International Journal of Advances in Engineering and Management (IJAEM)
Volume 7, Issue 05 May 2025, pp: 54-59 www.ijaem.net ISSN: 2395-5252

Digital transformation in teaching Vietnam Communist Party history at Thai Nguyen University of Technology: Challenges and Solutions

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Date of Submission: 01-05-2025 Date of Acceptance: 10-05-2025

ABSTRACT
This study evaluates the proposed solutions for digital transformation in education of Vietnam's history in the technology of Nguyen University of Technology. Quantitative methods (a study containing 200 students and 20 lecturers) and the application of digital technology remains limited, with research being used for the use of qualitative methods (interviews and document analysis) primarily based on PowerPoint and Google Classroom. The most important challenges include insufficient infrastructure, lack of digital skills and insufficiently diverse digital content. However, student commitments and support guidelines provide opportunities for innovation. The proposed solutions include improving the technical infrastructure, training instructors, and developing digital repository. This study highlights the key role of digital transformation in improving the quality of education, paving the way for future research into the use of artificial intelligence and virtual reality.

Keywords: Digital transformation, History of the Communist Party, University, teaching

I. INTRODUCTION

In the context of the Fourth Industrial Revolution, digital transformation in all sectors, including the formation of universities, is an inevitable trend. In Vietnam, university organizations have a great demand for innovation to meet the need to train high-quality human resources that can be adapted to rapid technical and social change. Among these, the history of the ideological and political subject of the Vietnam Communist Party plays an important role in promoting revolutionary ideals, patriotism and social responsibility among students. Traditional teaching methods, characterized by dry theoretical lectures and limited dialogue, have degraded the topic's appeal to students, particularly at technology universities such as the Thai University of Technology (TNUT). Supported by technologies such as the

Learning Management System (LMS), online lectures, and digital interactive tools, the digital transformation to education provides ways to innovate teaching methods and make Communist Party history more attractive and effective. Global research shows that the use of digital technology not only improves the quality of education, but also improves student commitment, improves self-learning capabilities, and promotes critical thinking. Although digital transformation in education has progressed to some extent in Vietnam, applications in the subject of social sciences, particularly in the field of Communist Party history, remain limited, especially in technical universities where students generally prioritize technical subjects from political theory.

This study focuses on the analysis of the current state of digital transformation in the education of the Vietnam Communist Party's history, identifying key challenges and suggestions for practical solutions to improve the effectiveness of lessons. The main research questions include:

(1) how high is the current state of digital technology applications in the history of the Communist Party of TNUT? (2) What are the main challenges of the digital conversion process? (3) What solutions can you implement to improve the quality of education through digital transformation? The purpose of this study goes beyond the assessment of current status to provide practical recommendations for lecturers, universities and educational policies.

This research is extremely important as TNUT seeks to modernize its training programmes

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and improve the quality of comprehensive education. This result provides scientific evidence for the use of digital transformation in teaching in teaching subject matter teaching and helps to promote reforms in political ideological teaching methods at Vietnamese technology universities.

Digital transformation in education is defined as the integrated process of digital technologies in all aspects of educational activities, including teaching, learning, and management to improve efficiency and training quality (Nguyen, 2020). According to UNESCO (2021), digital transformation goes beyond mere technological use, and includes changes in mindsets, methods and educational models to adapt to the digital age. Common digital conversion tools in education include learning management systems (LMSs) such as Moodle and Google Classroom, online learning platforms such as Zoom and Microsoft teams, and advanced technologies such as Artificial Intelligence (AI) and Virtual Reality (VR). In the Social Science class, Digital Transformation offers the opportunity to innovate your approach and create lecture content through historical videos, interactive simulations and online exercises. However, implementation of digital transformation also provides challenges related to infrastructure, technical knowledge of instructors and students, and designing content suitable for digital environments.

International research shows that digital transformation has a positive impact on the quality of education in social sciences. For example, Johnson et al. (2019) found that using online tools such as lecture videos and interactive testing improves student commitment and improves learning outcomes. In Vietnam, some research focuses on using technology in classrooms on political theoretical subjects. The use of PowerPoint and historical documentary film videos can raise students' interest in Ho Chi Minh. However, these studies focus primarily on universities specializing in social sciences, while technology universities such as TNUT remain underloaded.

Regarding the history of the Vietnam Communist Party, previous research focused primarily on curriculum content and traditional teaching methods. Van emphasized the need to innovate this topic for the younger generation, but did not reach the role of digital transformation. Some recent research has begun to consider the use of technology in the history of Communist Party history, but advanced technologies such as AI and VR are limited to basic tools such as PowerPoint and video, which are not mentioned.

Research on digital transformation and education of political theoretical subjects has been conducted, but there is no detailed research into the history of the Communist Party of Vietnam, particularly the application of digital transformation in education at technology universities such as TNUT. Technological universities often face challenges for students with little interest in social science subjects, and lecturers have difficulty attracting attention. Furthermore, existing research does not address specific challenges entirely, such as technological infrastructure, digital skills for lecturers, and digitization of educational content. The purpose of this study is to close these gaps by providing a comprehensive analysis of current states, challenges and solutions for digital transformation in the teaching of TNUT's Communist Party's history.

This study is based on Selwyn's (2017) theoretical framework for digital transformation in education. There, three key components are highlighted:

(1) Technology (digital tools and platforms), (2) people (skills and attitudes of instructors and students), and (3) processes (3) processes (organization and management of educational activities). This framework is used to analyze the current state and propose solutions to ensure that aspects of technical, human, and process are thoroughly considered.

II. METHODOLOGY

This study uses a research design using a mixed method in which quantitative and qualitative approaches are integrated to ensure the challenges and potential of digital transformation in the communication of the history of the Vietnam Communist Party of Thailand (TNUT) in order to ensure the challenges and possibilities of digital transformation in the communication of Vietnamese Communist Party history. This combination allows for multidimensional data ranging from statistical diagrams to detailed insights, providing a comprehensive understanding of the research question.

-Research

Participants Research participants include lecturers and students from the Faculty of Social Sciences at TNUT. In particular, this study is as follows:

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Lecturers: 20 lecturers currently teaching the History of the Communist Party, representing different levels of teaching experience (under 5 years, 5–10 years, and over 10 years).
Students: 200 first- and second-year undergraduate students who have taken or are taking the History of the Communist Party, randomly selected from classes across various technical disciplines.
- Data Collection Methods

Three main data collection methods are used in the survey.
• Exam Request: A survey was developed to gather information on the scope of use, challenges and opportunities of digital technology. Although this study was incomplete in the original text, we evaluated our digital tools experiences, aiming to be both lecturers and students.
• Incoming Interviews: 5 Five experienced lecturers who taught Communist Party history were selected for interviews to gain detailed insights into challenges, opportunities and potential solutions for digital transformation. Interviews were recorded and transcribed for analysis.
• Document Analysis: Existing curriculum, online educational materials, and digitized lectures for TNUT's Communist history were checked to assess the degree of digitization and content quality.
-Data Analysis Methods Quantitative data from the questionnaire were processed using SPSS software for descriptive statistical analysis (frequency, mean, percentage) and correlation analysis to identify relationships between factors such as digital skills and effectiveness. Qualitative data from interviews were coded and synthesized using content analysis using key topics (such as technical assignments, student attitudes). Document analysis data were used to complement and validate survey and interview results.
-Reliability and Validity: A questionnaire containing 20 students and 5 instructors was checked to improve vague questions. Interviews were conducted by experienced researchers to minimize distortion. Validity was guaranteed by data sources, and consulting experts, for data sources and for Communist education and history at the research design stage.

III. RESULTS AND DISCUSSION

The Vietnam Communist Party's research into digital transformation of history of history at Thai Nu Nguyen University of Technology (TNUT) collected and analyzed data from research, interviews and document analysis. The main results are presented in three dimensions.

The current state, challenges and opportunities of digital conversion.

-Current Situation of Digital Transformation shows that the application of digital technology in mediating the history of the Communist Party of TNUT remains fundamental. In particular: 85% of instructors use PowerPoint for lecture presentations, 60% use historical documentary videos, and 5% use online learning platforms such as Google Classroom and Zoom. Only 10% of instructors use interactive tools such as online quizzes and historical simulations. 70% of students said lectures that include digital technology consisted only 30-50% of total class hours. The rest is based on traditional theoretical lessons. 65% of students found lectures digitally improved over traditional methods, while 55% found that digitized content was simple and consisted primarily of PowerPoint film or non-interactive videos.

Document analysis showed that the Communist Party History curriculum at TNUT is primarily in printed text format, providing additional material as PDFs via Google Classroom. There are no specialized digital repositories or fully developed interactive lectures.

-Challenges

The most important challenges in the digital transformation process were discovered through research and interviews.

80% of lecturers and 75% of students said that they were given unstable Wi-Fi connectivity in the university, preventing the use of online learning platforms. Furthermore, the limited number of computers in the classroom makes it difficult to implement interactive lectures. 60% of instructors admitted they lacked skills when using advanced digital tools, such as designing online quizzes and creating interactive content. In the meantime, 40% of students report difficulties based on insufficient guidance to use online learning platforms. The interviews showed that digitization of the history of the Communist Party's content is slow and focused primarily on converting the curriculum to PDF format without interactive elements such as historical simulations and online testing. Due to his powerful theoretical content and its limited practical connection, 50% of students expressed a lack of interest in the topic, even if digital technology is used.

- Opportunities

Despite many challenges, the study identified several options.

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70% of students said they were willing to lecture using interactive technology such as: TNUT supported the Ministry of Education on Digital Transformation Projects, including infrastructure upgrades and training digital skills for instructors. Interested lecturers highlighted the possibilities of technologies such as artificial intelligence (AI) and virtual reality (VR) in replicas of historical events so that students can better visualize the developmental stages of Vietnam's Communist Party.

Results show that the application of digital transformation in the education of the Communist Party of TNUT is still in its early stages, and this corresponds to the situation at many other technical universities in Vietnam (Trần, 2021). Tools such as PowerPoint and Google Classroom are used, but the lectures remain limited in interactivity and creativity. This may be attributed to the Communist Party's perception of history as a theoretical topic, with innovation being lower priority compared to technical fields.

Compared to universities specializing in social sciences, political theory subjects began to adopt digitized tools such as online quizzes and historical simulations (NGUYễN, 2020), and TNUT delays in the integration of advanced technology. However, the interest of TNUT students in interactive lectures was Johnson et al. (2019) argue that digital technology can improve student commitment on social science subjects.

Challenges related to infrastructure and digital skills reflect the broader landscape of many Vietnamese universities where financial and human resources for digital transformation are limited (Lê2023). Furthermore, the lack of high-quality digitized content is an important barrier, as the development of interactive lectures requires considerable time and expert knowledge. Student attitudes also play an important role, as Communist Party history is often perceived as "dry" due to traditional methods of presentation.

technologies such as AI and VR can pave the way for new approaches to teaching Communist Party history. For example, you can use AI to create personalized quiz questions, but VR can build historical events such as party parliaments and innovative campaigns so that students can experience history in a vibrant way. However, implementing these technologies in TNUT requires considerable investment in infrastructure and training.

This study has several limitations. The sample size (200 students and 20 lecturers) is sufficient for a preliminary overview, but it cannot fully represent all students and lecturers at TNUT. The duration of this study also limits the ability to assess the long-term impact of digital conversion solutions. Future research should expand sample sizes and evaluate the effectiveness of progressive technologies such as AI and VR. The results of the study form the basis of TNUT for developing digital transformation strategies for the education of Communist Party history, from infrastructure upgrades to training lecturers in digital skills. These findings apply to other technical universities in Vietnam where social science subjects require innovation to ensure student interest.

IV. THE SOLUTION

University, lecturer, students, and political recommendations.

Universities should prioritize investing in technology infrastructure to create the foundation for digital transformation. In particular, the TNUT Wi-Fi system in the classroom and library must be updated to ensure stable connectivity between online lectures and digital interactions. Additionally, classroom equipment with more computers and multimedia devices supports instructors who provide technology-driven lectures such as simulated videos and online testing. Universities should also implement learning management systems & LMS&Moodle, as well as features for the management of lectures, tasks and automated feedback to improve education and management efficiency.

Additionally, TNUT should host regular courses for digital skills training for instructors, using tools such as Google Classroom, designing online tests, and creating interactive content intensives. These courses should be conducted regularly with the support of educational technology experts to ensure practical applicability.

Trainers need to actively innovate their teaching methods by integrating digital technology into lectures. Instead of relying on PowerPoint, trainers can design short videos, repeat historical events, and create interactive tests using tools such as Kahoot that enhance student commitment. Assigning tasks to provide digitized material using online learning platforms such as Google Classroom is another effective solution.

Furthermore, lecturers should participate in training programs to improve their digital skills and design content that has been digitalized from their contemporaries at other universities. Collaboration with historical experts on the development of event simulations or multimedia materials on Communist Party history

will further enrich the lecture offer. Students should be encouraged to actively participate in digitalized learning activities. B. Online Tasks or Discussion Forums on the LMS Platform. Universities and lecturers should provide clear instructions for using online learning platforms to familiarize themselves with technology students. Furthermore, students need to develop their self-learning skills by studying digital resources within Communist Party history.

The government and Ministry of Education should support the development of a national digital repository for Vietnamese Communist Party history, including free access to videos, simulations and interactive materials by universities. Furthermore, digital transformation projects in education, particularly donation programs at Thai Nguyen University of Technology, must be made to bridge the gap between infrastructure and digital skills.

V. CONCLUSION

This study analyzed the current state, challenges and possibilities of digital transformation in the history mediation of the Vietnam Communist Party of Thai Nguyen University of Technology. The results show that the application of digital technology remains rudimentary and is limited by limitations in infrastructure, digital skills and content teaching. However, student commitments and the possibilities of technologies such as artificial intelligence and virtual reality provide a perspective on innovation in the subject. From investment in infrastructure to training instructors, from encouraging student participation in digital learning to training instructors, the proposed solutions aim to improve lesson effectiveness and promote student benefits. This study highlights the central role of digital transformation in modernizing political ideological education, particularly in technology universities. Future research should consider the application of advanced technologies such as AI and VR, assess the long-term impact of digital transformation on Communist Party history, and expand the scope to contribute to general improvements in education quality.

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