I is conventional method group and group II is modern method group. The primary aim was to assess the difference between these two lecturing method in terms of their effectiveness on student learning. A Purpose Specific Academic Achievement Test-PSAAT was constructed to assess Student’s level of learning after receiving lectures from the respective methods. In group I (n =15) the students were lecture through conventional method and group II (n =15) the students were lecture through modern method. Results indicated a significant increase in post test score for both lecture delivery method groups. But the difference between the score of the two comparison groups (i.e. conventional method & modern method) was non- significant indicating that both lecture delivery method are almost equally effective for the participating student.

Keywords: Lecture delivery methods, conventional method, modern method, purposive sampling, Qusai experimental design, learning.

Introduction:

Student are basically leaders of the future so they should be trained and groomed to face the difficulties and challenges of the future, but unfortunately in Pakistan mostly students do not receive proper guidance to face their difficulties. So we should try to open new doors for the appropriate education for all students including both men and women. Importantly doing this struggle we should not compromise on the quality of education, first responsibility regarding education comes on teachers that they should use verity of methods to teach students in class room.

A lecture is an oral presentation intended to present information or teach people about a particular subject, for example by a [HYPERLINK "https://en.wikipedia.org/wiki/University"](https://en.wikipedia.org/wiki/University) \o "University"

university or [HYPERLINK "https://en.wikipedia.org/wiki/College"](https://en.wikipedia.org/wiki/College) \o "College" college [HYPERLINK "https://en.wikipedia.org/wiki/Teacher"](https://en.wikipedia.org/wiki/Teacher) \o "Teacher" teacher s. Lecture delivery method helps students to improve their learning skills and with the help of lecture students try to improve their weak part of information Lectures are used to convey critical Information, history, background, theories and equations. Lecturing refers to planning and delivering a classroom teaching session or lecture. Lecture (from French word Lecture meaning reading process) is an oral presentation, tending to present information or teach people. During teaching beside knowledge content and communication skills of lecturer, the method used to deliver lecture is of key importance. Various methods and techniques are used to deliver lecture effectively including traditional lecture delivery and modern lecturing that includes presentation with IT support (Bronewll & Elson, 1991). Considering Pakistan lecturing is taken as the basic method of teaching that can effectively enhance student's learning. Based on the use of specific resources, different methods of lecture delivery are used in Pakistan. Two of the common lecture delivery methods are conventional method where white board/black board method and modern method / IT based method, where power point & other equipment are used (Barkley, Cross, & Major, 2005).

Conventional Method:

In this method during teaching the instructor proclaimed verbally, elaborate main points, draw sketch, and write down the problems on the white/ black board. So the main lecture delivery resource used in conventional method is whiteboard / black board .Mostly during this method no handouts are given to any students and they have to take notes during lecture. Students focus more intently on lecture and on content written on white board. White board/ black board are useful for recording single words or short phrases, or drawing simple diagrams. The simplicity in use of white board / black board can also be considered as its advantage. But writing on white board/ black board can potentially slow down the lecture delivery process (see for example Xingeng & Jianxiang, 2012) additionally the conventional method of lecturing can put student into a passive mode which in turn can affect their learning negatively.

Modern Method:

In this method teacher prepare and distribute slides based handouts among the students before starting the teaching session/instruction session. Teacher shows the power point slides and just explains the points. Though this type needs more efforts to prepare

the slides on the part of the teacher, but in this method as lectures are already out-lined and time schedule is fixed so lecture can be delivered in a flow. Additionally slides serve as memory aids enhancing learning of the students (McKeachie, 1999). Power point is now a day more widely used in lectures especially in higher education. This method results in better transformation of knowledge as it seems precise, pre-planned and systematic knowledge transformation. Disadvantages of lecturing through power point may include presence of irrelevant information in slide, reduced interaction with students, and uncontrolled/incoherent speech in presenting lecture.

Though many researches have indicated the effect of different lecturing methods on student's educational performance (see for example Vidakovic & Martin, 2004) but their differential effectivity for students has not been sufficiently studied in Quetta or Baluchistan. So, present study is concerned with assessing the effectiveness of various lecture delivery methods on the learning of college students.

Method:

The aim of the current research is to study the effectiveness of various lecture delivery methods on the learning of college students.

Objectives of the Study:

Followings are the main objectives of this study:

1. To assess the effectiveness of the conventional method of lecture delivery on student's learning.
2. To explore the effectiveness of the modern method of lecture delivery on student's learning.
3. To explore the differences regarding effectiveness of the two lecture delivery methods on student's learning.

These objectives were achieved following a pre- post quasi experimental design.

Sample:

A sample of 30 students was selected for this study including girls ($n=15$) and boy ($n=15$). The exclusion criteria for the participants were having prior knowledge of the topic assessed through the subject based Purpose_Specific Academic Achievement Test (PSAAT). The participating students were arranged to two groups randomly: Group I conventional method ($n=15$) group II modern method ($n=15$). The sample was selected purposively from various colleges of Quetta (Baluchistan).

Variables:

Lecture Delivery Methods: Two lecture delivery methods were used group I and group II. Group I lectured through conventional method (in which white board black board method is used). Group II lectured through modern method (in which IT biased techniques is used).

Student's Learning: In the current study student's learning on the selected topic was assessed through scores on Purpose Specific Academic Achievement Test-PSAAT.

Instruments:

A purpose specific Academic Achievement Test (PSAAT) was constructed and administered on the students to assess their level of learning. The test comprised of 20 objective type items that can be scored as 0 or 1 for incorrect and correct response respectively.

Procedure:

After taking the inform consent Purpose specific Academic Achievement Test (PSAAT) was administered to the entire participant as pre-test administration. Then the participants were randomly assigned to the two comparison groups i.e. group lectured through conventional method and group lectured through modern method. Both groups were lectured for one week on the specific topic following the respective method. After lecturing Purpose specific Academic Achievement Test (PSAAT) was again administered to the entire participant as post-test administration. The scores were computed and properly recorded for analysis through Statistical Package for the Social Sciences (SPSS).

Results and Discussion:

The purpose of the study is to analyze the effectiveness of various lecture delivery method on students' learning. First of all the strength of the newly constructed Purpose Specific Academic Achievement Test (PSAAT) was assessed through estimation of reliability and score distribution.

Table 1 shows the score distribution and alpha correlation coefficient of PSAAT. Results indicate that PSAAT is having satisfactory reliability ($p < .05$). Results further indicate that the scores distribution do not have any significant skew.

Differences of Mean and Standard Deviation of all Participants on Pre- Test and Post- Test Scores of Purpose Specific Academic Achievement Test (PSAAT)

To examine the differences of participant's mean scores on PSAAT before (pre-test scores) and after (post-test scores) administration of lecture using specific method, paired sample t-test was conducted for the full data and also for the two lecturing groups i.e. group lectured by conventional method and group lectured by modern method.

Table 2 indicates differences in mean and standard deviation of all participants on pre- test and post- test scores of Purpose Specific Academic Achievement Test (PSAAT). Results indicate significant ($p < .001$) increase in post-test means scores of participants. Results further indicate significant correlation between the two sets (pre-test & post-test) of data.

Table 3 indicate difference in mean and standard deviation of participants in group I (conventional) and group II (modern method) on pre- test and post -test scores of Purpose Specific Academic Achievement Test (PSAAT). Result indicate significant increase ($p < .05$) in post test scores for both group I and group II. Results further indicate significant correlation between the two sets of data.

Difference in Mean and Standard Deviation of Participants in Group I and Group II on post-test score of Purpose Specific Academic Achievement Test-(PSAAT)

To examine the difference in mean and standard deviation of participants in group I (conventional method) and Group II (modern method) on post -test Scores of Purpose Specific Academic Achievement Test-(PSAAT) independent sample t-test was conducted.

Table 4 displays differences in mean and standard deviation of post- test scores of students in group I and group II. Results indicate that though group II (students lectured through modern method) displayed relatively higher mean score than group I (students lectured through conventional method) but the mean difference is non-significant.

Aim of the study was to analyze the effectiveness of lecture delivery methods on students learning. For this purpose on the basis of

literature review two lecturing methods were selected including conventional method (use of white board/ black board) and modern method (use of power point/ multimedia). To assess the performance of the students a Purpose Specific Academic Achievement Test (PSAAT) was developed. To compare the performance of students in group I (students lectured through conventional method) and group II (students lectured through modern method) paired sample and independent sample t test was conducted. Results indicate that both groups showed significant increase in test scores after the lecture delivery. Furthermore, though group II showed relatively higher post-test mean scores but the mean differences in post-test scores (increased score) for the two groups were non-significant. This indicates that for our sample both lecture delivery methods seem equally effective. This finding is inconsistent with most research findings that assert that modern method is more effective lecturing method than traditional method (see for example, Xingeng & Jianxiang, 2012).

Limitation and Recommendation of the Study:

The foremost limitation of the study is the small and non-randomized sample size, so it is recommended that if the study is replicated on a larger and more representation sample then better/clearer results can be attained. Though quasi experimental design was used but non-inclusion of control group can also be considered as a limitation of the study. Inclusion of the control group in the design for future studies can lead to more valid results. Furthermore, use of test developed on more general topics that are relevant to various fields of studies for assessment of various lecture delivery methods is also recommended.

Table 1

Score Distribution and Alpha Reliability Coefficient of Purpose Specific Academic Achievement Test-PSAAT (N = 30).

Scale	No. of items	Mean	SD	α	Range		Skew (standard error)
					Min.	Max.	
PSAAT	20	10.13	3.41	.619*	5	17	.515 (.427)

Note. PSAAT= Purpose Specific Academic Achievement Test; SD= Standard deviation; $p < .05$.

Table 2

Difference in Mean and Standard Deviation of all Participants on Pre-Test and Post- Test Scores of Purpose Specific Academic Achievement

Test-PSAAT (N=30)

Scale	Pre-test		Post test		t (df)	R	CI 95%		Cohen's D
	M	SD	M	SD			LL	UL	
PSAAT	2.80	2.04	10.13	3.41	-18.04*** (29)	.633***	-6.34	-8.32	-3.140

Note. M= Mean; SD= Standard deviation; CI= Confidence interval; ***p < .001.

Table 3

Difference in Mean and Standard Deviation of Participants in Group I (Conventional method) and Group II (Modern method) on Pre- Test and Post -Test Scores of Purpose Specific Academic Achievement Test (PSAAT) (N=30).

Score on lecturing group	n	Pre- test		Post- test		t (df)	r	CI95%		Cohen's D
		M	SD	M	SD			LL	UL	
Group I	15	2.87	2.20	9.20	3.93	-7.67*** (14)	.581*	-8.10	-4.56	-2.256
Group II	15	2.73	1.94	11.0	2.60	-22.2*** (14)	.83***	-9.13	-7.53	-6.248

Note. Group I= Students who were lectured through conventional method; Group II= Students lecture through modern method; LL= Lower limit; UL= upper limit. *p < .05; ***p < .001.

Table 4

Difference in Mean and Standard Deviation of Post- Test Scores of Students in Group I and Group II.

Lecturing groups	n	Post test Scores		t (df)	p	95% CI		Cohen's D
		M	SD			LL	UL	
Group I	15	9.20	3.93	-	.136	-	.63	0.561
Group II	15	11.07	2.604	(28)		4.36		

Note. Group I= Students lecture through conventional method; Group II= Students lecture through modern method; CL= Confidence interval; LL= Lower limit; UL= upper limit.

References:

Anderson, L.W. & Krathwohl, D. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.

Bipasha , S. M. (2013). Methods of Delivery of Lectures in the Classroom. *IOSR Journal of Research & Method in Education*, 2(2). Retrieved from HYPERLINK "<http://www.iosrjournals.org>" www.iosrjournals.org .

Dabbagh, N. (2005). Pedagogical models for E-Learning: A theory-based design framework.

Daniels, L. (1999). Introducing technology in the classroom: PowerPoint as a first step. *Journal of Comput. High Educ.*, 10, Pp. 42-56. Retrieved from HYPERLINK "<http://www4.gvsu.edu/ftlc/lectureskills.htm>" <http://www4.gvsu.edu/ftlc/lectureskills.htm> .

Dabbagh, N. (2005). Pedagogical models for E-Learning: A theory-based design framework.

Deden, A (2005). Program packaging and e-support for online student retention. Retrived from HYPERLINK <http://www.odlaa.org/events/2005conf/nonref/odlaa2005Deden.pdf> .

Hathaway, D. M. (2009). *Assessing quality dimensions and elements of online learning enacted in a higher education setting*. PhD dissertation, George Mason University. Retrieved from http://digilib.gmu.edu:8080/bitstream/1920/4593/1/Hathaway_Dawn.pdf.