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Attitude of Prospective Teachers towards Innovative Pedagogy

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Abstract

The modern period is the period of science and technology; therefore, it is the need of society that this must be developed in school. The school education is the base of all education; therefore, it is necessary to expose students to innovative methods in the classroom. Exposer of students to innovative methods depends on the teachers. In this paper, the researcher wants to find out the prospective teachers' attitudes towards innovative pedagogy. For this purpose, researchers took 86 prospective teachers as a sample of the study. This sample comprises 36 females and 50 males. The result of this study depicted that prospective teachers have a positive attitude towards using innovative pedagogy in the classroom. This paper deals with the attitude of the prospective teacher as a student. They show a highly positive attitude toward innovative pedagogy in the classroom and said it facilitates better learning. In this way, this paper gives a view to teachers as well as teacher educators that they can increase the learning in students through the use of innovative pedagogy in the classroom.

Keywords: *Pedagogical Reforms, Innovative Pedagogy, Prospective teachers, Attitude*

Introduction

In the modern world, technological development has altered our way of life on a personal, social, and economic level, as well as in the field of education (Alamri & Alsaleh, 2018). The need for technology integration in education is increasing due to the requirement for 21st-century capabilities, which will boost academic performance and accomplishment (Alamri & Alsaleh, 2018; El-Gaby, 2022). Due to the rapid development of knowledge, globalization, artificial intelligence, and augmented reality, the twenty-first century has drastically altered our way of life (Bernad &Llevot, 2018). At present, conventional education is declining and demanding innovations in pedagogy (Makri et al., 2021). Teachers have been shifting away from rote memorization and conventional teaching techniques to fulfil the demands of society and toward more constructive and collaborative approaches (Santos, Figueiredo, & Vieira, 2019). The researcher provides various definitions for the concept of innovations. In education, innovation is a dynamic and ongoing process (Law, 2007). Innovativeness,

according to (Law et al., 2005), entails tearing down the barriers of the traditional classroom, subject boundaries, timetable of the learning process, providing students with autonomy, learning at students' pace, enhancing educational equity, social cohesiveness, and last but not least, promoting 21st-century skills like collaboration, communication, and solving real-world problems. Innovations are a concrete product or process, a part of modern development that helps educational institutions. (Law, 2007). One way to obtain 21st-century skills and transform education into a 21st-century system is through innovative pedagogy (Avidov & Forkosh, 2018). To assist instructors in making judgments about the method of teaching and learning process is the art and science of pedagogy (Peterson, Dumont, Lafuente, & Law, 2018). Pedagogical concepts are a collection of organised information and concepts that support and describe the beliefs of educationist professionals (Tuychieva, 2015). Pedagogical innovation refers to a teacher's ability to take a long-term, deliberate action, change the original setting, or enhance something weak or unable to increase students' performance through interaction in the method of teaching and learning (Walder, 2017). To form the relationship between teachers and students, pedagogy refers to recurring patterns or sets of teaching and learning techniques (Peterson, Dumont, Lafuente, & Law, 2018). The pedagogical innovation cycle (Walder, 2014; Tuychieva, 2015) includes Novelty, Applications, Techno vs. pedagogy, Human relations, Reflection, Improvement, Changing and Adapting (Fig. 1).

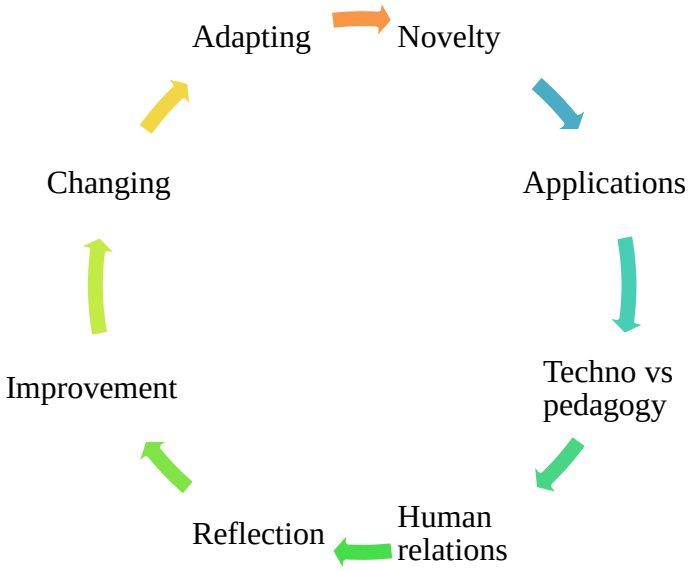

Fig. 1 Pedagogical Innovation Cycle
(Source- Walder, 2014; Tuychieva, 2015)

In this paper, pedagogical innovation means the implementation of a new teaching method different from the traditional pedagogical approach, which will bring improvement in students' holistic development. This paper includes the study of teacher's attitudes towards innovative pedagogy. Teachers are one of the crucial factors to bring change in education (Nachmias et al., 2004). The primary goal of adopting a pro-innovative pedagogy mindset among instructors is to

empower them to take on the risk of change and advance educational institutions (Harris, 2015). Teachers are aware that introducing innovation into the classroom will change the way things have always been done. (Nelson, Christopher, & Mims, 2009). Technology innovation is needed for societal needs due to technological development. Teachers must apply a framework to create, execute, and evaluate curriculum for innovation in the classroom (Niess, 2011). As defined by Bechard (2000), a change that constitutes instructional innovation is "an intentional action that aims to introduce something original into a given context, and it is pedagogical as it seeks to substantially improve student learning in a situation of interaction and interactivity." (p. 3), which he later expands upon: “In a university context, pedagogical innovations are often described as everything which is not lecturing, the method still used by the overwhelming majority of professors.” (Bechard & Pelletier, 2001, p. 133).

Review of Related Literature

Prakash (2012) conducted a study to explore student teachers' attitudes towards innovative teaching-learning pedagogy. In this study, 30 student teachers were taken as the sample. For knowing the attitude of student teachers, a self-prepared attitude scale has been used by the researcher. The researcher utilised a t-test and simple percentage analysis to analyse the data. The study's findings indicated that student instructors have a favourable attitude towards cutting-edge instructional strategies.

Prakash &Venkatesh (2012) studied student teachers' attitudes towards technology in science education. The objective of this study was to know the level of attitude of student teachers towards technology in science education. The sample of this study was 200 (100 males and 100 females) students of mathematics, physical and biological science. The researcher used a self-developed attitude scale and achievement test for the data collection. For data analysis, the researcher has adopted a simple per cent analysis. The finding revealed that student teachers show a highly positive attitude towards technology in science.

Batanero and Ruiz (2016) studied teachers' attitudes towards using ICT in inclusive classrooms. For this study, the researcher adopted the multiple case study method. For the sample, namely two schools, public ownership, Secondary Education (ESO) in Seville (Spain) has been selected by the researcher. The questionnaire and group discussion have been used for data collection. The results of this study

revealed that teachers have a positive attitude toward the implementation of ICT in the inclusive classroom.

Mahajan (2016) carried out a study to find out teachers' attitudes about using technology in the classroom. Using a practical selection technique, a sample of 100 school teachers was selected for this study from 10 schools in the Nurpur and Jawali Blocks of the Distt. Kangra. To gather data, the researcher created a self-developed questionnaire. According to the study's findings, 25% of instructors have a positive attitude towards using technology in the classroom. The views of male and female teachers towards the usage of technology in the classroom did not significantly differ.

Marti, Segui, & Segui (2016) conducted a study on Teachers' Attitudes towards and Actual Use of Gamification and gamification taken as innovative pedagogy. The major objective of this study was teachers' attitudes towards gamification. Samples drown by the snowball sampling technique. 98 teachers have been selected for the study. For analyzing the data T-test was used by the researcher. The result revealed that teachers have highly positive attitudes towards gamification.

The attitudes of English teachers towards digitally based teaching materials were investigated by Sari, Suryani, Rochsantiningsih, & Suharno (2017). The information gleaned from respondents was gathered and analysed using a qualitative methodology. The Senior High School English teachers in Solo served as the study's subjects. Interviews and questionnaires were used to collect the data for this study. The questionnaire was created with a specific goal in mind: to address research questions about teachers' perceptions of ICT use in senior high schools in Solo. The researcher used interactive qualitative models to analyse the data. According to the findings, English teachers have a very favourable attitude towards including ICT in their lesson plans.

Baby and Sareef (2018) conducted a study to determine the degree of techno-pedagogical attitude and digital literacy among secondary school teachers in Kerala. The stratified Random sampling technique has been adopted by the researcher for selecting 360 teachers from secondary schools as the sample of the study. The descriptive Survey method was used by the researcher for this study. The technological pedagogical attitude and digital literacy level among Kerala secondary school teachers were assessed using a self-developed Techno-pedagogical Attitude Scale and Digital

Literacy test. Descriptive statistics, t-test, and Pearson's product-moment coefficient of correlation(r) were the statistical techniques used to analyse the data. The results of the study uncovered that secondary school teachers possess a high level of Attitude towards Techno Pedagogy.

Innovative pedagogical practises in higher education: An integrated literature review was the subject of a study by Santos, Figueiredo, & Vieira (2019). The investigator used the PICO method to conduct an integrative literature review for this study, applying it to the ERIC and EBSCO electronic databases and examining ten papers that were released between 2012 and 2016. He identified four themes: conceptual and instructional strategy dissonance, blended instructional strategy integrating ICTs, digital simulation, and instructional strategy for data analysis in big classrooms. The study's findings showed that implementing innovative pedagogical techniques increases student engagement, enhances critical and creative thinking, decreases indifference, and fosters peer learning.

Bariu and Chun (2022) conducted a study on the Influence of teachers' attitudes on the implementation of ICT in Kenyan universities. The researcher used a descriptive survey approach for this investigation. 475 teachers at Kenyan University were selected using a stratified random sampling technique, and data were collected using standardised questionnaires. Descriptive statistics, factor analysis, inferential statistics, ANOVA, and regression were utilised to evaluate quantitative data using the Statistical Package for Social Science. The study's response rate was 86.4%, and the data obtained met the criteria for normalcy for the Kolmogorov-Smirnov and Shapiro-Wilk tests as well as for normal quantile plots, with a P value of 0.78 and a Cronbach's Alpha score of 0.841. The study's findings showed that 58.3% (277) of the participants had a favourable attitude towards the use of ICT.

Rational of the Study

The whole education system depends on school education because school education is the foundation of the whole education system. In school education, secondary education plays a crucial role because it prepares students for higher education (Kothari Commission, 1964); therefore, it is especially important that students should be exposed to innovative methods and hands-on practice in the classroom. On the other hand, teachers' attitude affects school education because they implement the pedagogy in the classroom. Teacher education institution trains the prospective

teacher for the schools. Keeping this in mind, the researchers want to investigate the attitude of prospective teachers towards innovative pedagogy. In this research, researchers take gender as a variable because in our society, females, along with the teaching profession, have many responsibilities at a time, such as housewives and mothers; therefore, they live a very hectic schedule in their life therefore, researchers want to know the attitudes of the female teachers towards innovative pedagogy.

Research question

1. What attitudes are possessed by prospective teachers towards innovative pedagogy?

Objectives

1. To examine the attitudes of prospective teachers towards innovative pedagogy.
2. To compare the mean difference between the attitudes of male and female prospective teachers towards innovative pedagogy.
3. To compare the mean difference between the attitudes of prospective teachers in terms of their pedagogy stream towards innovative pedagogy.

Hypothesis

$H_{01:}$ There is no significant mean difference between the attitudes of male and female prospective teachers towards innovative pedagogy.

$H_{02:}$ There is no significant mean difference between the attitudes of prospective teachers in terms of their pedagogy stream towards innovative pedagogy.

Explanation of the Term

Innovative Pedagogy-In this study, innovative pedagogy means ICT, digital pedagogy, and other new methods of teaching-learning in the classroom.

Operational Definition of the Term

Attitude towards innovative pedagogy-In this study, attitude is the achieved score on the scale for measuring attitude developed by Prakash, S. (2012).

Pedagogy Stream: In this study, Stream is referred to as a pedagogy subject taken by the prospective teachers. Here, the pedagogical stream is divided into two streams, i.e., science and other. In other streams, art, commerce, and language streams are included.

Methodology

This study is the descriptive survey method used to know prospective teachers' attitudes toward using innovative pedagogy in the classroom. The sample of this study was from the Central University of South Bihar, Gaya. Eighty-six prospective teachers have been chosen by

the convenient sampling method. This sample is represented by 36 females and 50 males; for data collection researcher used the 'Attitude Scale toward Innovative Pedagogy' standardized by S. Prakash. For the data analysis of this study, the researcher has used the Shapiro-Wilk distribution test, Frequency, Percentage analysis, and the Mann-Whitney U test.

Data collection

The researcher sent a Google form to the B.Ed. students on a personal basis for the purpose of data collection. A total of 86 students responded to the questionnaire.

Data analysis and result

For the analysis of the data frequency, percentage analysis and the Mann-Whitney U test were applied.

Normality of the Data

The Shapiro-Wilk's test show that the p-value is less than .05 ($p<0.05$) (Shapiro &Wilk, 1965), which showed that attitude scores were unequally distributed for both male and female, with skewness of -2.235 (SE= .393) and kurtosis of 5.609 (SE= .768) for the female and skewness of -1.589 (SE= .337) and kurtosis of 1.788 (SE= .662) of for the male.

Table. 1- Linearity of Data

Variable	Gender	Shapiro-Wilk		
		Statistics	Df	Sig. (p-value)
Attitude	Female	.751	36	.000
	Male	.799	50	.000

Objective 1. To study the attitude of prospective teachers towards innovative pedagogy.

Table. 2- Percentage of Prospective Teachers' Attitude towards Innovative Pedagogy

S. No.	Range	Frequency	Percent	Cumulative
1	0-10	0	0	0
2	11-20	6	7	7
3	21-30	5	5.8	12.8
4	31-40	28	32.6	45.3
5	41-50	47	54.7	100
	Total	86	100	

Analysis of the data through descriptive statistics revealed that 54.7 percent of prospective teachers showed highly positive, and 32.6 percent of prospective teachers showed a positive attitude towards the use of innovative pedagogy in the classroom.

From a Prospective Teacher Perspective

(Data in Percent)

Table. 3- Item-wise Percentage of Prospective Teachers' Attitudes towards Innovative Pedagogy

SR	Item	(SA)	(A)	(UD)	(DA)	(SDA)
1	As a teacher, I like to practice innovative methods in my classroom.	65.1	23.3	0	1.2	10.5
2	I want my students to be exposed to new methods of teaching.	60.5	23.3	5.8	0	10. 5
3	I would like to use only traditional methods in my classroom teaching.	7	9.3	12.8	36	34.9
4	I am open to innovative methods in my teaching.	43	38.4	7	3.5	8.1
5	I will teach at least one period in a week through innovative methods.	36	25.6	12.8	17.4	8.1

In this table, data depicted the attitude of prospective teachers as a teacher. 65.1 percent of teachers strongly like to practice

innovative methods in their classrooms, and 23.3 per cent of teachers like to do so. 60.5 percent of prospective teachers strongly want their students to be exposed to new teaching methods, and 23.3 per cent of prospective teachers want their students to be exposed to new teaching methods. 70.9 per cent of prospective teachers strongly demotivate the use of the only traditional methods in the classroom.

From Student Perspective (Data in Percent)

Table. 4 - Item-wise Percentage of Prospective Teachers' Attitudes as a Student towards Innovative Pedagogy

SR	Item	SA	A	UD	DA	SDA
6	I love to see my teacher using innovative methods in the classroom.	64	22.1	4.7	2.3	7
7	I hope to learn better when my teachers use innovative methods.	55.8	27.9	4.7	1.2	10.5
8	I find that the use of innovative methods breaks the monotonous of classroom teaching.	30.2	32.6	10.5	7	19.8
9	I am bored of listening to traditional methods of teaching.	15.1	22.1	32.6	15.1	15.1
10	I want my teacher to use more technology in teaching.	59.3	24.4	4.7	7	4.7

In this table, data depicted the attitude of prospective teachers as a student. 64 per cent of students show that they strongly want their teacher to use innovative pedagogy in the classroom, and 55.8 per cent of students said that they learn better when they learn with innovative methods in the classroom. 59.3 per cent of students strongly want their teacher to use the technology in the classroom.

Objective. 2. To compare the difference between male and female prospective teachers 'attitudes towards innovative pedagogy.

Hypothesis - There is no significant mean difference between the attitudes of male and female prospective teachers towards innovative pedagogy.

Table. 5- Comparison between Male and female prospective teachers 'attitudes towards innovative pedagogy

Character	N	Z-Value	U-Value	Level of Significance	Result
Attitude	86	-1.685	708.5	0.05	Not Significant

Result- The Mann-Whitney U value for the female and male groups was 708.5, and the Z-value was - 1.685; therefore, the null hypothesis was accepted.

Interpretation- Mann-Whitney U value was 708.5, and the Z value was -1.685. In this study, N_2 was more than 20 ($N_2>20$), and the Z-value was less than ± 1.96 ($-1.685<\pm 1.96$) then, U is not significant at the level of 0.05, which means females and males possess same attitude towards the use of innovative pedagogy in the classroom.

Objective. 3. To compare the difference between attitudes of prospective teachers towards innovative pedagogy in terms of their pedagogy stream.

Hypothesis- There is no significant mean difference between the attitudes of prospective teachers in terms of their pedagogy stream towards innovative pedagogy.

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Table. 6- Comparison between the attitudes of prospective teachers in terms of their pedagogy stream towards innovative pedagogy

Character	N	Z-Value	U-Value	Level of Significance	Result
Attitude	86	-0.561	842.5	0.05	Not Significant

Result- The Mann-Whitney U value for the female and male groups was 842.5, and the Z-value was -0.561; therefore, the null hypothesis was accepted.

Interpretation- Mann-Whitney U value was 842.5, and the Z value was -0.561. In this study, N_2 was more than 20 (N_2>20), and Z-value less than $\pm$1.96 (-0.561<$\pm$1.96), U is not significant at the level of 0.05, which means prospective teachers, regardless of their stream they possess the same attitude towardsthe use of innovative pedagogy in the classroom.

Discussion

This study has been done in the context of prospective teachers with the intention of knowing their attitude towards innovative pedagogy. The study's results support the results of Prakash (2012), Mahajan (2016) and Marti, Segui, & Segui (2016) that positive attitude of teachers towards pedagogy. On the other hand, in this study, data did not follow the normal probability curve (NPC). In this study, data was drowned by convenient sampling, which might be a possible cause of this deviation from NPC.

Conclusion

In this study, researchers find that prospective teachers show a positive attitude towards innovative pedagogy from teacher as well as student perspectives. This study also tries to prove that prospective science, art, commerce, and language stream teachers have a positive attitude toward using innovative pedagogy in the classroom, so this research advocates for the adaptation of innovative pedagogies in the classroom, ensuring greater learning in the students.

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