
DIGITAL TRANSFORMATION OF TEACHER PROFESSIONAL DEVELOPMENT IN SURAT DISTRICT

***Dr. Amitkumar Siyaram Yadav**

Assistant Professor Shri S. R. Patel B.Ed. College, Anita (Kim).

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***Corresponding Author: Dr. Amitkumar Siyaram Yadav**

Assistant Professor Shri S. R. Patel B.Ed. College, Anita (Kim).

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ABSTRACT

Digital transformation has significantly influenced teacher professional development by introducing technology-enabled learning environments, online training platforms, and virtual professional communities. The present study examines the impact of digital transformation on teacher professional development among secondary school teachers of Surat District. A descriptive survey method was adopted, and data were collected from 120 teachers using a standardized questionnaire. Statistical techniques such as Mean, Standard Deviation, t-test, and Pearson's Product Moment Correlation were used for analysis. The findings reveal that digital transformation positively affects teachers' professional competence, pedagogical practices, and motivation for continuous learning. The study highlights the importance of structured digital professional development initiatives at the district level.

KEYWORDS: Digital Transformation, Teacher Professional Development, ICT in Education, Online Training, Surat District.

1. INTRODUCTION

Teacher professional development is a continuous process aimed at enhancing teachers' instructional effectiveness, professional knowledge, and pedagogical skills. In the rapidly evolving educational landscape, digital transformation has emerged as a key driver of change in teacher education and professional learning practices.

Digital transformation in education refers to the systematic integration of digital technologies into teaching, learning, and professional development processes. Traditional professional

development models based on face-to-face workshops and short-term training programs are increasingly complemented by online courses, webinars, learning management systems, and virtual professional learning communities.

In Surat District, the expansion of digital infrastructure and increased access to online educational resources have created new opportunities for teachers to engage in technology-supported professional development. Teachers are now expected to integrate digital tools into classroom instruction, assessment, and student engagement. Therefore, it is essential to examine how digital transformation contributes to teacher professional development in the district context.

2. Conceptual Framework

2.1 Digital Transformation in Teacher Professional Development

Digital transformation in teacher professional development includes the use of online platforms, virtual training programs, mobile learning applications, and collaborative digital tools to enhance professional learning. These tools provide flexibility, accessibility, and opportunities for self-paced and collaborative learning.

2.2 Teacher Professional Development

Teacher professional development encompasses formal and informal learning activities designed to improve pedagogical competence, subject knowledge, classroom management skills, and professional attitudes. Effective professional development is continuous, reflective, and aligned with teachers' classroom needs.

3. Review of Related Literature

Previous research indicates that digitally supported professional development programs improve teachers' instructional practices and confidence in using technology. Studies have reported that online and blended learning models are effective in enhancing teachers' pedagogical innovation and professional engagement.

Research also suggests a positive relationship between teachers' digital competence and their professional growth. However, limited empirical studies focus on district-level analysis with statistical evidence. The present study attempts to address this research gap by examining digital transformation and teacher professional development in Surat District.

4. Need and Significance of the Study

The study is significant because:

- ❖ Digital professional development is increasingly adopted in schools of Surat District
- ❖ Empirical evidence is required to evaluate its effectiveness
- ❖ Institutions need data-driven insights for planning teacher training programs
- ❖ Policymakers require research-based inputs for digital education reforms

5. Objectives of the Study

- 1) To study the level of digital transformation in teacher professional development in Surat District.
- 2) To examine the impact of digital tools on teachers' professional competencies.
- 3) To compare professional development levels of male and female teachers.
- 4) To examine the relationship between digital competence and teacher professional development.

6. Hypotheses

H₁: There is no significant difference between male and female teachers in professional development through digital transformation.

H₂: There is no significant relationship between teachers' digital competence and their professional development.

7. METHODOLOGY

7.1 Research Method

The descriptive survey method was used for the present study.

7.2 Sample of the Study

The sample consisted of 120 secondary school teachers from Surat District, selected through random sampling.

Category	Number
Male Teachers	60
Female Teachers	60
Total	120

7.3 Tool Used

A self-developed questionnaire consisting of 30 items related to:

- ❖ Exposure to digital training programs

- ❖ Use of online professional development platforms
- ❖ Improvement in pedagogical practices
- ❖ Professional motivation and confidence

The reliability of the tool was established using Cronbach's Alpha, which yielded a coefficient of **0.82**, indicating high reliability.

7.4 Statistical Techniques

The following statistical techniques were used for data analysis:

- ❖ Mean
- ❖ Standard Deviation
- ❖ t-test
- ❖ Pearson's Product Moment Correlation

8. Data Analysis and Interpretation

Table 1

Mean and Standard Deviation of Teacher Professional Development Scores

Group	N	Mean	SD
Male Teachers	60	72.45	6.21
Female Teachers	60	73.18	5.98

Interpretation

The mean scores indicate that both male and female teachers exhibit a high level of professional development through digital transformation.

Table 2: T-Test Showing Difference between Male and Female Teachers.

Group	Mean	SD	t-value
Male	72.45	6.21	0.64
Female	73.18	5.98	

Interpretation

The calculated t-value (0.64) is less than the critical value at the 0.05 level of significance. Hence, the null hypothesis is accepted. There is no significant difference between male and female teachers in professional development through digital transformation.

Table 3: Correlation between Digital Competence and Teacher Professional Development.

Variables	N	r-value
Digital Competence and Professional Development	120	0.68

Interpretation:

The correlation coefficient ($r = 0.68$) indicates a moderate to high positive relationship. This suggests that higher digital competence leads to higher professional development among teachers.

9. Major Findings

- ❖ Digital transformation significantly enhances teacher professional development in Surat District.
- ❖ Teachers demonstrate positive attitudes toward online and digital training programs.
- ❖ Gender does not significantly influence professional development through digital transformation.
- ❖ Digital competence is a strong predictor of professional growth.

10. Educational Implications

- ❖ Digital professional development programs should be strengthened at the district level
- ❖ Continuous ICT training should be integrated into in-service teacher education
- ❖ Schools should promote online professional learning communities
- ❖ Institutional and administrative support is essential for sustainable digital capacity building.

11. CONCLUSION

The study concludes that digital transformation plays a vital role in enhancing teacher professional development in Surat District. Teachers who actively engage in digital training programs demonstrate improved pedagogical practices, increased professional confidence, and greater adaptability to technological changes in education. Statistical evidence confirms that digital competence is closely associated with professional growth. Structured digital professional development initiatives and institutional support are essential to maximize the benefits of digital transformation in education.

12. REFERENCES

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