Measuring the Effectiveness of Digital Initiative Implementation in Teacher Education

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Abstract: In the present study, the researcher tries to find out the perspective on digital initiative implementation in teacher education. In most countries of the modern world, new trends in technology are constantly being used, and society continues to improve. These digital trends are an integral part of the future development of the world. The extent to which people can adapt themselves in the digital world depends entirely on digital education. Ministry of Human Resource Development (MHRD), Government of India, is continuously taking various initiatives for digital education. Nowadays, digital education is highly desirable in the changing world. To provide this digital education, first of all, teachers need to educate and train themselves in digital education and be aware of its pros and cons so that they can educate and warn students about the pros and cons of digital initiatives. The proposed study sample consisted of 536 samples (400 B.Ed. students, 80 M.Ed. students, 56 teacher education administrators) from 28 teacher education institutions (20 B.Ed. and 8 M.Ed. colleges) in West Bengal. Multistage sampling was followed to collect samples for this study. Collected data analysis by calculating percentages, and the result shows that the majority of participants in the samples selected the positive effects of the implementation of digital initiatives in teacher education.

Key Words: Digital Initiatives, Implementation, Teacher Education.

I. INTRODUCTION

Digital initiatives are improvement programs aimed at improving the education system using various digital technologies and tools. In this modern age, technologies are updated day by day, which improves all sectors; education is one of them, especially higher education institutions. The Indian government launched the Digital India initiative to improve online infrastructure and increase internet access accessibility among citizens in 2015. After that, there are many new digital initiatives has been launched for higher education institution for example, The National Mission on Education through ICT (NMEICT) was launched on February 3, 2009.MOOCs were first launched in 2008, and it was emerging as a popular learning medium in 2012.

II. REVIEW OF THE RELATED LITERATURE

Kumar (2022) in a research article titled 'Effectiveness of digital pedagogy on teaching competency in physical science among B.Ed. students with special reference to constructivism. The main aims of the study digital Pedagogy can be used to develop the teaching competency among students in the teacher education programme. In this study, 77 samples were selected based on random sampling. The major findings of the study on digital pedagogy might have helped the students to teach effectively and efficiently, as well as it helps to exhibit all constructive teaching skills.

Lakshmi (2021) studied a topic titled 'eLearning Readiness of Higher Education Faculty members. The findings of the study revealed that demographic factors like age, gender, perspective of education definition and doesn't have any significant influence on the e-Learning readiness score of faculty member while teaching experience had a significant influence. The sample comprises 800 students based on random sampling. In this study cross-sectional survey method is adopted. They also give an idea to the higher education institution regarding the eastern and working as faculty members, and suggest a way for them in the adaptation of e-learning practices.

Draboo (2020) in a study on the 'Analysis of Recent Trends in Higher education in India using Information Communication Technology' discussed about on ICT

is crafting the rule of future education in India by emerging as one of the most efficient means used by both learner and teachers the age use of ICT in higher education or toward content generation building research in critical area imparting education and integrating knowledge with the advancement of Technology.

Chaudhary (2020) studied a title 'Effectiveness of Computer-Based instructional package in terms of achievement in education and psychology'. Computer-based ways in structural packages in educational psychology were found to be effective in terms of achievement in educational psychology. The researcher selected a total of 127 student teachers using the purposive sampling method. For this study quasi-experimental design was adopted. The present study revealed that the computer-based instruction package in educational psychology was found to enhance and strengthen the subject clarity and achievement in educational psychology of the B.Ed. student irrespective of their General, Intelligence, academic discipline, personality, and socioeconomic status.

Ahmad (2020) conducted a study on 'Digital Initiatives for Access and Quality in Higher Education: An Overview'. He has mentioned that higher education plays an important role in developing good and creative individuals and is viewed as a powerful means to build a knowledge-based society. It is the foundation for an increase in productivity, income, and employment opportunities, which improves the quality of life. The challenges currently facing India's higher education system are improving access and enhancing quality.

Uppal (2019) conducted a study, 'Effectiveness of Massive Open Online Courses for Training Teachers in Higher Education'. The sample comprises 311 participants included based on purposive sampling. An experimental design was followed for the study. Major findings of the study established that MOOC can be used for knowledge building and professional development of higher education teachers from a college perspective, respective object educational qualification and geographical location.

Chaudhari et. al. (2019) in their find out about they show the implementation of digital strategy in a higher educational establishment in India. The objectives of the study were used to determine the inherent motives of the bad implementation of digital techniques in higher education in India in structural institutes. The study additionally intends to study the efficacy of science delivery of Higher Education in academia in India and to select some of the quick and long-term measures for the advantages of implementation of digital techniques in India.

Gond et al (2017) perform an analysis of digital education in India and the challenges of Indian society. The motive of this look-up was on as soon as to give an overview of digital education, a component of digital education, and the advantages of digital training in India, the feature is scope, and the double challenges of Indian society for shifting towards digital education. Finally, they conclude that the development of education infrastructure is required for the development of digital training during the counter.

Critical Review and Research Gap:

After reviewing the many research studies, it is clear that many research studies have conducted on the digital initiatives, digital learning, and e-resources in higher education, but there may be no studies on the implementation of digital initiatives in teacher education: problems and prospects. As per the review, the digital initiatives that the government has taken for higher education and how well the students have been able to put those initiatives to fruition, no such research work has come to their notice. So, the researcher conducted research on the implementation of digital initiatives in Teacher Education: problems and prospects.

Conceptual and theoretical framework:

This study presented an overview of the digital initiative, particularly launched by the government since 2015, to enhance access and promote quality in higher education. Approximately thirty Digital Initiatives have been taken by the Government of India in Higher education, which are being implemented by various higher educational institutions Department of Higher Education, Ministry of Many initiatives to utilise digital technology for human resource development, quality improvement& accessibility in Higher Education, as well as better tools for accreditation and grading of educational institutions. The Government of India launched the Digital India initiative in July 2015 to improve online infrastructure and increase internet access accessibility among citizens. National Mission on Education (NMEICT)

by ICT is a major initiative of the Ministry of Human Resource Development (MHRD), Govt. of India, to infuse digital education such as SWAYAM, SWAYAM Prabha, National Digital Library, e-Yantra, Virtual Labs, Talk to a Teacher, Ask a Question, E-Kalpa, e-Acharya, Campus Connectivity, FOSSEE (The Free and Open Source Software for Education), e-Vidwan, e-PG Pathshala, Spoken Tutorial NAD (National Academic Depository), etc. The contents are provided by UGC, IITs, IGNOU, CEC, NPTEL, NCERT, and NIOS.

Objectives of the Study:

1.To identify the participant's opinion of digital initiative implementation from the ground perspective.
2.To assess the perspectives of digital initiative implementation of B.Ed., M.Ed., and Teacher Educational Administrator.
3.To explore the prospects and implications of digital initiatives in teacher education.

Delimitations of the study:

The proposed study is delimited to the following aspects:

1. The study is confined to the state of West Bengal.
2. The study is conducted only in teacher education institutions.

III. METHODOLOGY OF THE STUDY

A systematic way to solve a research problem is considered a research methodology. The Methodology of the proposed study comprises the method of the research, population, sample, sampling technique, tools for data collection, and procedure of the data analysis.

Method:

Considering the nature and demand of the present study, the descriptive survey method is adopted.

Population of the Study:

The population for the present study consists of students, teachers, and administrators of teacher education institutions in West Bengal.

Sample Area and Sampling Technique:

At first, in the study, 20 B.Ed. College and 8 M.Ed. colleges and 28 teacher education institutions have been selected through multistage sampling from West Bengal. The sample for the present study comprises 400 B.Ed. students, 80 M.Ed. students, 56 teachers, and educational administrators, based on a multistage sampling.

Tools for data collection:

A self-made questionnaire was developed by the researcher separately for B.Ed. students, M.Ed. students and teacher educational administrators.

Data analysis and statistical techniques:

The data were collected using a self-made questionnaire. The collected data were analysed by calculating percentages, making the research study entirely based on quantitative approaches.

IV. RESULT AND INTERPRETATION

In the present study, the researcher analyses the data by calculating percentages.

Table 1.0: Indicating the perspective of percentages on Negative & Positive effects of the implementation of digital initiatives in teacher education of B.Ed. Students.

Perspective	B.Ed. Students	
	N	Percentages (%)
Only Negative Effects	2	0.50
Neutral	33	8.25
Both Negative & Positive Effects	150	37.50
Only Positive Effects	215	53.75
Total	400	100

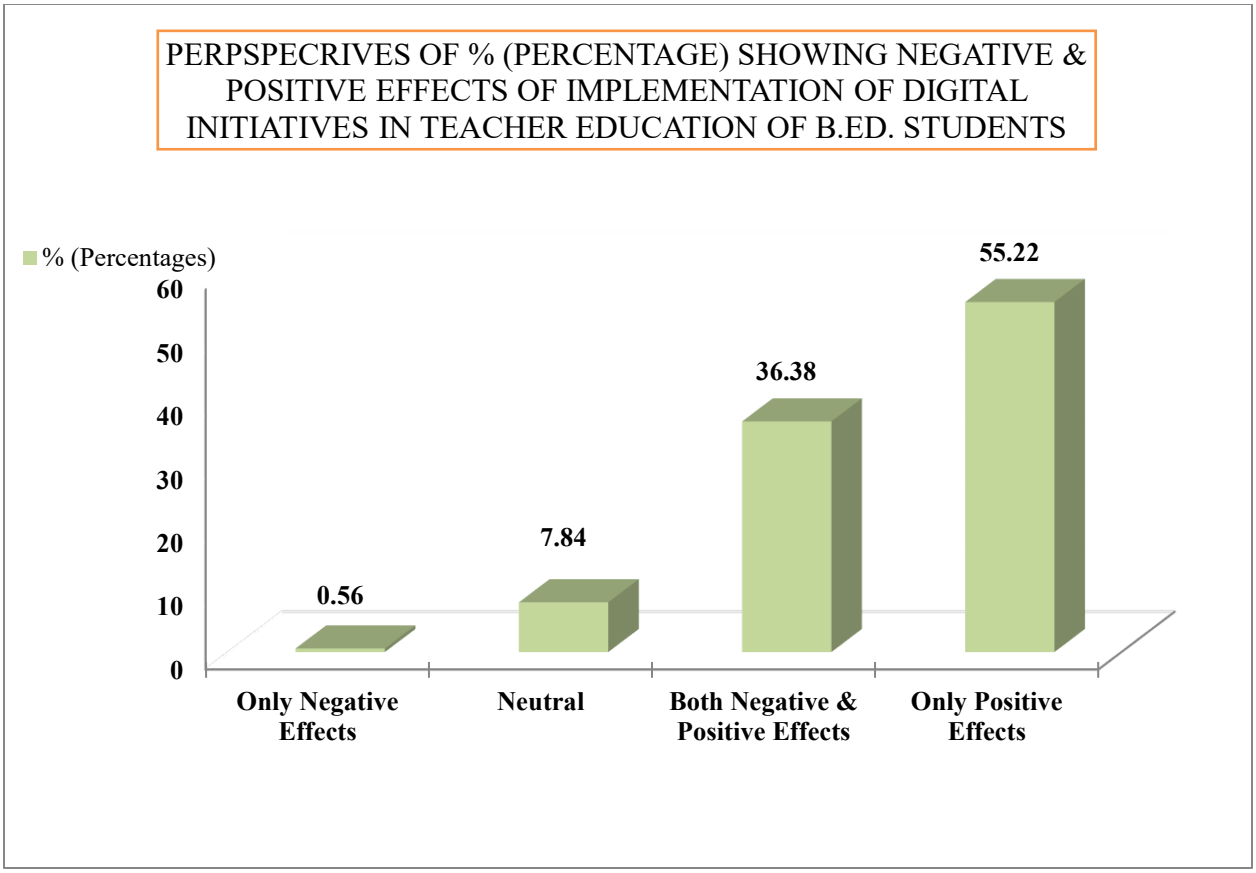

Table 1.0 represents the perspective of percentages on Negative & Positives effects on the implementation of digital initiatives in teacher education of B.Ed. Students. The Table show that the majority of B.Ed. Students (53.75%) have chosen the only positive effects of implementation of digital initiatives in teacher education, 37.75% students have chosen both negative and positive effects, 8.25% students have chosen neutral, and only 0.50% students have chosen only negative effects of implementation of digital initiatives in teacher education.

Table 2.0: Displaying the perspective of percentages on Negative & Positive effects of the implementation of digital initiatives in teacher education of M.Ed. Students.

Perspective	M.Ed. Students	
	N	Percentages (%)
Only Negative Effects	1	1.25
Neutral	8	10.00
Both Negative & Positive Effects	22	27.50
Only Positive Effects	49	61.25
Total	80	100

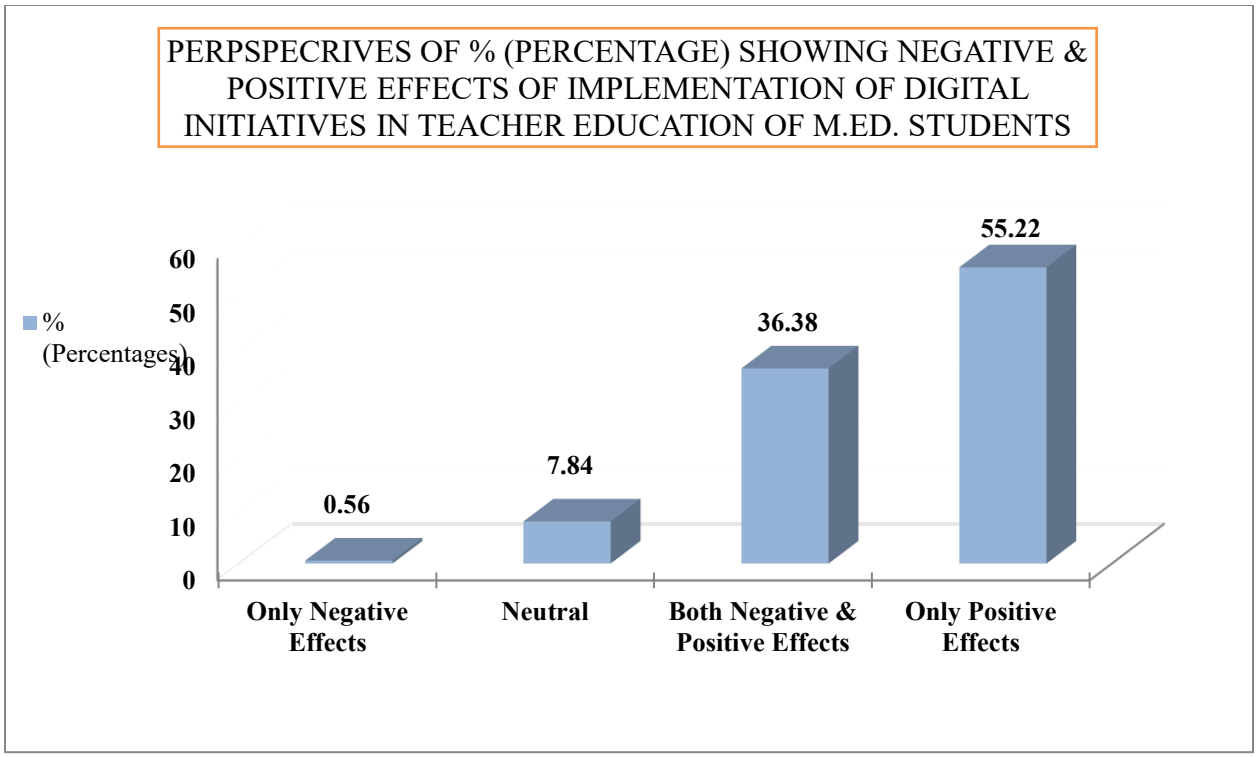

Fig: 2.0

Table 2.0: represents the perspective of percentages on Negative & Positives effects on the implementation of digital initiatives in teacher education of M.Ed. Students. The table shows that 61.25%M.Ed. Students have chosen the only positive effects of implementation of digital initiatives in teacher education, followed by 27.50% students who have chosen both negative and positive effects,10% students have chosen neutral and only 1.25% students have chosen only negative effects of implementation of digital initiatives in teacher education.

Table: 3.0 Presenting the perspective of percentages of teachers' educational administrators on Negative & Positive effects of the implementation of digital initiatives in teacher education.

Perspective	TEACHERS EDUCATIONAL ADMINISTRATORS	
	N	Percentages (%)
Only Negative Effects	0	0
Neutral	1	1.79
Both Negative & Positive Effects	23	41.07
Only Positive Effects	32	57.14
Total	56	100

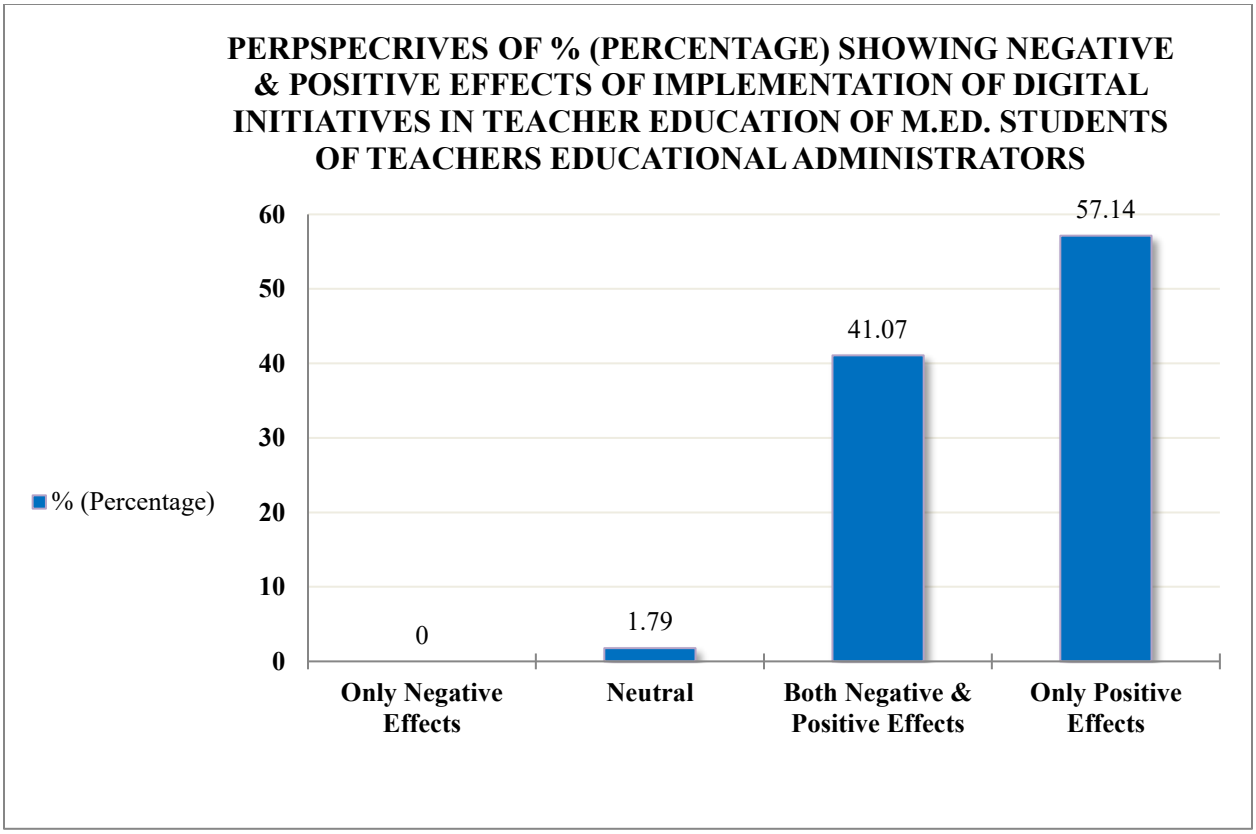

Fig: 3.0

Table: 3.0 Point out the perspective of percentages of teachers' educational administrators on Negative & Positives effects on the implementation of digital initiatives in teacher education. The table shows that 57.14% Teachers educational administrators have chosen only positive effects of implementation of digital initiatives in teacher education, followed by 41.07% teacher educational administrators have chosen both negative and positive effects, 1.79% teachers educational administrators have chosen neutral, and there are no teachers educational administrators who have chosen only negative effects of implementation of digital initiatives in teacher education.

Table 4.0: Summarizing the perspective of percentages of B.Ed. students, M.Ed. students and teachers' educational administrators on Negative & Positive effects of the implementation of digital initiatives in teacher education.

Perspective	Total No. of Participants	
	N	% (Percentages)
Only Negative Effects	3	0.56
Neutral	42	7.84
Both Negative & Positive Effects	195	36.38
Only Positive Effects	296	55.22
Total	536	100

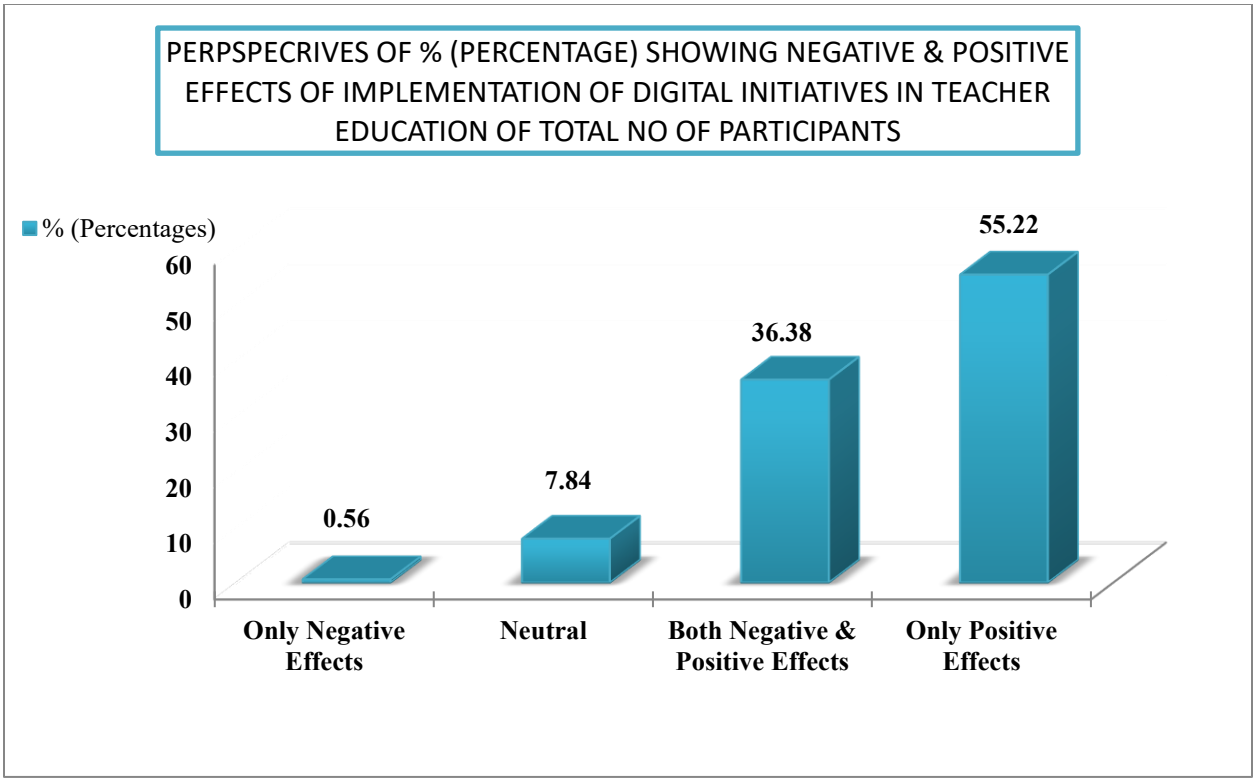

Table 4.0: represents the perspective of percentages of the total number of participants of this study on Negative & Positives effects on the implementation of digital initiatives in teacher education. The table shows that 55.22% of total participants have chosen the only positives effects of implementation of digital initiatives in teacher education followed by 36.38% of the total participants have chosen both negative and positive effects, 7.84% of the total participants have chosen neutral and 0.56% of the total participants have chosen only the negative effects of implementation of digital initiatives in teacher education.

v.FINDINGS

1. Majority of B.Ed. students (53.75%) have chosen the positive effects of the implementation of digital initiatives in teacher education.
2. Majority of M.Ed. students (61.25%) have chosen the positive effects of the implementation of digital initiatives in teacher education. It's the highest percentage of participants in the three segments, chosen for the positive effects.
3. Majority of teachers' educational administrators (57.14%) have chosen the positive effects of the implementation of digital initiatives in teacher education.
4. Majority of total participants (55.22%) have chosen the positive effects of the implementation of digital initiatives in teacher education.

The study found that the majority of participants have chosen a positive perspective about the implementation of digital initiatives in teacher education. On the other hand, a few Percentages of participants gave negative views about the impacts of the implementation of digital initiatives in teacher education.

vi.PROSPECTS OF THE STUDY

The researcher forms some questions regarding the implementation of digital initiatives in teacher education due to his interest in this field of research, and he tries to find prospects through the above studies. During this study, the researcher faces various problems regarding the initiatives, and he finds some probability for the above-mentioned questions. Through this study, the researcher enhances his knowledge in the digital field as well as ICT and recent digital trends in teacher education. It's also developing the digital literacy skills of the researcher. Digital initiatives in teacher education aim to provide flexibility in learning. It allows students to access

educational resources anytime, anywhere. A digitally literate teacher can use various available apps and information to provide better and broader education. Taking into account different students, the teacher can create lesson plans and modes of delivery that are most suitable for an individual student. NEP 2020 recommends using digital platforms like online classes and e-learning resources to provide equal learning opportunities to all students. Under NEP 2020, digital education will be integrated into the curriculum in a phased manner starting from the primary level.

vii.CONCLUSION

Digital initiatives are widely used in our daily lives. Now digital platform is very necessary in every step of our lives. So, if we embrace the new digital world, then apprentice teachers need to be educated digitally. Everything has two effects, i.e. negative and positive. Digital initiatives have positive and negative impacts on our lives. Digital technology like AI can understand, react, and solve a problem very quickly, but it is also a kind of hindrance to the cognitive development of mankind. There are several problems regarding the implementation of digital initiatives in teacher education institutions as well as higher education, as our country is still developing, and there are financial issue and the mother tongue is being avoided while implementing these digital initiatives. At last, it can be said that life continuously needs to learning and adopt something new in the world and the universe.

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