

Determination of Compatibility of Lecture Method as an Instructional Strategy for Online Teaching to Prospective Teachers in Pakistani TEIs

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Abstract

This research study aims to examine the compatibility of the lecture method as an instructional strategy for teaching prospective teachers effectively in online classes at Teacher Education Institutions in Sindh. The researcher framed the objectives first to fulfill the purpose of the study and then framed four hypotheses based on the objectives to collect the perceptions of teacher educators of the public sector teacher education institutions in considering the selected variables in order to measure the practices of the lecture method used in the online classes for teaching the prospective teachers. The nature of the research was descriptive to explore and determine the degree of effectiveness of the lecture method in online classes. The effectiveness helps in determining the compatibility of the method with the online teaching approach. He adopted a survey research design. The researcher selected a quantitative approach. He developed a five-point Likert Scale for collecting the data. It was a close-ended questionnaire. The obtained coefficient of reliability of the instrument was 0.89 and the obtained coefficient of validity was 0.921. The population of the study was teacher educators working in the TEIs in Karachi. He adopted a simple random sampling technique for selecting the sample; one of the probability techniques. The sample size was 597 teacher educators as respondents. One-sample t-tests were used to analyze the hypotheses statistically using SPSS-22. The null hypotheses were rejected and proved that the lecture method was compatible with the online approach, and proved its efficacy for teaching adults in their online classes.

Keywords: *Teaching styles, Learning styles, Compatibility, Interactive teaching methods, Traditional teaching methods, Motivation for learning,*

Introduction

Teacher education plays a pivotal role in building and regenerating the education system of a society. Teacher education covers a range of academic, pedagogical, and practical training aimed at equipping future teachers with the knowledge, skills, and attitudes necessary to excel in their roles as educators. Well-trained teachers are better equipped to impart knowledge effectively, promote critical thinking, and for improving the quality of education.

Teaching is the art of assisting and facilitating learners to learn knowledge, skills, and attitudes. Teaching methods are the actual means by which the teachers attempt to bring about the desired learning objectives. Using different teaching methods, modern interactive techniques, and proper feedback from teachers improves the academic performance of the learners. A professionally trained teacher is able to use different teaching methods successfully in accordance with the needs of content, grade level, students, and situation. A teaching strategy is a way in which the teacher transmits course content, skills, and attitudes to the learners. Thus teaching strategies play a crucial role in shaping learners' academic performance, and social, emotional, and personal development in order to obtain most of the learning outcomes. Various teaching strategies like lecture method, discussion method, activity base method, and modern interactive methods are used for teaching according to the subject needs in the classroom. It's important to note that the effectiveness of teaching methods is based on factors such as the subject matter, learners' characteristics, and the teacher's expertise. Therefore, the teaching strategies as the basic means of imparting knowledge and information to the students, should have to be carefully selected.

Lecture Method; Selected Teaching Strategy

With all the advancement of training systems and computer technology, the lecture method is still a backbone widely used in teaching and training at all levels of education even as an online teaching approach. According to Huxham (2005), lectures proved to be prime sources of information, if delivered properly. The effectiveness of this method may vary depending on the subject matter, teaching style, and the level of interactivity incorporated. Many researchers have investigated the impact of lecture methods on learners' participation and achievement of learning outcomes in different countries (Asikhia et al., 2010).

Skills Required for Lecture Method

Communication Skills

A primary skill that a teacher requires in order to excel in the lecture method even in their online classes. In order to transmit the new concepts and knowledge to the students effectively, a teacher has to acquire communication skills. It allows teachers to explain complex knowledge and difficult concepts in an easy and joyful manner. It enables the students to make efforts to understand the new concepts and to relate them with already existing knowledge. A teacher who has enough command of communication skills always makes the teaching-learning process interesting, and interactive to put it at the higher cognitive level.

Creative Skills

Creative skills are essential to make the lecture method effective and inclusive in exploring new ideas. When the teacher incorporates different creative strategies into their methodology of lecture it instills the students to take part in the learning activities and put their opinions for the new ideas. Teachers' sense of humor makes the classes more fun, more engaging, and enjoyable for students.

Time Management Skills

Time management skills are crucial for accomplishing the activity and for obtaining maximum productivity of the lecture method in online classroom teaching. Teachers should plan the lessons that they can deliver in a single lecture. They should have developed the learning outcome they want to achieve by the end of the session. When they deal with a long lesson, teachers should break the lesson in such a way that it makes it easier for the students to grasp it.

When the teacher uses active or collaborative strategies, students think as they learn, activate their prior knowledge, and link new concepts to related ones in their schema; hence they tend to be more effective in developing deeper understanding (Abanikanda, 2011). In other words, learning opportunities do not happen without a teacher's deliberate pedagogical actions.

The researcher intends to observe the efficacy of this effective teaching method with the online teaching approach in the phenomena of the local context of teaching in online classes. This

study is an effort to provide concrete evidence of the relationship of the variables in order to make productive decisions for the online teaching approach.

Literature Review

Teaching methods help learners to master the content of the course and learn how to apply the content in particular contexts. According to Smith, et al (2012), a classroom lecture is a special form of communication in which voice, gesture, movement, facial expression, and eye contact either complement or detract from the content. The lecture method, a traditional teaching approach is the most applied teaching strategy for online teaching environments. According to Kamardeen (2014), the lecture method comprises the transfer of well-synthesized knowledge from the teacher to the student in a structured manner in a classroom. According to Ramsden (2013), lecturing is easier to carry out than other methods of teaching, and it appeals to learners' learning styles. The lecture method is a prominent component of teacher-centered instructional approaches, where the teacher assumes a central role in imparting knowledge and guiding the learning process. According to Goffe et al, (2014), the lecture method is used as the basic means of imparting knowledge and information to learners, it is carefully selected, and modified according to the learners' needs and interests. According to Capon and Kuhn (2004), the lecture method is “the most economical method of transmitting knowledge and it covers a large amount of the content method in a short time”. The teacher’s enthusiasm and commitment to the subject in a lecture motivate the students to listen attentively and learn the lesson positively.

Lecture Method as an Online Teaching Strategy

In this modern era online lecture methods enhance the effectiveness of the lecture, if the teachers incorporate interactive elements, encourage discussions, and use proper feedback. Online lectures involve the presentation of content through video recordings, audio narration, and multimedia elements, and students are able to access it at their convenience, allowing for flexibility in their learning schedules. Research suggests that well-designed online lectures help to achieve improved learning outcomes as compared to face-to-face physical classrooms (Chen et al., 2017).

There are different kinds of online lecture methods that are used in different situations; Pre-recorded lectures are used to give learners autonomy in learning so that they use the recorded

lectures whenever they need to; Live virtual lectures are essential to keep the learners learning, and are conducted formally at pre-announced time, everyone has to follow the timings and instructions to be part of the live lectures; Online interactive video lectures incorporate interactive elements; quizzes, polls, and annotations. So the lecture encourages students' engagement and helps them with self-assessment during the lecture.

According to Cavanagh (2011), an effective interactive lecture is likely to call upon a blend of various interactive techniques all in one class period. When teachers combine online lectures with interactive elements and engaging activities, the effectiveness of the online teaching process is increased many times than any other modern teaching approach. Students also take an interest in the said approach and fruitful results are obtained. According to McKeachie & Svinicki, (2006), certain language skills such as pronunciation, grammar, and vocabulary are improved by the lecture method. Many studies have discussed the current use of lectures by means of pre-recorded video lectures in online education. According to Means et al. (2013) well-structured, engaging online lectures have proved effective in conveying information, provided they are combined with interactive elements. Borup et al. (2015) compared the effectiveness of synchronous and asynchronous online lectures and found that both have their advantages and disadvantages, depending on the learning context and students' needs. A research study by Pecar et al. (2016) emphasized the importance of combining elements like quizzes, discussions, and peer interactions into online lectures to maintain student engagement and increase learning outcomes. The results of different research during and after the pandemic, such as that by Hodges et al. (2020), explored the challenges and successes of shifting to online lectures under such circumstances.

Online education has gained significant popularity in recent years especially after covid-19 situation, offering students the flexibility and accessibility to learning from anywhere. Lecture-based teaching in online classes offers a well-structured approach to presenting course content, which enhances the clarity and organization of information for online learners (Smith et al., 2018). According to Jones & Brown, (2019), lecture-based instruction in online education allows teachers to cover a large content efficiently within a limited timeframe. Learners are able to access the lecture videos asynchronously, allowing learners to review course materials at their convenience (Chen & Lee, 2020). Lecture-based teaching in online settings may require advanced technological resources and skills, potentially excluding certain learners who

lack access to necessary equipment or high-speed internet (Thomas, 2022). According to Hart, et al. (2004), despite the widespread criticism, the lecture method, is still playing a prominent role in the teaching of most disciplines at higher institutions. According to Bligh, D. (2001), lecturing is still the teaching method that governs most colleges and universities around the world.

Significance of the Study

The online education system is becoming the only solution to educate the masses without compelling them to any harm. This study explored the flow of the teaching process and the hindrances that might affect the learning of the students. This study benefits teacher educators, institutional administrators, policymakers, online teaching program developers, researchers, and educationists. It helps in providing evidence from real-life situations to portray the true picture of the phenomena in order to make progressive decisions with regard to the use of lecture methods in online education. This study was designed to evaluate the educational and operational effectiveness of the currently used Online teaching approaches in TTIs in Sindh.

Statement of the Problem

The present study was to explore the compatibility of the lecture method as an online teaching strategy at the teacher education institutions (TEIs) in Sindh Pakistan. According to many studies, the lecture method is still the most widely used teaching method at all levels, especially in tertiary educational institutions. The lecture method is also considered good for transmitting vast amounts of information in a short time and hence proved to be an economical way of teaching.

Research Objective

1. To investigate the effectiveness of the lecture method as a teaching strategy for online teaching to prospective teachers.
2. To investigate the effectiveness of the lecture method in stimulating prospective teachers to ask questions in online classes.
3. To investigate the effectiveness of the lecture method in motivating prospective teachers to answer the asked questions in the online class.
4. To examine the perception of the prospective teachers regarding the enjoyment of the lecture method in their online classes.

Research Question

1. Do the lecture method as an instructional strategy suit well to the online teaching approach for teaching prospective teachers in teaching education institutions in Pakistan post-COVID situation?

Research Hypotheses

1. **H₁**: The lecture method is an effective teaching strategy for online teaching to prospective teachers.
2. **H₁ #** In online teaching, the lecture method stimulates prospective teachers to ask questions.
3. **H₁ #** In online teaching, the lecture method motivates prospective teachers to answer the asked questions.
4. **H₁ #** In online teaching, prospective teachers enjoy the lecture method in their learning.

Research Methodology

The nature of the research was causal-comparative, the researcher intends to study the impacts of already existing variables on the dependent variables. For this purpose, he selected a survey research design to collect the data. All the teacher-educators in teacher education institutions (TEIs) in Pakistan are the target population of the study while the teacher-educators in TEIs in Sindh are the accessible population for the study. The researcher selected the sample by using the probability technique to obtain the empirical data. He selected randomly 597 teacher-educators from the determined population. He selected the TTIs as clusters randomly then he selected the subjects from each cluster by using simple random sampling. The researcher developed a close-ended questionnaire based on a five-point Likert Scale as the research instrument. The instrument consisted of the concepts of the effectiveness of the lecture method. The concept of effectiveness of the Lecture method consisted of three sub-variables; motivating the prospective teachers to answer the asked questions; stimulating the prospective teachers to ask the questions; and perceptions of enjoying the lecture method in online classes. He visited the selected cluster of institutions to implement the questionnaire. He took formal permission to conduct his research from the head of the institutions. After getting permission he arranged a meeting with the teacher-educators of those institutions where he took formal consent from every participant. After getting their consent, he distributed the questionnaire

which contained 15 items, he gave the respondents ten days to fill in the questionnaire but it took a long time to get the filled-in questionnaire back. Every five items contributed to a single hypothesis. The researcher analyzed four hypotheses by using one sample t-test in which the obtained data was compared with the already given criteria. Three hypotheses were formed on the three sub-variables of effectiveness; motivating the prospective teachers to answer the asked questions; stimulating the prospective teachers to ask questions and perceptions of enjoying the lecture method in online classes. And the fourth hypothesis was formed on the sum of all the three sub-variables. The researcher analyzed each hypothesis with the five items of the questionnaire while the fourth hypothesis was analyzed using the sum of all the fifteen items that showed the comprehensive picture of the effectiveness of the lecture method as an online teaching approach.

The obtained coefficient of reliability of the instrument was 0.89 and the obtained coefficient of validity was 0.921. One sample t-test was used to analyze the effectiveness of the lecture method as a strategy in the online teaching approach in order to make credible inferences. The findings presented explored underlying facts and made useful predictions about the population.

Analysis and Discussion

Hypothesis Testing

The researcher tested four hypotheses to infer the underlying meaning of the phenomena objectively and quantitatively. For this purpose, the researcher employed One-sample t-tests by providing hypothesized values to compare the obtained mean scores.

Table 1

Descriptive Statistics

Hypothesis	N	Mean	Std. Deviation	Std. Error Mean
In online teaching, the lecture method stimulates prospective teachers to ask questions.	597	24.09	.875	.052

Table 1 shows the stats of the one-sample t-test. The hypothesis is in column 1. The sample size is in column 2 as N= 597. The mean is in column 3. The SD is in column 4. The SE of Mean is in column 5. In column 3, the mean is 24.09. In column 4, the SD is .875. In column 6, the SE of the mean is .052.

Table 2
Prospective Teachers' stimulation to ask Questions in their Online Lectures

Hypothesis	Test Value = 20				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
In online teaching, the lecture method stimulates prospective teachers to ask questions	40.040	596	.000	4.09	1.99	2.19

Table 2 presents the results of the one-sample t-test. The Positive t-value of 40.040 in column 1 which is greater than 1.96 supports the acceptance of the alternative hypothesis and the P-Value is 0.00 expresses that the findings are significant enough to accept the inference of hidden meanings so the null hypothesis is rejected and the alternative hypothesis that in online teaching, the lecture method stimulates prospective teachers to ask questions.

Table 3
Descriptive Statistics

Hypothesis	N	Mean	Std. Deviation	Std. Error Mean
In online teaching, the lecture method motivates prospective teachers to answer the asked questions.	597	25	.295	.032

Table 3 shows the statistics of the one-sample t-test. The hypothesis is in column 1. The sample size is in column 2 as N= 597. The mean is in column 3. The SD is in column 4. The SE of Mean is in column 5. In column 3, the mean is 25. In column 4, the SD is .295. In column 6, the SE of the mean is .032.

Table 4

Prospective Teachers' motivation to answer the Questions in their Online Lecture

Test Value = 20						
Hypothesis	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
In online teaching, the lecture method motivates prospective teachers to answer the asked questions.	41.70	596	.000	5	1.99	2.9

Table 4 presents the results of the one-sample t-test. The Positive t-value of 41.70 in column 1 which is greater than 1.96 supports the acceptance of the alternative hypothesis and the P-Value is 0.00 expresses that the findings are significant enough to accept the inference of hidden meanings so the null hypothesis is rejected and the alternative hypothesis that in online teaching, the lecture method motivates prospective teachers to answer the asked questions.

Table 5

Descriptive Statistics

Hypothesis	N	Mean	Std. Deviation	Std. Error Mean
In online teaching, prospective teachers enjoy the lecture method in their learning.	597	23.93	.344	.051

Table 5 shows the statistics of the one-sample t-test. The hypothesis is in column 1. The sample size is in column 2 as N= 597. The mean is in column 3. The SD is in column 4. The SE of Mean is in column 5. In column 3, the mean is 23.93. In column 4, the SD is .344. In column 6, the SE of the mean is .051.

Table 6
Prospective Teachers' enjoyment of the Lecture Method in their Online Learning

Test Value = 20						
Hypothesis	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
In online teaching, prospective teachers enjoy the lecture method in their learning.	37.876	596	.000	3.93	1.03	2.1

Table 6 represents the results of the one-sample t-test. The Positive t-value of 37.876 in column 1 which is greater than 1.96 supports the acceptance of the alternative hypothesis and the P-Value is 0.00 expresses that the findings are significant enough to accept the inference of hidden meanings so the null hypothesis is rejected and the alternative hypothesis is that *in online teaching, prospective teachers enjoy the lecture method in their learning.*

Table 7
Descriptive Statistics

Hypothesis	N	Mean	Std. Deviation	Std. Error Mean
The lecture method is an effective teaching strategy for online teaching to prospective teachers.	597	73.86	.834	.092

Table 7 shows the statistics of the one-sample t-test. The hypothesis is in column 1. The sample size is in column 2 as N= 597. The mean is in column 3. The SD is in column 4. The SE of Mean is in column 5. In column 3, the mean is 73.86. In column 4, the SD is .834. In column 6, the SE of the mean is .092.

Table # 8

Effectiveness of the Lecture Method for Prospective Teachers in Online Teaching

Test Value = 60						
Hypothesis	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The lecture method is an effective teaching strategy for online teaching to prospective teachers.	87.76	596	.000	13.86	2.03	3.4

Table 8 represents the results of the one-sample t-test. The Positive t-value of 87.76 in column 1 which is greater than 1.96 supports the acceptance of the alternative hypothesis and P- Value 0.00 expresses that the findings are significant enough to accept the inference of hidden meanings so the null hypothesis is rejected and the alternative hypothesis that the lecture method is an effective teaching strategy for online teaching to prospective teachers.

Conclusion and Recommendation

The study has confirmed that the lecture method is a suitable strategy for online teaching to prospective teachers in teachers' training institutes. The research has also shown that prospective teachers like online lectures because the lecture method in online classes; stimulates prospective teachers to ask questions, and motivates prospective teachers to answer the asked questions. The prospective teachers enjoy the lecture method in their learning. The online approach has several different means to learn, practice, and discuss the learned material that keeps the learner engaged in different kinds of activities as well as fosters their motivation to learn, to respond, and to ask. All of these make the lecture method a journey of learning. The learner continuously moves forward in his learning explores new things, and presents and demonstrates in his circles. It is concluded that the lecture method is an effective teaching strategy for online teaching to prospective teachers. The findings of the study match with the findings of other scholars such as Tafazoli (2013), Penestri & Selvandin (2011), Kaplan & Heinlein (2010), and Viegas, Wattenberg & Feinberg, (2009) who posit that the use of Lecture method in online teaching, enhances the interest of the students in learning. Consequently, its

use in teaching is capable of keeping learners longer on the task, engaged, and making the learning more productive.

The lecture method has proved the most effective teaching strategy for delivering a large amount of information to a large audience within a relatively short time in general classes as well as for online classes. This strategy stimulates the prospective teachers to take an interest in the lecture, to ask questions, to motivate them to answer the asked questions, and to enjoy the teaching-learning process fully. In the study researcher found that the effectiveness of the lecture method is obtained by accepting the alternative hypotheses in which different dimensions of the method were measured. The researcher found that proper use of different techniques of lecture method makes the teaching-learning effective. However, it is necessary for teacher educators to impart lecture method with modern interactive teaching skills like engaging students through group discussions, group activities, quizzes, presentations, etc. in order to improve prospective teachers' learning skills, because research indicates that active learning methods promote critical thinking, deeper understanding, and retention of knowledge (Freeman et al., 2014). The research study generated following recommendations

1. Teacher educators should stimulate prospective teachers to ask questions while using the lecture method in online classes.
2. Teacher educators should motivate prospective teachers to answer the asked questions while using the lecture method in online classes.
3. Teacher educators should make the teaching informative and humorous so that prospective teachers enjoy the lecture method in their online teaching.
4. Teacher educators should use various interactive strategies so that prospective teachers enjoy the lecture method in their online teaching.
5. Teacher educators should adopt all necessary strategies to make the lecture method an effective and compatible strategy for the online teaching approach.
6. Teacher educators should adopt the discussion and storytelling style to increase interaction with students in the online class.
7. Teacher educators should promote learners' self-confidence by providing them with positive feedback and encouraging them to work harder for their learning.
8. Teacher educators should ask questions to stimulate prospective teachers to keep them motivated.

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