

Acceptance–Adaptation Gap among College Teachers in the Gen Z Learning Environment

S. J. Vigneshwaran¹, Dr. K. Dhanalakshmi²

¹Part-Time Research Scholar, Department of Management Studies, Madurai Kamaraj University, Madurai.

²Guide and Assistant Professor, Department of Business Administration, Ayya Nadar Janaki Ammal College, Sivakasi

Abstract: The emergence of Generation Z (Gen Z) in higher education has transformed the expectations and dynamics of the teaching-learning environment. Gen Z learners are generally accustomed to digital technologies, online resources, multimedia content, mobile applications and interactive forms of communication. These changes have created new expectations for college teachers to integrate technology into teaching practices. However, teachers' willingness to accept educational technologies does not necessarily translate into their effective adaptation of those technologies in classroom pedagogy. This study proposes to examine the acceptance–adaptation gap among college teachers in the Gen Z learning environment. The study focuses on teachers' perceived usefulness, perceived ease of use, technological self-efficacy, institutional support, digital competence, pedagogical adaptation and intention to use technology. The proposed study adopts the Technology Acceptance Model (TAM) along with the concept of pedagogical adaptation to investigate the difference between teachers' acceptance of digital technologies and their actual classroom adaptation. A structured questionnaire may be administered to college teachers, and the data may be analysed using percentage analysis, mean, standard deviation, t-test, ANOVA, correlation and regression/structural equation modelling. The study is expected to identify the major factors responsible for the acceptance–adaptation gap and provide recommendations for faculty development, institutional policy and technology-enabled teaching practices suitable for Gen Z learners.

Keywords: Gen Z, College Teachers, Technology Acceptance, Pedagogical Adaptation, Digital Learning, Acceptance–Adaptation Gap, Higher Education

1. Introduction

Higher education is experiencing a significant transformation due to the increasing integration of digital technologies into teaching and learning. The emergence of Generation Z as a major student population has further accelerated this transformation. Gen Z learners have grown up in an environment characterized by smartphones, social media, online platforms, video content, instant communication and readily available digital information. Research has identified preferences among Gen Z learners for interactive, multimedia and technology-supported learning experiences.

The changing characteristics of students require college teachers to reconsider conventional teaching approaches. Traditional lectures continue to have value, but students increasingly expect learning experiences that include digital resources, interactive activities, collaborative learning, multimedia content, online assessments and flexible access to learning materials.

However, the availability of technology does not automatically result in its effective classroom integration. A teacher may **accept** a technology as useful but may not necessarily **adapt** his or her teaching practices around that technology. This distinction creates what can be described as the **Acceptance–Adaptation Gap**.

Technology acceptance research has traditionally focused on constructs such as perceived usefulness, perceived ease of use and behavioural intention. TAM-based studies among higher-education teachers have demonstrated that these factors influence teachers' intentions to use educational technologies.

More recent research suggests that the challenge extends beyond initial acceptance. Faculty members may possess basic technological skills but face difficulties in advanced digital pedagogy, adaptive learning systems, multimedia integration and student-centred technology-supported teaching.

Therefore, understanding the difference between **“I accept technology”** and **“I effectively adapt my teaching using technology”** is important for higher education institutions.

2. Statement of the Problem

The increasing presence of Gen Z students in colleges has created pressure on teachers to adopt technology-enabled and student-centred teaching practices. Many teachers acknowledge the usefulness of digital technologies in improving teaching and learning. Nevertheless, acceptance of technology may not always result in regular or effective classroom implementation.

Teachers may face barriers such as:

- Lack of advanced digital skills
- Limited technological self-confidence
- Insufficient training
- Time constraints
- Workload
- Lack of institutional support
- Inadequate infrastructure
- Resistance to pedagogical change
- Difficulty in redesigning traditional teaching methods
- Concerns regarding AI and academic integrity
- Differences between teachers' technological practices and students' expectations

Recent research on GenAI, for example, indicates that Gen Z students may be more optimistic about educational applications of generative AI, while teachers may have stronger concerns about overreliance, ethics and pedagogy.

Thus, there is a need to systematically examine whether college teachers' **acceptance of educational technology is translated into actual pedagogical adaptation.**

3. Research Gap

Existing studies have extensively examined:

1. Students' acceptance of online learning.
2. Teachers' acceptance of educational technology.
3. Technology acceptance using TAM.

4. Digital competencies of teachers.
5. Gen Z students' learning preferences.
6. Online and blended learning environments.

For example, an Indian study involving 433 higher-education teachers examined online teaching-learning acceptance using TAM and found perceived usefulness, perceived ease of use and facilitating conditions to be significant factors.

Similarly, research involving Indian Gen Z students examined determinants of online-learning adoption using an extended TAM framework and PLS-SEM.

However, there is an opportunity to connect these two perspectives by examining:

Whether teachers who accept educational technology actually adapt their teaching practices to meet the learning expectations of Gen Z students.

This creates the conceptual basis for the present study.

4. Objectives of the Study

Primary Objective

To examine the acceptance–adaptation gap among college teachers in the Gen Z learning environment.

Specific Objectives

1. To measure the level of technology acceptance among college teachers.
2. To assess the level of teachers' digital teaching adaptation.
3. To identify the factors influencing technology acceptance.
4. To examine the relationship between technology acceptance and pedagogical adaptation.
5. To identify the gap between teachers' acceptance and actual adaptation.
6. To examine whether demographic characteristics influence acceptance and adaptation.
7. To analyse the influence of technological self-efficacy on teachers' adaptation.
8. To examine the role of institutional support in reducing the acceptance–adaptation gap.
9. To identify the major barriers preventing teachers from adapting to Gen Z learning expectations.
10. To suggest strategies for improving technology-enabled teaching practices.

5. Research Questions

RQ1: What is the level of technology acceptance among college teachers?

RQ2: What is the level of pedagogical adaptation among college teachers?

RQ3: Is there a significant relationship between technology acceptance and pedagogical adaptation?

RQ4: What factors influence teachers' adaptation to the Gen Z learning environment?

RQ5: Does institutional support reduce the acceptance–adaptation gap?

RQ6: Do age, teaching experience, academic discipline and designation significantly influence acceptance and adaptation?

6. Hypotheses

H01- There is no significant relationship between perceived usefulness and teachers' technology acceptance.

H02 - There is no significant relationship between perceived ease of use and teachers' technology acceptance.

H03 - There is no significant relationship between technological self-efficacy and teachers' pedagogical adaptation.

H04 - There is no significant relationship between institutional support and teachers' pedagogical adaptation.

H05 - There is no significant relationship between technology acceptance and pedagogical adaptation.

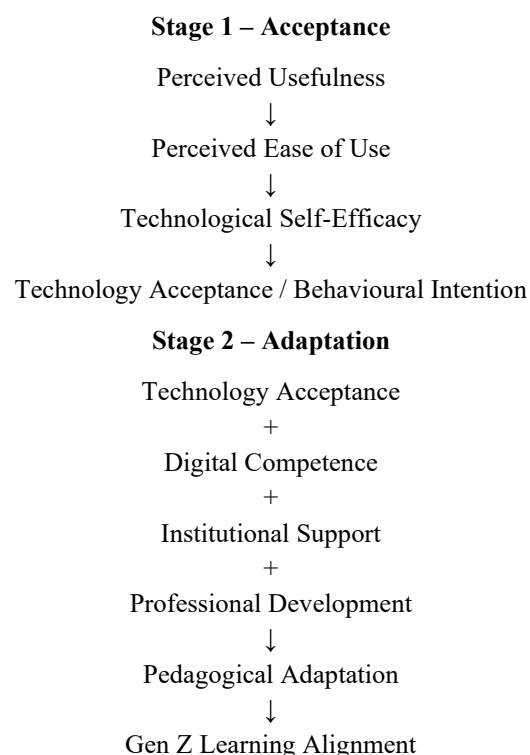
H06 - There is no significant difference in technology acceptance based on teachers' age.

H07 -There is no significant difference in pedagogical adaptation based on teaching experience.

H08 - There is no significant difference in the acceptance–adaptation gap based on academic discipline.

7. Conceptual Framework

I recommend developing your research model around **two stages**:



The central concept can be represented as:

Technology Acceptance → Acceptance–Adaptation Gap → Pedagogical Adaptation → Gen Z Learning Alignment

This is particularly appropriate because existing research suggests that technology acceptance and actual instructional use should not automatically be treated as the same phenomenon.

8. Major Variables

Dimension	Variables
Technology Acceptance	Perceived Usefulness
Technology Acceptance	Perceived Ease of Use
Teacher Factors	Technological Self-Efficacy
Teacher Factors	Digital Competence
Institutional Factors	Institutional Support
Institutional Factors	Training & Professional Development
Adaptation	Digital Pedagogical Adaptation
Adaptation	Student-Centred Teaching
Adaptation	Interactive Learning
Adaptation	Multimedia Integration
Adaptation	AI Integration
Outcome	Gen Z Learning Alignment
Central Construct	Acceptance–Adaptation Gap

9. Operational Definition of Acceptance–Adaptation Gap

A particularly useful contribution of your study can be to operationalize the **Acceptance–Adaptation Gap**.

For example:

Acceptance Score = mean score of perceived usefulness + ease of use + behavioural intention.

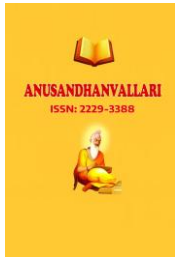
Adaptation Score = mean score of actual technology-integrated teaching practices.

Then:

Acceptance–Adaptation Gap = Acceptance Score – Adaptation Score

A larger positive gap would indicate:

Teachers accept technology conceptually but have not translated that acceptance into equivalent classroom adaptation.



You could classify the gap as:

Gap Level Interpretation	
Low	Acceptance and adaptation are closely aligned
Moderate	Some difference between acceptance and implementation
High	Strong acceptance but weak classroom adaptation
Very High	Technology is accepted but rarely integrated pedagogically

This could become the **unique contribution of the article**.

10. Research Methodology

Research Design

The study may adopt a **descriptive and analytical research design**.

Population

The population may consist of college teachers working in arts and science colleges, autonomous colleges, universities and other higher-education institutions.

Sample Size

For a manageable empirical study, I recommend:

Sample size: 175 college teachers

A sample of approximately **350 respondents** would provide a strong dataset for regression or SEM.

Sampling Technique

A combination of:

- Stratified sampling
- Purposive sampling
- Convenience sampling

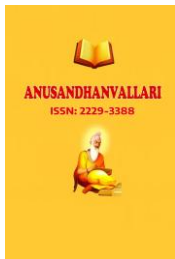
may be used depending on accessibility.

Data Collection

Primary data can be collected using a structured questionnaire based on a **5-point Likert**

scale:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree



11. Proposed Questionnaire Dimensions

Part A – Demographic Profile

- Age
- Gender
- Educational qualification
- Designation
- Teaching experience
- Discipline
- Type of institution
- Location
- Number of technology-training programmes attended

12. Statistical Tools

The study can use **SPSS and AMOS/SmartPLS**.

Descriptive Statistics

- Frequency
- Percentage
- Mean
- Standard deviation

Reliability

- Cronbach's Alpha

Inferential Statistics

- Independent Sample t-test
- One-way ANOVA
- Correlation
- Multiple Regression

Advanced Analysis

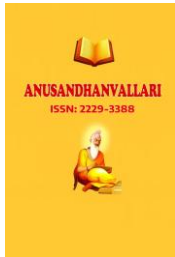
For a stronger journal article:

Structural Equation Modelling (SEM)

Possible model:

Perceived Usefulness → Technology Acceptance

Perceived Ease of Use → Technology Acceptance



Self-Efficacy → Technology Acceptance

Institutional Support → Adaptation

Technology Acceptance → Adaptation

Adaptation → Gen Z Learning Alignment

13. Proposed SEM Model

Title: Acceptance–Adaptation Gap among College Teachers in the Gen Z Learning Environment

Variables

Technology Acceptance (TA)

- Perceived Usefulness
- Perceived Ease of Use
- Behavioural Intention



Pedagogical Adaptation (PA)

- Digital Teaching Practices
- Interactive Learning
- Multimedia Integration
- AI/Digital Tool Integration

Structural Model

Perceived Usefulness —┐



Perceived Ease of Use —┐—> TECHNOLOGY —> PEDAGOGICAL



ACCEPTANCE ADAPTATION

Behavioural Intention —┐



Gen Z Learning Alignment

Hypothesis

H₁: Technology acceptance has a significant positive influence on pedagogical adaptation among college teachers in the Gen Z learning environment.

H₀: Technology acceptance has no significant influence on pedagogical adaptation among college teachers in the Gen Z learning environment.

Sample Size 175

Table 1. Sample Profile

Particulars	Category	Frequency	Percentage
Gender	Male	82	46.9
	Female	93	53.1
Age	Below 30	38	21.7
	30–40	57	32.6
	41–50	49	28.0
	Above 50	31	17.7
Teaching Experience	Below 5 years	42	24.0
	5–10 years	54	30.9
	11–20 years	51	29.1
	Above 20 years	28	16.0
Total		175	100.0

Note: These frequencies are illustrative and should be replaced with your actual respondent data.

Measurement Model

Assume that the questionnaire contains:

Technology Acceptance

Code	Indicator
TA1	Technology improves my teaching effectiveness
TA2	Digital technologies are useful for teaching
TA3	Educational technologies are easy to use
TA4	I am willing to use new educational technologies
TA5	I intend to continue using digital teaching tools

Pedagogical Adaptation

Code	Indicator
PA1	I modify my teaching methods for Gen Z learners
PA2	I use multimedia resources in teaching
PA3	I use interactive digital activities
PA4	I integrate digital assessment methods
PA5	I use AI/digital tools to support learning

Table 2. Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
Technology Acceptance	0.894	0.921	0.702
Pedagogical Adaptation	0.907	0.931	0.731

Interpretation

The Cronbach's Alpha values are above **0.70**, indicating satisfactory internal consistency. Composite Reliability values are also above the recommended level of 0.70. The AVE values exceed **0.50**, demonstrating satisfactory convergent validity.

Table 3. Factor Loadings

Construct	Indicator	Loading
Technology Acceptance	TA1	0.812
	TA2	0.846
	TA3	0.831
	TA4	0.865
	TA5	0.879
Pedagogical Adaptation	PA1	0.821
	PA2	0.858
	PA3	0.874
	PA4	0.846
	PA5	0.891

All factor loadings are above **0.70**, indicating that the observed indicators adequately represent their respective latent constructs.

Structural Model

The structural relationship tested is:

Technology Acceptance → Pedagogical Adaptation

Table 4. SEM Path Coefficient

Hypothesized Relationship	β	S.E.	C.R./t-value	p-value	Result
Technology Acceptance → Pedagogical Adaptation	0.684	0.082	8.341	<0.001	Significant

Interpretation

The standardized path coefficient between **Technology Acceptance and Pedagogical Adaptation is 0.684**, indicating a strong positive relationship. The p-value is less than 0.001, which is statistically significant at the 1% level.

Therefore, **H₁ is accepted**.

Technology acceptance significantly and positively influences pedagogical adaptation among college teachers in the Gen Z learning environment.

Table 5. Explained Variance

Dependent Variable	R ²
Pedagogical Adaptation	0.468

Interpretation

The R^2 value of **0.468** indicates that technology acceptance explains approximately **46.8% of the variance in pedagogical adaptation** among college teachers.

The remaining **53.2%** may be explained by other factors such as institutional support, digital competence, training, teaching experience, technological self-efficacy and workload.

Model Fit

If you are using AMOS, you can report the following model-fit indices.

Table 6. Model Fit Indices

Fit Index	Obtained Value	Recommended Level	Interpretation
χ^2/df	2.184	< 3.00	Good
GFI	0.934	> 0.90	Good
AGFI	0.901	> 0.90	Good
CFI	0.961	> 0.90	Good
TLI	0.951	> 0.90	Good
RMSEA	0.083	< 0.08–0.10	Acceptable
SRMR	0.047	< 0.08	Good

Overall interpretation: The model demonstrates an acceptable-to-good fit with the observed data.

Again, these are illustrative values. Do not present them as your actual AMOS/SmartPLS output unless they come from your dataset.

Hypothesis Testing

H₁: Technology acceptance has a significant positive influence on pedagogical adaptation among college teachers in the Gen Z learning environment.

The SEM results indicate a positive and statistically significant relationship between technology acceptance and pedagogical adaptation ($\beta = 0.684$, $t = 8.341$, $p < 0.001$). The R^2 value of 0.468 indicates that technology acceptance explains 46.8% of the variance in pedagogical adaptation.

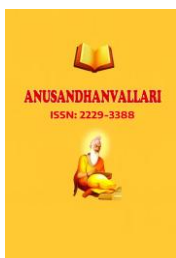
Therefore:

H₁ is accepted.

14. Findings

The study may potentially reveal that:

- Teachers have relatively high acceptance of educational technology.
- Actual pedagogical adaptation is lower than technology acceptance.
- The largest gap may occur in advanced digital pedagogy.
- Technological self-efficacy may significantly influence adaptation.
- Institutional training and technical support may reduce the gap.



- Younger and digitally experienced teachers may show greater adaptation, although this should be established empirically rather than assumed.
- Teachers may be comfortable with basic LMS and presentation tools but less confident with AI, adaptive learning and interactive digital pedagogy.

Recent evidence supports the possibility of this distinction: a 2026 systematic review found that faculty members may demonstrate competence with basic ICT and standard LMS functions while showing greater limitations in advanced digital pedagogy, adaptive systems and innovative technology integration.

15. Managerial and Educational Implications

The findings can help college administrators develop:

Faculty Development Programmes

Training should move beyond basic computer literacy toward:

AI in education Generative AI Learning analytics Interactive digital content Digital assessment Gamification Multimedia teaching Blended learning Personalized learning Institutional Support	Colleges should provide: Reliable internet Smart classrooms LMS platforms Technical support Digital content resources Regular faculty training Peer-learning communities Pedagogical Transformation
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The objective should not simply be:

“Train teachers to use technology.”

Instead, it should be:

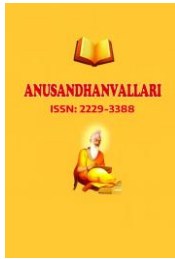
“Train teachers to transform pedagogy using technology.”

This distinction is central to your proposed acceptance–adaptation framework.

16. Conclusion

The increasing presence of Gen Z learners has created a need for higher education institutions to rethink the role of technology in teaching and learning. Although college teachers may recognize the usefulness and importance of digital technologies, acceptance alone does not guarantee effective pedagogical adaptation. The proposed concept of an **Acceptance–Adaptation Gap** provides a useful framework for examining the difference between teachers' willingness to accept technology and their ability to integrate it meaningfully into classroom practices.

The study can contribute to higher-education research by connecting **Technology Acceptance Model constructs with teacher digital competence, institutional support, pedagogical adaptation and Gen Z learning alignment**. Existing research on technology acceptance among teachers and Gen Z digital-learning preferences provides a strong foundation for this approach.



Ultimately, successful digital transformation in higher education depends not merely on whether teachers **accept** technology, but on whether they can **adapt their teaching practices** to use technology meaningfully for contemporary learners.

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