

# An Evaluation of the Reality and Proposal of Developing a Digital Transformation Strategy for Vocational Oriented Education and Enrollment Counseling Activities in High Schools in Gia Lai Province

Nguyen Thi Ngoc Uyen<sup>1</sup>, Nguyen Thi Mai Linh<sup>2</sup>

<sup>1</sup> Foreign Language Department, Quy Nhon University

<sup>2</sup> Van Hien University

Correspondence: [linhntm@vhu.edu.vn](mailto:linhntm@vhu.edu.vn)

Received: 23/07/2024; Revised: 05/12/2024; Accepted: 11/12/2024

## Abstract

*This research aims to develop a digital transformation strategy to enhance vocational-oriented education and enrollment counseling activities in high schools in Gia Lai province, Vietnam. It addresses the challenges faced by high school and university teachers in implementing these activities. The study used a concurrent mixed-methods approach, collecting qualitative and quantitative data from 30 lecturers at five universities in Ho Chi Minh City, 80 teachers, and 240 12th-grade pupils at 24 high schools in Gia Lai province. Using a concurrent mixed-methods approach, data were collected from 30 lecturers at five universities in Ho Chi Minh City, 80 teachers, and 240 12th-grade pupils from 24 high schools in Gia Lai province. Analysis combined statistical methods (e.g., descriptive and inferential statistics) and thematic content analysis, assessing the status of VOE, collaboration efficacy, high school teachers' challenges, and digital transformation needs.*

*Based on these findings, a digital transformation strategy was proposed with key components: training programs, digital learning resources, partnerships with industries and technology companies, and a technology-driven career guidance framework. These recommendations aim to assist policymakers and education leaders in developing robust VOE and EC strategies, supporting pupils in preparation for digital workforce demands.*

**Keywords:** *digital transformation strategy, vocational-oriented education, enrollment counseling activities, high school education.*

## 1. Introduction

The outbreak of the Covid-19 pandemic has accelerated the process of digital transformation in education worldwide and in Vietnam. By applying digital technology and internet-based information systems to enhance the quality of teaching, learning, and educational management, teaching methods, learning support equipment, and learners' experiences are increasingly improved and enhanced at all levels of education, from primary to postgraduate education. To

enhance educational quality both globally and in Vietnam, digital transformation has become crucial in overcoming geographical and logistical barriers (World Bank, 2021; UNESCO, 2022). On December 30, 2021, the Prime Minister issued Decision No. 2222/QĐ-TTg, which approved the Program for Digital Transformation in Vocational Education until 2025, with a vision extending to 2030. This program emphasizes a shift toward digital platforms in vocational education (VOE) to enhance management, teaching, and access.

However, high schools in Gia Lai face challenges in implementing comprehensive VOE and enrollment counseling (EC) activities, including limited resources, inadequate collaboration between high schools, vocational institutions, and industries, and insufficient digital tools for career counseling (MOET, 2022).

Notable studies, such as Quyen and Nguyen (2019) and Brown and Bimrose (2019), have highlighted the need for effective vocational guidance and the importance of equipping pupils with essential skills for a changing labor market. Additional research by Akkerman and Bakker (2018) and Schneider and Lenz (2020) underscores the value of integrating career pathways into education. This research addresses the necessity for digital transformation in VOE and EC, proposing solutions that leverage technology to address local challenges and bridge the skills gap.

Given the government's mandate to implement the digital transformation plan in vocational education, it is vital to explore digital transformation strategies that enhance the effectiveness of VOE for high school pupils in Gia Lai province. The goal is to identify effective solutions for leveraging technology in VOE and EC activities.

This study aims to identify the challenges and difficulties high school, and university teachers encounter when implementing VOE and EC activities. Additionally, it seeks to develop a digital transformation strategy to improve the quality of these activities at high schools in Gia Lai province.

The significance of this research lies in its focus on the growing need for digital

transformation in education, particularly in vocational-oriented education and enrollment counseling in Gia Lai province, Vietnam. By identifying current challenges and opportunities within the existing system, the study provides a comprehensive framework for implementing digital strategies that can enhance vocational guidance. The research contributes to the field by offering practical solutions, such as developing digital learning resources and fostering collaborations with local industries and technology companies. These strategies are not only relevant to Gia Lai province but also serve as a model for other regions facing similar challenges. The findings will assist policymakers and education leaders in making informed decisions to better prepare pupils for the demands of the digital workforce, ensuring that education systems align with industry needs.

## **2. Research Methodology**

A concurrent mixed-methods approach, as outlined by Creswell (2009), was employed to provide a comprehensive analysis. This approach was selected to allow integration of quantitative trends and qualitative insights in designing digital strategies for VOE and EC activities in Gia Lai province.

### **2.1. Data Collection**

#### **2.1.1. Quantitative Data Collection**

The study utilized a mixed-methods approach to collect data from three groups: Group (1): A purposive sampling method was used to select 30 lecturers from five universities in Ho Chi Minh City. These lecturers were chosen based on their experience in participating in enrollment counseling activities at high schools. Universities were chosen to reflect varied

academic disciplines, providing a balanced perspective. Group (2): Teachers from 24 high schools in Gia Lai province (80 individuals), including both administrative and teaching staff responsible for organizing activities, as well as those directly involved in VOE. Group (3): Convenience sampling was employed to select 240 12th-grade pupils from the same high schools, ensuring the inclusion of pupils actively engaged in VOE activities.

Surveys were administered to 80 high school teachers and 240 12th-grade pupils across 24 high schools in Gia Lai province to gather data on their experiences and perceptions of current VOE and EC activities. The survey instruments were developed based on a review of existing literature and expert consultations in vocational education, and pilot-tested with participants from each group.

Quantitative data were collected via structured surveys with closed-ended questions targeting each group's perceptions and challenges related to VOE and EC. The instruments underwent a pilot test for reliability and clarity, involving ten participants from each group. Surveys were distributed electronically via Zalo accounts and Facebook Messengers, and in paper format to accommodate participants' preferences. Participants were given two weeks to complete the surveys, with follow-up reminders to increase response rates.

### **2.1.2. Qualitative Data Collection**

Purposive sampling was used to select interview participants based on their experience with VOE and EC activities. A semi-structured interview guide ensured consistent thematic coverage while allowing for probing questions. Interviews, conducted face-to-face or recorded based

on participants' preferences, lasted approximately 15-20 minutes for each teacher, university lecturer, and student, aiming to gain deeper insights into their specific challenges and suggestions for improvement. Pilot interviews were conducted to refine questions and ensure they effectively elicited the necessary information within the allotted time. Follow-up questions were prepared to explore responses in greater depth if time allowed, enhancing the richness of the data.

### **2.2. Data Analysis**

Quantitative data were analyzed using SPSS version 20.0, employing descriptive statistics to summarize responses and inferential statistics (e.g., ANOVA, t-tests) to compare differences among the three groups. Qualitative data were processed through thematic analysis (Creswell, 2009; Mayring, 2000), categorizing recurring themes that provided context for quantitative trends. The integrated findings informed the proposed digital transformation strategy.

## **3. Results and Discussion**

### **3.1 Current status of VOE and EC in Gia Lai high schools**

#### **3.1.1 Perceptions and necessity of VOE and EC activities**

Survey findings indicate that over 92% of Groups (1) and (2) view VOE and EC activities as "very important and necessary," reflecting a strong consensus on their relevance for high school pupils. Group (3), however, shows a lower agreement rate, with 90% recognizing VOE's importance but only 67.5% for EC activities. This difference may stem from VOE being a graded core subject, while EC activities are extracurricular and do not impact grades.

More than 95% of pupils expressed interest in VOE and EC activities, acknowledging their role in helping them explore and select career paths aligned with their personal strengths, family backgrounds, and job market demands. Interviews revealed that pupils often base career choices on their abilities, personalities, physical conditions, family situations, and societal labor market needs. The survey underscores the value of VOE and EC in equipping pupils with the skills and attitudes necessary for employment in careers that align with both societal demands and personal aspirations, ultimately supporting more effective workforce planning.

An ANOVA test confirmed significant differences in perception scores among pupils, teachers, and lecturers, with an F-statistic of 4.44 and a p-value of 0.013. This indicates that pupils view VOE and EC

differently than educators, likely due to limited exposure, as interviews revealed. Since the p-value is less than the common alpha level of 0.05, the null hypothesis is rejected, suggesting statistically significant differences in perceptions among the groups. This analysis suggests that strategic efforts to strengthen EC activities - particularly by enhancing their perceived value among pupils and teachers - could improve overall engagement and readiness for future vocational paths. Over 92% of groups (1) and (2) agreed that VOE and EC activities in high schools are “very important and necessary,” demonstrating a solid understanding of their significance. The absolute agreement rate (100%) within some differences between the two groups for each activity reflects their concern for the activities within their respective responsibilities.

**Table 1.** The perceptions of the importance and necessity of VOE and EC activities at high schools by three groups

Scale	Vocational-oriented education			Enrollment counseling		
	Group (1)	Group (2)	Group (3)	Group (1)	Group (2)	Group (3)
Very important and necessary	93%	100%	90%	100%	92.5%	67.5%
Important and necessary	7%	0%	7.5%	0%	7.5%	27.5%
Not important and necessary at all	0%	0%	2.5%	0%	0%	5%

Overall, these results provide a statistical basis for understanding how VOE and EC perceptions vary across roles, highlighting the importance of enhancing the perceived relevance of EC activities among pupils.

**3.1.2 Management effectiveness of VOE and EC**

Survey data indicate that 83% of university lecturers rate high school VOE management as effective, largely due to strong administrative support. A full 100% of school administrators report having

instructed teachers to implement VOE activities aligned with MOET and DOET objectives, supporting consistent curriculum integration across grades.

Despite this administrative support, correlation analysis reveals no significant relationship between management effectiveness and pupils' perceived necessity of VOE and EC activities. The correlation coefficient was calculated to be approximately 0.14, indicating a weak relationship. This weak relationship suggests that, while management efforts are robust, they may not fully translate into pupils' awareness or engagement, indicating a gap in communicating the value and objectives of these activities to pupils.

### **3.1.3 Digital strategy recommendations**

The analysis identified three primary areas for developing an effective digital strategy to enhance VOE and EC. Each component is designed to address identified operational gaps, enhance interactions between educators and pupils, and ensure that pupils receive relevant and timely career support.

*Educator training:* Provide comprehensive training for teachers and counselors on digital tools for career guidance. This training should focus on making effective use of digital platforms to foster vocational exploration.

*Digital resource development:* Create a digital repository for career guidance content that includes information on career paths, local industry requirements, and relevant skill development. Involve local industry experts to ensure content remains relevant and up-to-date.

*Collaborative partnerships and a centralized platform:* Establish partnerships with technology providers and industry

stakeholders to develop a career guidance platform that integrates career data, digital counseling tools, and interactive resources for pupils. This platform should centralize all relevant data and serve as a comprehensive resource for career planning.

These strategic areas target gaps in VOE and EC delivery, aiming to enhance engagement, streamline resources, and ensure that pupils receive meaningful career guidance aligned with their interests and societal needs.

### **3.1.4 Challenges in implementing VOE and EC activities in high schools**

Despite the recognized importance of VOE and EC, several significant challenges persist:

*Insufficient staffing and role limitations:* Over 65% of high school teachers view VOE as a formal obligation rather than an integrated, impactful program, often assigned to teachers who already have primary roles. Additionally, 75% of university lecturers report that EC activities are treated as assigned tasks without sufficient insights into high school pupils' vocational needs. Furthermore, 78% of educators observe that EC sessions tend to prioritize university admissions over genuine vocational guidance, limiting the scope of career support provided.

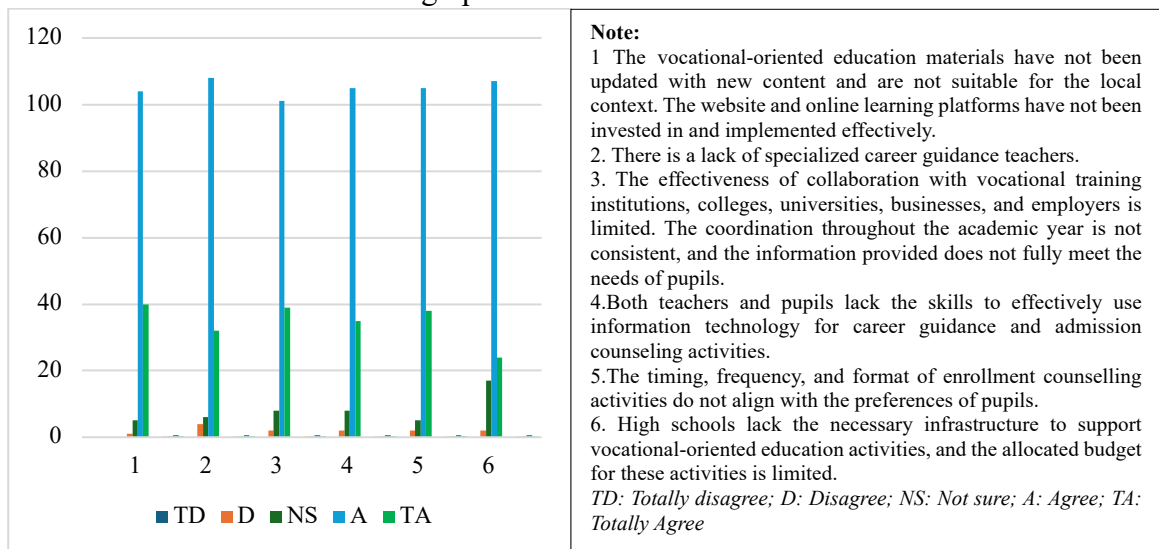
*Inadequate infrastructure and resources:* Approximately 89% of teachers report a shortage of facilities, such as dedicated counseling rooms, primarily due to funding constraints. Digital resources for career guidance are also limited and poorly integrated with VOE. This lack of resources impacts usability, with 77% of teachers and 68% of pupils finding it challenging to utilize digital tools effectively for vocational planning. Additionally, 61% of

pupils report minimal guidance in accessing online vocational information, further limiting their exposure to career options.

*Limited collaboration among stakeholders:* Although schools have initiated partnerships with vocational institutions, colleges, universities, and businesses, these collaborations have yielded limited results. Factors hindering progress include undefined roles, lack of shared objectives, and timing issues, with most EC sessions concentrated during peak months, offering minimal support during critical career decision-making periods.

Furthermore, technology is underutilized in EC activities, often restricted to brief, direct meetings. As a result, over 83% of pupils feel that external sessions provide only basic program details, lacking personalized guidance based on individual aptitudes and market demands.

These findings highlight the need for targeted resource allocation, improved digital integration, and a more coordinated approach to VOE and EC activities to better align them with pupils' vocational goals and the evolving workforce landscape.



**Figure 1.** Lecturers and teachers' perceptions of difficulties in organizing VOE and EC activities at high schools

**3.2. Solutions for developing strategy of digital transformation to enhance the quality of VOE and EC activities**

**3.2.1 Proposed solution foundation**

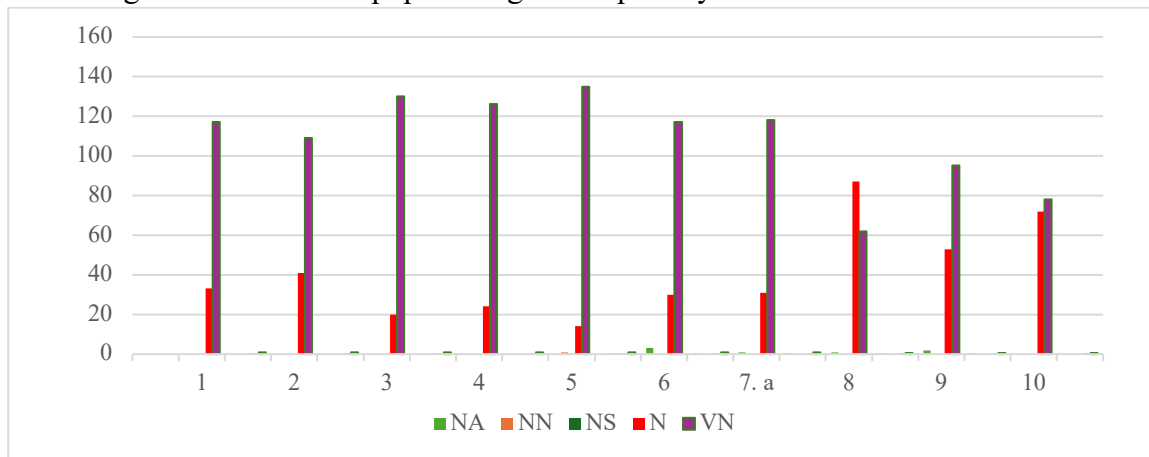
In order to make a breakthrough in the quality of VOE and EC activities for general education in the digital age, and to contribute to the proper orientation of pupils' career choices that align with the requirements of socio-economic development, several related legal documents and implementation plans have been issued regarding the activities of

career guidance and TVET. These foundational documents include: (1) Decision No. 2222/QĐ-TTg by the Prime Minister, which approves the Program of Digital Transformation in Vocational Education until 2025. This decision promotes the digitalization of vocational education, integrates digital technologies into the system, and aims to improve vocational training quality, skilled workforce competency, labor productivity, and national competitiveness within a global context (Prime Minister, 2021); (2)

Decision No. 664/QD-UBND issued by the Gia Lai Provincial People’s Committee on November 1, 2022, outlines the “Enhancing the Application of Information Technology and Digital Transformation in Education and Training (2022-2025)” plan. This decision focuses on elevating education quality, strengthening competitiveness, and supporting sustainable development within the province; (3) Plan No. 536/KH-GDTrHCTTX by the Gia Lai Department of Education and Training, issued on March 8, 2023, aims to improve digital transformation in teaching and learning from 2022 to 2025. This plan emphasizes enhancing teachers’ and pupils’ digital

literacy, improving education quality, and promoting collaborative experience-sharing among teachers regarding digital tools.

The findings further underscore the urgent need to refine methods and organizational structures to enhance VOE and EC activities. The research also confirms a strong demand for a comprehensive digital transformation strategy that aligns VOE and EC activities with the requirements of an evolving labor market. Figure 4.1 illustrates university and high school teachers’ perspectives on the necessity of such a strategy, highlighting priority areas for the near future.



**Note:**

1. Building a digital transformation foundation.
2. Providing digital resources.
3. Creating a positive learning environment and enhancing interaction.
4. Evaluating and innovating educational programs.
5. Training and enhancing teachers’ competences.
6. Strengthening collaboration with businesses and employers.
7. Developing personalized counseling and support programs.
8. Expanding internship and apprenticeship networks for high school pupils.
9. Creating innovative career education activities.
10. Establishing post-graduation support

NA: Not necessary at all; NN: Not necessary; NS: Not sure; N: Necessary; VN: Very necessary

**Figure 2.** Perceptions of university and high school teachers on developing a digital transformation strategy to enhance VOE and EC activities.

### ***3.2.2. Developing a digital transformation strategy to enhance the quality of VOE and EC activities at high schools in Gia Lai province***

Based on the analysis of current VOE and EC activities, an effective digital transformation strategy for high schools in Gia Lai province must prioritize clear role definition and shared goals among involved parties. Establishing specific responsibilities among high schools, universities, vocational institutions, businesses, and employers will clarify each party's role in VOE and EC efforts. Achieving unified goals is crucial to meet digital transformation requirements, emphasizing transparency, equitable access to resources, and promoting self-learning and information accessibility for pupils, teachers, and employers alike. Digital platforms should be developed to provide users with anytime, anywhere access to valuable vocational resources, fostering self-directed exploration and skill enhancement.

A critical element of the strategy is providing pupils with accurate, relevant career information. Digitalized career content should be regularly updated and jointly developed by participating institutions to ensure pupils are well-informed of their career options, the skills required for various professions, and the changing demands of the labor market. This approach will assist pupils in aligning their career decisions with their personal competencies and labor market needs.

Strategic activities and core resources must be established to ensure the success of the digital transformation strategy. Central to this effort is the development of an easy-to-navigate online platform that provides comprehensive information on educational institutions, including detailed admissions

data, course descriptions, and career pathway insights. Additionally, the platform should feature an online profile management system, enabling pupils to maintain academic records and interact with informational resources. Mobile applications compatible with major operating systems will also simplify access to career counseling materials, allowing pupils and parents to access essential information conveniently.

The strategy should emphasize the importance of collaborative and interactive learning environments. By implementing group projects and practical exercises, pupils will have opportunities to develop essential skills such as communication, teamwork, and problem-solving. Collaborative networks linking high schools with colleges, universities, businesses, and employers will create real-world interaction channels, including online counseling, career discussions, and professional exchanges, enhancing pupils' career readiness through practical experiences.

To effectively deliver this strategy, teachers require support and training to build digital competencies. Professional development initiatives should focus on enhancing teachers' use of technology for VOE and EC activities, fostering consistency in career guidance practices. Additionally, creating a knowledge-sharing network among teachers will facilitate resource exchange and encourage a unified approach to career education, further strengthening the educational framework.

Lastly, a key component of the digital transformation strategy is the development of personalized digital counseling programs. By offering interactive counseling sessions through digital

platforms - including Q&A, quizzes, and multidimensional simulations - pupils will have a tailored experience that allows them to explore personal interests, abilities, and career aspirations in a guided, engaging format. This approach supports pupils in making well-informed decisions about their future careers, aligned with both individual goals and societal demands.

#### 4. Conclusion and Recommendations

Enhancing the quality of VOE and EC activities in high schools across Gia Lai province is essential for sustainable local development. This study demonstrates that digital transformation and the application of IT can significantly improve the effectiveness of these activities. Through assessing current implementations, identifying challenges, and proposing a digital transformation strategy, this research provides a foundation for a strategic approach to advance VOE and EC.

To implement these improvements effectively, there must be a clear division of roles and responsibilities among involved parties, ensuring that resource limitations, infrastructure, activity structure, and timing challenges are addressed comprehensively. The proposed digital transformation strategy is intended as a foundational guide, helping schools and stakeholders plan and implement specific action programs tailored to local needs. Establishing a reliable online system is critical, featuring mobile applications, online student profile management, digital libraries, vocational information databases, and a collaborative network linking educational institutions with employers. These resources will provide consistent, accessible information and guidance for pupils and parents.

To prepare for this strategy's effective deployment, several prioritized actions are essential: (1) Investing in IT infrastructure within high schools to support digital solutions, (2) Establishing cooperative frameworks among relevant parties to ensure VOE and EC activities are practical and aligned with labor market demands, (3) Developing training programs to enhance teachers' and counselors' competence in using IT effectively within these activities, (4) Building a digital network linking high schools with colleges, vocational institutions, career counseling organizations, and employers to share educational materials and update labor market information, and (5) Implementing evaluation mechanisms to continuously assess the quality and effectiveness of VOE and EC activities.

The findings of this study are integral to Gia Lai's digital transformation initiatives in education, addressing competitive enrollment requirements and responding to shifts in labor market needs. This necessitates an ongoing evaluation of VOE and EC activities to identify new challenges, update information, and guide the planning and execution of aligned action programs.

Future research could investigate the long-term impact of digital transformation in vocational-oriented education and counseling across other regions in Vietnam, providing comparative insights that highlight adaptability and scalability. Further studies might explore the role of emerging technologies, such as AI and VR, in enriching these activities, while also gauging the perspectives of pupils and parents regarding digital transformation. Longitudinal studies on the outcomes of these initiatives on pupils' career readiness

and workforce success would also provide valuable insights into the strategy's effectiveness and lasting impact.

### Conflict of Interest

The authors declare no conflict of interest.

### References

- Akkerman, S., and Bakker, A. (2018). Redesigning career guidance in schools: A longitudinal implementation study. *British Journal of Guidance & Counselling*, 46(1): 46–60. <https://doi.org/10.1080/03069885.2017.1370692>
- Brown, S., and Bimrose, J. (2019). Career guidance in the 21st century: An international perspective. *International Journal for Educational and Vocational Guidance*, 19(1): 1–6. <https://doi.org/10.1007/s10775-018-9368-0>
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: SAGE.
- Department of Education and Training (DOET), Gia Lai. (2023). *Dispatch No. 2273/SGDĐT-GDTrHCTTX on the implementation of educational tasks for the academic year 2022–2023 in secondary education*.
- Department of Education and Training (DOET), Gia Lai. (2023). *Plan No. 536/KH-GDTrHCTTX on enhancing the application of information technology and digital transformation in teaching and learning for the period 2022–2025, with a vision towards 2030*.
- Mayring, P. (2000). Qualitative content analysis. *Forum: Qualitative Social Research*, 1(2). <https://doi.org/10.17169/fqs-1.2.1089>
- Morgan, D. L. (2013). *Integrating qualitative and quantitative methods: A pragmatic approach*. Sage Publications.
- People's Committee of Gia Lai Province (2022). *Decision No. 664/QĐ-UBND on the development of the plan "Enhancing the Application of Information Technology and Digital Transformation in Education and Training for the period 2022–2025, with a vision towards 2030" of Gia Lai Province*.
- Prime Minister (2018). *Decision No. 522/QĐ-Ttg on the Approval of the Project "Vocational Education and Student Orientation in General Education Phase 2018–2025"*.
- Prime Minister (2021). *Decision No. 2222/QĐ-Ttg on the Approval of the Digital Transformation Program in Vocational Education until 2025, with orientation towards 2030*. Retrieved from
- Quyen, D., and Nguyen, T. (2019). An overview of educational and vocational guidance in Vietnam. *International Journal of Educational and Vocational Guidance*, 21(3): 315–332.
- Schneider, M., and Lenz, K. (2020). Career education and guidance in schools: An international perspective. *European Journal of Training and Development*, 44(7/8): 678–692. <https://doi.org/10.1108/EJTD-01-2020-0010>