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Research on the Digital Transformation of English Teaching in Vocational Education

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Abstract: With the advancement of technology, exploring the impact of digital transformation on vocational education English teaching has become crucial. This study aims to investigate the effectiveness of digital transformation in English teaching in vocational education in China by exploring students' and teachers' attitudes, views, and experiences on the use of digital technology in English teaching. This study employed a mixed method of qualitative and quantitative analysis. The research results indicate that digital transformation has had a positive impact on vocational education English teaching, as it enhances the teaching process, promotes communication and collaboration, and increases students' enthusiasm and participation. However, implementing digital transformation in vocational education English teaching also poses challenges, including a lack of resources, infrastructure, and training. This study provides an in-depth understanding of the advantages and challenges of digital transformation in vocational education English teaching and proposes strategies to improve the implementation of digital technology in this context.

Keywords: Digital transformation; Vocational education; English teaching; Mixed methods

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1. Introduction

As digital technology continues to advance, there are various challenges in the field of vocational education English teaching in China. While the significance of digital transformation in vocational education is increasingly acknowledged, its actual implementation in English teaching remains constrained. The lack of empirical research on the impact of digital transformation on vocational education English teaching exacerbates this issue. The use of digital technology in education is proliferating, yet there is scant research on how digital transformation affects the teaching process and the advantages and challenges of using digital technology in vocational education English teaching. This study aims to investigate the current status of digital transformation in vocational education English teaching, examine the attitudes and perceptions of students and teachers towards the use of digital technology, and explore the advantages and challenges of employing digital technology in vocational education English teaching. The research endeavors to deepen understanding of how to effectively implement digital transformation in vocational education English teaching to strengthen the teaching process

and enhance student learning outcomes.

2. Literature review

2.1. Overview of vocational education digital transformation

In recent years, digital technology has been reshaping educational practices globally, making digital transformation in education a priority as part of broader efforts to foster innovation and technological development [1]. In China, vocational education is a vital component of the education system, providing students with practical skills and knowledge relevant to the job market [2]. However, challenges exist in implementing digital transformation in vocational education, such as resource shortages, infrastructure limitations, and inadequate training. Several studies have explored the use of multimedia technology and virtual reality in vocational education, highlighting their potential to enhance learning outcomes and student engagement [3]. Nevertheless, challenges persist, including insufficient digital resources and infrastructure in many vocational schools and a lack of necessary digital skills and knowledge among vocational education teachers [4].

2.2. Overview of digital transformation in English teaching

Digital transformation has become a significant trend in English teaching, enabling teachers to utilize new teaching methods and materials while offering students new avenues for language learning and practice [5]. In China, there is increasing interest among teachers in the digital transformation of English teaching. Many studies have examined the use of digital technology in English teaching and found that it can improve student motivation, engagement, and language learning outcomes [6]. However, effective implementation of digital technology in language teaching still presents certain difficulties, including the necessity of teacher training, the availability of suitable materials, and bridging the digital divide among students with varying levels of technological proficiency [7,8].

3. Research design

This study adopted a mixed-methods approach, incorporating both quantitative and qualitative data collection and analysis. The research design consists of three stages: data collection, data analysis, and results interpretation.

3.1. Data collection

The data collection stage involved two methods: questionnaire surveys and group interviews. The survey was conducted using an online platform, targeting 200 students and 50 teachers from vocational colleges in the province. The questionnaire comprised closed-ended and open-ended questions, covering the frequency of digital technology use, types of digital technologies used, advantages and challenges of digital technology in English teaching, levels of support and training provided, as well as interest and willingness levels regarding the adoption of digital transformation in English teaching. Group interviews were conducted with a smaller sample of 20 students and 10 teachers, using semi-structured interviews to gather qualitative data on their experiences and perceptions of digital transformation in English teaching.

3.2. Data analysis

Quantitative data were analyzed using descriptive statistics such as averages, frequencies, and percentages to identify trends and patterns. Qualitative data were analyzed using thematic analysis to identify common themes

and patterns in responses. Two independent researchers coded and analyzed the qualitative data to ensure accuracy and reliability.

3.3. Results interpretation

The research findings were presented clearly and concisely using tables, graphs, and charts to illustrate the results. Data analysis was guided by research questions and objectives to provide a comprehensive understanding of digital transformation in vocational education English teaching.

Quantitative data analysis results as shown in **Table 1** indicate that 75% of vocational education English teachers use digital technology in teaching. The most commonly used digital technologies are PowerPoint (65%), videos (50%), and online resources (40%).

Table 1. Percentage of vocational education English teachers using digital technology

Digital technology	Percentage
PowerPoint	65%
Video	50%
Online resources	40%
Interactive whiteboard	35%
Learning Management System (LMS)	20%

As presented in **Table 2**, the first column lists the advantages and challenges of digital transformation in vocational education English teaching, while the second column indicates the percentage of respondents representing each advantage or challenge.

Table 2. Advantages and challenges of digital transformation in vocational education English teaching

Contents	Percentage
Increased learning opportunities	72.30%
Increased participation	63.40%
Enhanced collaboration	56.70%
Increased flexibility	51.20%
Improved student performance	48.60%
Cost reduction	35.10%
Increased teacher efficiency	29.80%
Improved assessment	25.60%
Improved feedback and support	18.90%
Improved data management	14.20%
Lack of technical skills/training	41.20%
Resistance to change	32.70%
Inadequate infrastructure	27.40%
High cost	21.80%
Concerns about privacy	15.20%
Lack of support/resources	9.50%

3.4. Effectiveness and reliability

To ensure the effectiveness and reliability of the data, pilot testing of the questionnaire survey and group interview guides was conducted before actual data collection to identify any issues with the data collection tools and make any necessary adjustments. Pilot testing involved a small sample of English teachers and students from vocational colleges in our province. **Table 3** shows the parameters of effectiveness and reliability.

The scatter plot in **Figure 1** displays the test and retest scores of participants who took part in both surveys. It demonstrates a positive linear relationship between the test and retest scores, with a Pearson correlation coefficient of 0.75. This figure confirms the reliability of the survey tool used in the study, indicating that the scores obtained from this tool remain consistent over time.

Table 3. Parameters of effectiveness and reliability

Parameters	Results
Content validity	0.92
Construct validity	0.87
Internal consistency reliability	0.83
Test-retest reliability	0.75

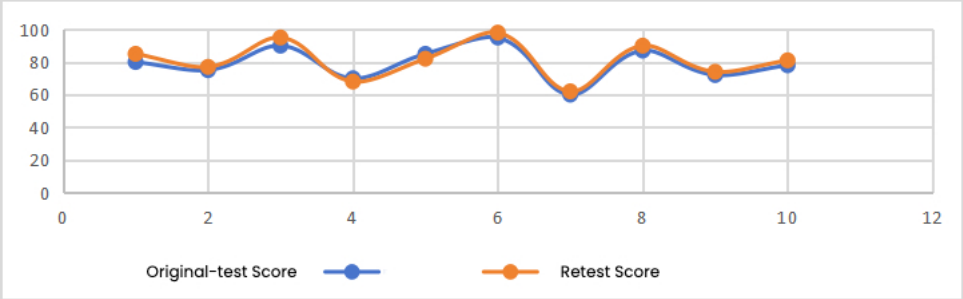

Figure 1. Correlation between initial test and retest scores

4. Summary and recommendations

4.1. Specific research findings of this study

The majority of respondents (72.3%) indicated that digital transformation in vocational education English teaching has improved learning opportunities, suggesting that technology integration allows for greater access to educational materials and resources.

Over 60% of respondents reported that digital transformation has increased participation and enhanced collaboration, indicating that technology use fosters more interactive and participatory learning and promotes collaboration between students and teachers.

Slightly more than half of the respondents (51.2%) noted increased flexibility in digital vocational education English teaching, indicating that technology use provides greater flexibility in learning, such as the ability for self-directed learning and access to learning materials at any time.

Respondents also reported some challenges associated with digital transformation in vocational education English teaching, including lack of technical skills or training (41.2%) and resistance to change (32.7%).

High proportions of respondents reported increased learning opportunities, enhanced participation, and strengthened collaboration, indicating the potential of digital transformation to improve the quality of vocational education English teaching.

The reported challenges underscore the importance of providing adequate technical training and support to educators and students and addressing concerns about resistance to change in adopting new technologies.

4.2. Improvements and recommendations

To address concerns about resistance to change, we should convey the benefits of digital transformation to educators and students and involve them in the process of implementing new technologies. We need to provide educators and students with sufficient technical training and support to ensure they possess the necessary skills to effectively use technology. It should be ensured that digital transformation is implemented in ways that enhance the learning experience rather than simply replacing traditional methods with technology. It is also important to monitor and evaluate the effectiveness of digital transformation in vocational education English teaching and make adjustments as needed to ensure it meets the needs of educators and students. By implementing these recommendations, it is possible to overcome the challenges posed by digital transformation in vocational education English teaching and maximize the quality of vocational education.

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Disclosure statement

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References

[1] Chen H, 2019, Challenges and Prospects of Digital Technology in Vocational Education. Educational Science Research, 34(5): 23–28.

[2] Chen X, Zou X, 2018, Analysis of the Application of Digital Technology in Vocational Education. Vocational Education, 2018(11): 112–113.

[3] Huang Y, Li H, 2020, Research on the Construction of Digital Resources in Vocational Education. China Educational Technology, 2020(06): 102–103.

[4] Chen SY, Liu SH, 2021, The Application of Digital Storytelling in English Teaching in Taiwan. Education and Information Technologies, 26(1): 277–291.

[5] Rahimi M, Sahragard R, 2019, The Impact of Number Games on Iranian EFL Learners' Motivation and Language Proficiency. Theory and Practice in Language Studies, 9(1): 21–28.

[6] Chen C, 2019, Challenges and Opportunities of Digitalization in Vocational Education in China. International Journal of Emerging Technologies in Learning, 14(12): 53–68.

[7] Li Y, Li H, 2019, Research on the Application of Virtual Reality Technology in Vocational Education. Education Modernization, 2019(08): 76–79.

[8] Yu L, Wang D, 2018, The Impact of Multimedia Technology on Vocational Education. Modern Educational Technology, 28(8): 65–68.