Pak. j. life soc. Sci. (2025), 23(1): 3448-3455 E-ISSN: 2221-7630;P-ISSN: 1727-4915

Pakistan Journal of Life and Social Sciences

www.pjlss.edu.pk

https://doi.org/10.57239/PJLSS-2025-23.1.00274

RESEARCH ARTICLE

Factors Influencing Blended English Teaching at Zibo Vocational Institute during the Pandemic

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ARTICLE INFO

Received: Nov 16, 2024

Accepted: Jan 23, 2025

Keywords

Factor

Blended Teaching

English

Vocational Institute

Pandemic Phase

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ABSTRACT

This study examines the factors influencing blended English teaching during the COVID-19 pandemic, with a specific focus on Zibo Vocational Institute. A structured questionnaire was administered to 75 English teachers, achieving a 100% response rate. The research adopted a quantitative approach, incorporating questionnaire data and statistical analysis using SPSS software to identify the key determinants of blended teaching effectiveness. The findings reveal that Facilitating Conditions (FC), Hedonic Motivation (HM), Resistance to Change (RC), and Social Influence (SI) significantly and positively influence Behavioural Intention (BI), which subsequently has a strong impact on Use Behaviour (UB). Conversely, Effort Expectancy (EE) and Performance Expectancy (PE) were found to have no significant effect on BI. The model demonstrated strong predictive power for both BI (R^2 = 0.759) and UB (R^2 = 0.510).The study concludes that while blended teaching presents considerable advantages, addressing specific influencing factors is crucial for optimizing its implementation. Limitations of the study include a relatively small sample size and its focus on a single institution, highlighting the need for future research involving larger and more diverse populations.

INTRODUCTION

The outbreak of COVID-19 in early 2020 led to the suspension of traditional classroom teaching in educational institutions across China.(Xiao, Chunchen and Yi Li. 2020) In response, the Ministry of Education implemented a policy of "suspending classes without stopping learning," prompting universities to adopt online live-class-based blended teaching models. (McAleer, Wang et al., 2020). However, both teachers and students initially faced challenges in adapting to this new mode of instruction. This study aims to identify the factors influencing blended English teaching during the pandemic, particularly in vocational institutes. （Zhang Y, Chen T, Wang C., 2020）.It seeks to propose strategies for enhancing teaching effectiveness and student engagement in college English classes(Byram, M.,2012). The research employs quantitative methods, including questionnaires, descriptive and data analysis, and inductive reasoning, to analyze the challenges and propose solutions for blended English teaching during the pandemic.

LITERATURE REVIEW

Blended teaching integrates the advantages of traditional classroom teaching and online learning, compensating for the shortcomings of traditional methods and evolving with educational informatization (Wetzel, Buss, Foulger & Lindsey, 2014; Jam et al., 2016). It is characterized by flexibility, diverse teaching methods, abundant resources, and interactive communication channels. The "online and offline" blended teaching model better reflects the "student-centered and teacher-led" teaching philosophy, allowing students to learn without being constrained by time and space, thereby promoting independent learning and improving teaching quality (Jahng & Krug, 2007; Jam et al., 2012).

The blended teaching process framework, constructed by Zhao Wei and Yao Haiying (2013), divides the process into preparation, implementation, and evaluation. Preparation involves instructional design considering both classroom teaching and online learning. Implementation is divided into face-to-face classroom teaching and online learning, with teachers stimulating student motivation, explaining course content, facilitating interaction, and reflecting on teaching. Online learning involves providing resources, organizing interactive communication, and reflecting on learning. Evaluation includes both classroom and online learning assessments (Zhao Wei, Yao Haiying, 2013; Helaudho et al., 2024).

Blended teaching, a concept that predates modern technological advancements, has evolved with the proliferation of information technology. Initially defined as a mix of teaching methods, educational technologies, and practical tasks, it now specifically refers to the integration of face-to-face instruction with online learning, as noted by Driscoll (2002) and formalized by the Alfred P. Sloan Foundation (2004). Osguthorpe and Graham (2003) further expanded this definition, positioning blended teaching as a broader concept encompassing both distance education and computer-assisted language learning (CALL).

The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), an advancement on the original UTAUT model by Venkatesh et al. (2012), introduces three new determinants: hedonic motivation, price value, and habit. Hedonic motivation captures the pleasure derived from technology use, a critical factor in adoption. Price value assesses the perceived benefits relative to cost, while habit reflects the automatic behavioral patterns formed through learning.

The Theory of Reasoned Action (TRA), developed by Fishbein and Ajzen (1975), elucidates the relationship between attitudes and behaviors, with intention being the direct determinant influenced by attitudes and subjective norms. Attitude reflects an individual's feelings towards a behavior, and subjective norm relates to perceived social pressures.

The Theory of Planned Behaviour (TPB) extends TRA by incorporating perceived behavioral control, emphasizing the role of intention in behavior based on attitudes, subjective norms, and perceived control. This theory underscores an individual's perceived capability to perform a behavior.

Constructive Learning Theory (CLT), building on Piaget's construction theory, posits that cognitive structures are built through self-cognition and social interaction. Learners construct meaning in specific contexts with the aid of teachers and peers.

Social Learning Theory (SLT), rooted in behaviorist theory, suggests that learning is influenced by reinforcements that alter behavior probabilities. Self-efficacy, a central concept, refers to an individual's belief in their ability to interact effectively with their environment.

The Technology Acceptance Model (TAM), formulated by Davis (1985), predicts technology acceptance based on perceived usefulness and ease of use. Perceived ease of use is the belief that a technology can be operated without effort, and perceived usefulness is the belief that using a system will enhance job performance.

This study constructs a theoretical model based on UTAUT2 and other relevant theories to identify key factors affecting the acceptance of blended teaching during the pandemic. The model includes

performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, and resistance to change, as identified by Alfarani (2016) and Alkhattabi (2017).

In summary, the COVID-19 pandemic has forced educational institutions to adopt blended teaching models. This study aims to identify influencing factors and propose strategies to enhance teaching effectiveness and student engagement in this new educational paradigm.

Research Objective and Main Question

Aim of this study is to investigate the factors influencing blended learning among vocational college English teachers during the epidemic period and to propose actionable recommendations for improvement. The study seeks to achieve the following specific objectives:

Identify Key Factors: Determine the critical factors affecting the effectiveness of blended learning for English teachers in vocational colleges.

Propose Improvement Strategies: Develop strategies to optimize the blended learning model, enhancing teaching effectiveness and student engagement.

Offer Practical Recommendations: Provide actionable suggestions for vocational colleges to implement blended learning effectively and improve the quality of the English teaching environment.

Research Questions

What factors influence the effectiveness of blended learning among vocational college English teachers during the epidemic period?

How do these factors specifically affect the teaching process?

This study aims to bridge the gap in understanding the challenges and opportunities of blended learning within the vocational education context, offering valuable insights for educators and administrators.

METHODOLOGY

Research Design

The design of this study is quantitative, utilizing a survey method and questionnaire research approach to analyze the factors affecting blended teaching during the pandemic phase. Quantitative analysis is chosen for its objectivity, reliability, and ability to generalize findings to larger populations, as noted by Roberts (2010). It also allows for the collection of large volumes of data efficiently and enables statistical analysis to quantify and compare relationships between variables. By using standardized questionnaires, adapted from previous research and distributed online to community colleges, the study aims to explore the factors that influence the blended English teaching in Zibo vocational institute during the pandemic phase. Data will be analyzed using SPSS software, with descriptive and correlation surveys providing insights into the characteristics, attitudes, and relationships among variables, as highlighted by Roni and Djajadikerta (2021). This method ensures that the researchfindings are reliable, can be applied to other vocational institutions like Zibo Vocational Institute, and may contribute valuable insights into the broader implementation of online blended teaching in education globally.

Research Participants

The study examines English lecturers and students at Zibo Vocational Institute (ZVI) during the pandemic to explore the factors affecting blended teaching. Sample-set 1 (Lecturers): For the first sample set, the target population consists of all 75 English lecturers in ZVI's International Department. Given that the population size is relatively small, a comprehensive survey approach was adopted, including all lecturers as the sample (Memon, et.al., 2020). This method is supported by the principle that when the population is small, using the entire population as the sample can enhance the reliability of the findings, as there is a reduced risk of sampling error.

Ethical Considerations

This study adhered to the highest ethical standards to ensure the integrity and safety of all participants involved. Prior to the commencement of data collection, the research proposal was submitted to and approved by the UPSI Research Ethics Committee under approval number 2024-0590-01. This ethical approval confirms that the study met the guidelines and principles set by the university for the responsible conduct of research. The following ethical precautions were taken:

Informed Consent: All participants, along with their guardians, were fully informed of the study's objectives, procedures, potential risks, and benefits. This ensured that their involvement was completely voluntary and based on a clear understanding of the study's scope.

Confidentiality: Participants' identities and personal information were kept strictly confidential. All data were anonymized to ensure that individual participants could not be identified in the analysis or in the publication of the study's results. Data were stored securely and only accessible to the research team.

Right to Withdraw: Participants were informed of their right to withdraw from the study at any stage without any consequences. This freedom was emphasized throughout the research process to ensure that participation remained voluntary.

Minimal Risk: The nature of the study posed minimal risk to the participants. The activities were age-appropriate and aligned with their regular educational experiences, ensuring a safe and comfortable learning environment.

Study Tools

The primary research instrument in this study is a structured questionnaire designed to collect data on attitudes, behaviors, and perceptions of blended teaching during the pandemic. The questionnaire, based on previous research, is divided into nine sections (A–I) and uses a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree."

Section A focuses on demographic information, including age, gender, teaching experience, educational background, and digital platform usage. The questionnaire is tailored for different respondent groups: for teachers, questions are framed around "teaching," while for students, they are framed around "learning," maintaining a consistent structure and content. Sections B–I explore various factors influencing the acceptance of blended teaching , such as Performance Expectation (PE), Effort Expectation (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Resistance to Change (RC), Behavioral Intention (BI), and Use Behavior (UB). Each section contains five items to assess different aspects of respondents' views and behaviors related to blended teaching. The questionnaire method allows for rapid data collection and statistical analysis using SPSS software.

Test Validation:

Face validity: Three experts in the relevant field were selected to evaluate the validity of the questionnaire. This table also provides a list of experts designated to verify each questionnaire item. Their evaluations and feedback helped to refine the questionnaire and enhance its validity.

Content validity

The content validity of the entire scale was evaluated using the "Mean S-CVI" index, which is calculated by averaging the I-CVI scores of all items. All 40 items were scored as "3" or "4" by the experts, with 34 items meeting this criterion. The S-CVI/UA was calculated to be 0.850, which exceeds the recommended threshold of 0.8. The S-CVI/AVE was 0.9505, which is well above 0.90. Collectively, these results indicate that it has a high content validity index. It demonstrates acceptable levels of content validity,

Test Reliability:

To ascertain the reliability and internal consistency of the questionnaire items, the alpha coefficient, specifically Cronbach's Alpha, was calculated in line with the recommendations of Cronbach (1984), as referenced in Creswell (2012) and Fraenkel & Wallen (2009). The study data was analyzed using IBM SPSS Statistics Version 26. The content validity of the questionnaire was assessed using Cronbach's alpha. The analysis revealed that all items measuring each variable had a coefficient of 0.691 or higher. According to Nunnaly (1978), such coefficients are deemed acceptable in research contexts.

Data Collection and Analysis

At Zibo Vocational Institute, a comprehensive field study was undertaken involving English faculty members. A total of 75 questionnaires were disseminated, and remarkably, all 75 were returned promptly, achieving a perfect response rate of 100%. Given the voluntary nature of participation, such a rate is deemed satisfactory. The 75 fully completed responses were not only adequate for subsequent in-depth analysis but also enabled the derivation of conclusive and significant findings with a high degree of confidence, specifically at the 99% level, adhering to the methodological standards set forth by Linacre (1994). Furthermore, the analysis yielded a high reliability coefficient, suggesting that the sample encompassed a broad spectrum of individual capabilities, ranging from highly capable to those with limitations, thus rendering it highly appropriate for precise and reliable assessments, as emphasized by Linacre (2018).

RESULTS AND DISCUSSION

Figure 1 presents the result of structural equation modeling (SEM).

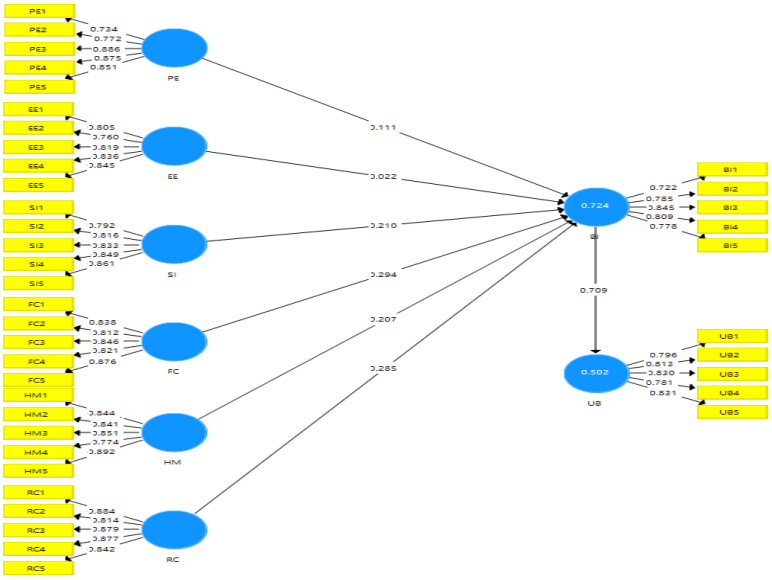

Figure 1. Structural Model Result

Prediction Ability Analysis

The model's predictive efficacy is quantified through R2 and Q2 values, as detailed in the accompanying table. R2 values span from 0 to 1, with higher figures denoting superior predictive precision. Conversely, Q2 serves as a regularity metric, affirming the model's predictive strength correlation. Drawing from Henseler et al.'s guidelines, the R2 figures for BI and UB stand at 0.759 and 0.510, respectively, signifying robust predictive accuracy. These values suggest that the model's predictive prowess for BI and UB is on par with medium-level standards. In alignment with Hair et al.'s assertions, BI and UB exhibit notable predictive correlation. Consequently, the model under scrutiny demonstrates fitting predictive accuracy for the focal latent variables, BI and UB.

Table 1. Predictive ability analysis (Teacher Sample)

	SSO	SSE	Q^2 (=1-SSE/SSO)	R2
BI	375	213.837	0.430	0.759
UB	375	255.177	0.320	0.510

Table 1 was used to show the direct effects of the constructs.

The influence of BI on UB is characterized by a path coefficient of 0.713, which is significantly greater than zero. This path demonstrates an exceptionally high level of statistical significance, with a T-value of 12.189 and a p-value of 0.000, well below the conventional threshold of 0.01. This unequivocally suggests that BI exerts a profoundly positive and substantial effect on UB.

The effect of EE on BI is indicated by a path coefficient of 0.026, which is marginally above zero. However, the statistical significance of this path is quite low, with a T-value of 0.289 and a p-value of 0.773, which exceeds the conventional significance level of 0.05. Consequently, EE does not exert a significantly positive influence on BI.

The influence of FC on BI is reflected in a path coefficient of 0.279, which is positively greater than zero. This path demonstrates a significant effect, with a T-value of 2.420 and a p-value of 0.016, which is below the standard significance threshold of 0.05. This indicates that FC has a notably positive impact on BI.

The impact of HM on BI is evidenced by a path coefficient of 0.209, which is positively greater than zero. This path is statistically significant at the 0.05 level, with a T-value of 2.636 and a p-value of 0.008, which is less than the conventional significance level of 0.05. This suggests that HM has a significant positive influence on BI.

The effect of PE on BI is indicated by a path coefficient of 0.117, which is slightly above zero. However, the statistical significance of this path is not sufficient, with a T-value of 1.011 and a p-value of 0.312, which exceeds the standard significance threshold of 0.05. Therefore, PE does not have a significantly positive impact on BI.

The influence of RC on BI is characterized by a path coefficient of 0.285, which is positively greater than zero. This path is statistically significant at the 0.05 level, with a T-value of 2.448 and a p-value of 0.014, which is below the conventional significance level of 0.05. This indicates that RC has a significant positive impact on BI.

The effect of SI on BI is indicated by a path coefficient of 0.215, which is positively greater than zero. This path is statistically significant at the 0.05 level, with a T-value of 2.348 and a p-value of 0.019, which is below the conventional significance threshold of 0.05. This suggests that SI has a significant positive influence on BI.

CONCLUSION

The direct effects of the constructs were analyzed, revealing significant impacts of BI on UB (path coefficient 0.713, T=12.189, p=0.000), FC on BI (path coefficient 0.279, T=2.420, p=0.016), HM on BI (path coefficient 0.209, T=2.636, p=0.008), RC on BI (path coefficient 0.285, T=2.448, p=0.014), and SI on BI (path coefficient 0.215, T=2.348, p=0.019). These factors significantly positively influenced BI.

Conversely, EE (path coefficient 0.026, T=0.289, p=0.773) and PE (path coefficient 0.117, T=1.011, p=0.312) did not significantly impact BI. The model demonstrated robust predictive accuracy for the latent variables BI and UB, with significant contributions from FC, HM, RC, and SI, while EE and PE had negligible effects.

Limitations

The study was conducted with a relatively small sample of 75English teachers from a single school in China, Zibo vocational Institute. This limits the generalizability of the findings to other contexts, schools, or regions. Future research with larger and more diverse samples would help to verify whether the same effects can be observed in different educational settings.

AUTHOR'S CONTRIBUTION

The author designed the quantitative research methodology, including the development of the structured questionnaire and the selection of the Likert scale for data collection. This involved extensive literature review to identify relevant theoretical frameworks and previous research, ensuring the study's alignment with established methodologies in the field of educational technology and blended learning.

The author was responsible for the distribution and collection of the 75 questionnaires to English teachers at Zibo Vocational Institute, achieving a 100% response rate. Additionally, the author conducted the data analysis using IBM SPSS Statistics Version 26, applying descriptive and correlation surveys to derive insights into the characteristics, attitudes, and relationships among variables. This analysis was crucial in identifying the direct effects of various constructs on blended teaching during the pandemic.

The author constructed a theoretical model based on UTAUT2 and other relevant theories to identify key factors affecting the acceptance of blended teaching during the pandemic. This involved integrating concepts such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, and resistance to change. The model was used to propose strategies for enhancing teaching effectiveness and student engagement in college English classes, contributing to the broader understanding of blended learning in vocational education.

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