International Journal of Commerce and Management Research
www.managejournal.com
ISSN: 2455-1627
Received: 30-06-2026, Accepted: 30-07-2026, Published: 14-08-2026
Volume 12, Issue 3, 2026, Page No. 207-209

Digital competence and technology adoption among higher education faculty: An empirical study

Dr. Dilshad Begum
Associate Professor, Department of commerce and Management, Government College (Autonomous), Mandya University, Mandya, Karnataka, India
DOI: https://doi.org/10.66856/ijcmr.2026.12.3.12218

Abstract
Technology plays a prominent role in the development of education. This study aims to understand the innovative conventional and technological practices in teaching and to analyze teachers' perception on innovative technology which determines the various technologies used as teaching aids. The study is based on perception of 70 teachers throughout the country were selected as samples based on convenient sampling method. The data were collected from the respondent's through structured questionnaire. The online teaching is developed by rising technological aids, changing teaching pattern, increased access to information and communication technology. The study has been observed that there are many factors have been found our as major causes in adopting technologies in teaching. In the present scenario, Innovative Technological Practices In Teaching

Keywords: Technology, online teaching, technical support, crowd sourcing

Introduction

Education is a light that shows the mankind the right direction to surge. Today, India is one of the world's top destinations for education. With some of the best colleges and universities, it is renowned for its excellence and high standards. What's even more interesting is how technology has advanced rapidly to transform the way students in India consume educational content. Additionally, the penetration of internet-based smart phones is taking quality learning to students across geographies in India.

India might not have readily adopted education technology but it's heartening to see how a traditional sector like education is using technology as an enabler so far. Innovation and experimentation in new ways has always been a major initiative in every field. Education system, for the past few years has changed and lead to many new practices, to impart knowledge to the students. But these new ways of teaching are not being much familiar or known to the teaching fraternity. Teaching and learning is a two way give and take process which involves contribution from both teachers and students. Quality education is possible through novel ways and use of different methods each time. Excellence in education is achievable when teachers make use of unique ideas and inventive approaches than the conservative methods. Traditional and conservative approaches in teaching can help teacher educators achieve the desirable ends but the complete development is possible through modern, innovative methods. Authentic learning happens when students are given choices and options in gaining knowledge. Technological changes and research have led to revolutionary breakthroughs in the development of knowledge and necessitate adapting the education to these so that students can accommodate themselves in a more advanced environment.

Aids of Technology in Education

- Breaking boundaries of Time and Space
- Clearer Concept and Deeper Understanding
- Learning Vs Teaching
- Newer medium for Self-Expression
- Global Reach
- Learning at your Pace

Factors that are enabling the growth of education

- Personalized and adaptive learning
- Two-way conversations in E-Learning
- Mobile-based learning
- Video-based learning
- Open educational resources
- Usage of Virtual Reality (VR) and Augmented Reality (AR) for learning
- Virtual Classroom's high Interactivity
- Collaborative Learning
- Student- Centered Instruction
- Variety of Content Presentation and Learning Activities
- Psychologically Safe Environment
- Positive and Constructive Feedback

Modern Technology Offers to Education System

- It provides you multiple facilities so you should grow as a human and assign routine task to machine and technology not vice versa.
- Technology wants you to be free from memorizing things you need. It provides you computer, cloud, internet technology to store all the information and retrieve it when you need.
- It provides great knowledge-base which you can ponder upon.
- It provides greater simulation platform, so you can simulate experiments before doing actually, saving time, money and risk in some case.
- It provides global connectivity so to exchange your ideas, knowledge, experiments and research for better understanding.
- It provides tools to automate the task which needs more time, so can spend your time in logical work.
- It gives you more time to be creative and logical by assigning routine, non-creative tasks to technology.

- It assists you in learning and teaching by providing knowledge-base and simulation so you spend more time on understanding and research.

Review of Literature

Wray et'al (2000) [1], authors trying to say that today there are numerous ways of teaching but the authors try to find out the effective tool to exercise the teacher's ability in order to reach the pupils. The research was on the primary data, and he judges the effectiveness of teachers by the literacy level. Kalyani et'al (2018) [3], in this study the author focuses on innovative teaching and learning methods in the classroom by giving the students a new way to train their skills. Encouraging teachers to adopt new method of technology into the classroom and use multimedia to modify the contents of the material. Jayashree (2017), the author tries to explain the importance of education and the numerous ways to inculcate in the modern education system. The researcher also recommends that the teaching and learning would be highly effective and innovative if the teacher starts to use the recent multimedia technologies. Kalyani et'al (2018) [3], in this study the author focuses on innovative teaching and learning methods in the classroom by giving the students a new way to train their skills. Encouraging teachers to adopt new method of technology in the classroom and use multimedia to modify the contents of the material.

Statement of the Problem

In present scenario most of the teachers' believe that innovative technology is important to make class room more interesting and it is benefited for the students' to improve their skill which is required for the corporate sector. Still most of the teachers' hesitate to use technology while teaching because of lack of confidence. The use of technology in teaching from private and government colleges, which use innovative technological teaching methods, are less in number.

Research Gap

Based on the review of existing literature on innovative technology in education, several studies have examined the adoption of digital tools, online teaching practices, and teachers' attitudes toward technology integration. However, certain important gaps remain, which justify the present study. There is a need for a focused empirical study to analyze teachers' perception of innovative technology and to identify the various technologies used as teaching aids, supported by statistical analysis to understand their significance in enhancing teaching effectiveness.

.

Objectives of Study

1. To understand the innovative conventional and technological practices in teaching.
2. To analyze the teachers' perception on innovative technology.
3. To determine the various technologies used as teaching aids.

Hypotheses of the Study

Hypothesis 1

H0: There is no significant relationship between teachers' perception and the adoption of innovative technology in teaching.

H1: There is significant relationship between teachers' perception and the adoption of innovative technology in teaching.

Hypothesis 2

H0: There is no significant **difference** in the usage of various technologies as teaching aids among Teachers.

H1: There is a significant difference in the usage of various technologies as teaching aids among Teachers.

Scope of the Study

This study will be conduct on the perception of teachers on various teaching aids and practices by the teachers in the higher education institutions. The scope of the study is limited to 70-sample size only, the respondents belongs to the PU and DEGREE COLLEGES across the country.

Limitations of the Study

The research was conducted limited to the higher educational institutions only, and the respondents are not limited by the state it is collected from various institutions across the state.

Research Methodology

The study conducted by using empirical and descriptive type of methodology. The data gathered from both primary and secondary data collection method.

Data Analysis and Interpretation

Table 1

Personal information				
Sl. No.	**Particulars**	**Classification**	**F**	**%**
1.	Gender	Male	41	58.6%
		Female	29	41.4%
2.	Age	20-30 years	18	25.7%
		30-40 years	39	55.7%
		40-50 years	11	15.7%
		50 and above	2	2.9%
3	Teaching Experience	1-5 years	21	30%
		5-10 years	23	32.9%
		10-15 years	17	24.3%
		15 & above	9	12.9%

Source: primary data

Discussion: The above table gives clear information: About Gender says out of 70 respondents 59% male and 41% female respondents. The age of respondents between 20-30 years are 26% and 30-40 ages are 56% which is lowest; 40-50 is 16% and above 50years are 3%. Teaching Experience wise: out of 70 respondents majority (33%) of them are under the experience of 5-10 years and the least i.e., 13% under experience of between 15 and above years

Table 2

Sl. No.	Statements	χ^2 Value	df	Critical Value	p-value	Interpretation
1	E-mail to and from between students	25.20	1	3.841	<0.001	Significant
2	Online discussion learning modules (unit of course content or learning activities)	11.20	1	3.841	<0.001	Significant
3	Upload documents and make available to the students	51.43	1	3.841	<0.001	Significant
4	Exporting of recorded session to open system exchange	58.51	1	3.841	<0.001	Significant

Source: primary data

Discussion: The above table clearly shows that the calculated chi-square values for all statements are greater than the critical value (3.841) at 5% level of significance. Hence, the null hypothesis is rejected in all cases. This indicates a statistically significant preference toward the use of innovative technological teaching aids among teachers.

Table 3

Sl. No.	Facilities	χ^2 Value	df	Critical Value	p-value	Interpretation
1	Technology involved in teaching is not confusing	80.57	4	9.488	<0.001	Significant
2	Online teaching does not take more time than classroom teaching	24.14	4	9.488	<0.001	Significant
3	Sufficient opportunity to experiment with technology for teaching online prior to commitment	46.86	4	9.488	<0.001	Significant
4	Adequate technical support for online teaching	26.86	4	9.488	<0.001	Significant
5	Absence of face-to-face interaction with students is not a disadvantage	24.43	4	9.488	<0.001	Significant

Source: primary data

Discussion: The above table: shows that the chi-square analysis reveals that the calculated χ^2 values for all the facilities are greater than the critical value (9.488) at 5% level of significance. Therefore, the null hypothesis is rejected for all statements.
This indicates that teachers' responses show a statistically significant difference across response categories.

Findings of the Study

The study reveals that teachers have a positive perception towards the use of innovative technology in teaching. A majority of the respondents agreed that technology enhances teaching effectiveness and facilitates better delivery of course content. The findings indicate that teachers are comfortable using technological tools and do not find technology confusing, which reflects their increasing adaptability to digital teaching methods. The study further found that digital communication tools such as e-mail, online discussion modules, and digital document sharing are widely used by teachers as effective teaching aids. Uploading learning materials and sharing recorded sessions have become common practices, ensuring better accessibility and flexibility for students.

Suggestions of the Study

Based on the entire study and findings, it is suggested that educational institutions should organize regular training programs, workshops, and faculty development initiatives to enhance teachers' technological skills and digital competencies. Institutions should strengthen technical infrastructure by providing reliable internet connectivity, updated digital platforms, and prompt technical support to facilitate smooth online teaching. A blended learning approach combining traditional classroom teaching with online teaching methods should be encouraged to ensure effective learning while maintaining personal interaction between teachers and students.

Conclusion

The study is based on the perception of teaching fraternity. Enhancing quality through faculty participation –Design thinking and crowd sourcing techniques. Faculty should be given adequate training to make the teaching rendering a participatory activity. Students should be encouraged to come out with new ideas and innovative practices. Crowd sourcing for idea generation is an innovative cost-effective technique adopted by many successful organizations. This technique is unique in terms of being very cost effective and ability to reach out to many people. The adaptations may be considered innovations provided on a new idea and when they have the potential to improve student learning, or when they are linked with other outcomes.

References

1. Wray D, Medwell J. "The Teaching Practices of Effective of Teachers of Literacy". Education review,2000:52(1):75-84. doi10.1080/00131910097432 Volume: 50 date of issue: February.
2. Jaya Shree R. "A Study on Innovative Teaching Learning Methods for Under Graduate Students". International journal of humanities and social science innovation,2019:6(11):32-34. ISSN (online): 23197722, ISSN (print): 2319-7714. Date: November.
3. Kalyani, Rajashekaran K. " Innovative Teaching and Learning". Journal of applied and advance research,2018:3(1):23-25. ISSN 2519-9412.
4. Li H, Dong K, Mohammad H, Tabrizi N. "A web based virtual classroom system". IC' 01International Conference, 2001.
5. Hamdan N, Mcknight P, Mcknight K, Arfstrom K. "A review of flipped learning". Flipped Learning Network Tech. Rep., Feb., 2013.
6. Prensky M. "Listen to the Natives". Educational Leadership,2005/2006:63(4):8–13.
7. https://www.waldenu.edu/programs/resource/seven-benefits-of-a-virtual-classroom
8. https://www.pearsoned.com/9-strategies-for-effective-online-teaching/
9. https://www.learncube.com/what-is-a-virtual-classroom.html
10. https://scholar.google.co.in/scholar?q=technology++in+teaching&hl=en&as_sdt=0&as_ vis=1&oi=scholar