

A Study of Students' Informal Digital Learning of Foreign Language in the Context of Digital Transformation of Vocational Education

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ABSTRACT

Against the backdrop of the digital transformation of vocational education, informal digital learning of foreign language (hereinafter referred to as IDLFL) is an emerging learning model with significant potential for enabling individualized and autonomous learning and improving workplace English proficiency among Higher Vocational Colleges (hereinafter referred to as HVC) students. This study explores how Chinese foreign language teachers in HVC perceive and understand HVC students' IDLFL. Primary data are collected through questionnaires and interviews, and qualitative analysis is conducted based on grounded theory to reveal effective ways to improve the foreign language learning outcomes of HVC students through IDLFL and the corresponding strategies that HVC language teachers should adopt. However, this study also emphasizes the need to be wary of overstating the impact and role of IDLFL in teaching practice.

In the wave of globalization, the mastery of foreign language by HVC students has become the key to enhance their career competitiveness. Learning foreign language not only enriches their vocational literacy and broadens their horizons of career development, but also is crucial to understanding international industry dynamics and grasping technological development trends. It also helps to deepen the understanding of multiculturalism, cultivate a tolerant mindset, and shape high-quality skilled talents with an international outlook.

With the rapid development of digital technology, IDLFL, with its flexibility, convenience, personalization and rich resources, provides a new learning platform for HVC students. This learning mode not only meets the learning habits of contemporary students, but also provides them with a broader learning space and a personalized learning

path. This study, from the perspective of HVC teachers, explores HVC students' awareness of IDLFL in the context of digital transformation of vocational education, and the impact of informal digital learning on students' learning effectiveness of foreign language.

1. Introduction

In the digital era, the deep integration of foreign language teaching in vocational education with digital technology has shown unprecedented vitality. HVC students in China can now conveniently access diversified digital foreign language learning resources such as microclasses, MOOCs, electronic textbooks and virtual simulation courses outside the classroom through mobile devices such as smartphones, tablet PCs or personal computers. These resources not only support the specialized training

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of language skills such as listening, speaking, reading and writing, but also promote the cultivation of comprehensive competence and the development of intercultural communicative competence oriented to practical work tasks. This kind of IDLFL complements traditional classroom learning and greatly enhances students' independent learning ability.

However, there are differences in students' and teachers' attitudes and perceptions of IDLFL, and these differences may have a significant impact on students' learning effectiveness of foreign language. Through online questionnaires and in-depth interviews, this study explores the multidimensional understanding of Chinese students' IDLFL, including its advantages, potential impacts, practical applications, and challenges from the perspective of foreign language teachers in HVC, with the aims of deepening the understanding of IDLFL in the field of foreign language education of vocational education and exploring its potential application in teaching practice, so as to guide teachers to develop more precise and effective teaching strategies and stimulate students' independent learning ability, and ultimately achieve the purpose of improving students' foreign language proficiency.

2. Literature review on Digital foreign language learning

With the rapid progress of digital technology, learning foreign language by digital means has become an inevitable trend. In recent years, there is no lack of research on students' digital learning by Chinese and foreign scholars. In the Chinese related literature, there are a large number of studies on mobile learning of foreign language based on WeChat public platform. Liu Lijun's study^[1] showed that as a supplement to English classroom teaching, the establishment of a second classroom with the help of the WeChat platform had a positive impact on college students' English learning emotions. Zhao Ying and He Kexiang^[2] conducted a study on three dimensions of the number of interactions, the design of activities, and the cultural environment in cross-cultural communication when using WeChat, to explore the effective ways of the depth of interaction. Ma Junbo and Ouyang Huhua^[3] found that WeChat voice chatting significantly promoted the development of vocabulary accuracy in spoken English. In addition, Luo Yixin^[4] analyzed the problems and obstacles in college students' mobile learning and put forward corresponding measures and suggestions. Xi Jing, Wang Jianhua and Zhang Haizhu's research^[5] on the influencing factors of college students' mobile learning of foreign language confirmed that mobile learning of foreign language could effectively promote learners' linguistic intelligence.

Qiu Xiaochun^[6] analyzed the connotation of mobile learning of foreign language and constructed a framework of evaluation indexes for the quality of mobile learning of foreign language. Meanwhile, Cheng Di, Cai Minjun and Zhao Xinyuan's research^[7] showed that teachers' teaching support had an important influence on students' online learning behavior.

In the English literature, Guangxiang Leon Liu and Yongliang Wang's study^[8] revealed the internal and external factors affecting teachers' attitudes and willingness towards IDLFL, which provided a reference for designing and adapting relevant training programs for foreign language teaching and foreign language teacher. Magdeline M. Temban and Tan Kim Hua^[9] used a mixed-methods research approach to study the safety of YouTube as an online learning platform for informal learning. Scholars such as Soyoof A.^[10] searched for IDLFL-related literature published between 1980 and 2019 in eight core databases such as Web of Science, and found that these literature explored the use of digital technology in informal foreign language learning environments. Soyoof A. emphasized that the application of digital technology in informal foreign language learning environments had a positive effect on improving foreign language learners' linguistic competence, affective and cultural literacy, and digital literacy, etc. He also put forward suggestions to further improve the diversity of research methodology, research objects, and research content.

In summary, it is evident that the national and international literature on teachers' perceptions, support and guidance for students' IDLFL is not well researched.

3. Research design

3.1 Research questions

This study, from the perspective of foreign language teachers in HVC, explores HVC students' attitudes towards IDLFL and analyzes their experiences and strategies in integrating digital learning resources and tools into their teaching practices, to support students' effective learning in IDLFL and to provide a theoretical basis and recommendations for improving foreign language teaching methods in vocational education. This study focuses on the following key research questions:

- (1) How do foreign language teachers in HVC perceive and understand their students' IDLFL?
- (2) What are the challenges and difficulties brought by IDLFL for foreign language teachers in HVC?

3.2 Research tools

In this study, data related to HVC foreign language

teachers' perceptions of their students' IDLFL are collected through an online questionnaire and semi-structured interviews.

The questionnaire is self-designed and consists of 47 questions covering teachers' attitudes, perceptions and practices of IDLFL among students. The questionnaire is distributed through the 'Questionnaire Star' platform. 175 valid responses are collected.

Purposive sampling is used to invite seven teachers for semi-structured interviews. Before the interviews, an interview outline is designed based on the research objectives and questionnaire results to ensure that the basic direction and purpose of the interviews are to be achieved while gaining a more in-depth understanding of the views, attitudes and behaviors of the interviewed teachers, as well as to provide more qualitative data for this study.

3.3 Data coding

Based on grounded theory, this study uses Nvivo 14 software to code and analyze the interview data. To ensure clarity and consistency of coding, the entire process is carried out by a single coder, which facilitates timely adjustments and optimization to ensure consistency of coding. To improve the accuracy and reliability of the coding, the coder conducts continuous review and validation.

4. Findings

4.1 Advantages of IDLFL

The interviewed teachers highly recognize the advantages of IDLFL and elaborate on its eight distinguishing features. These features include personalization, interactivity, facilitation, friendliness, flexibility, autonomy, pertinence and richness of resources. Specifically, teachers believe that IDLFL can meet the personalized needs of different learners and provide rich and diverse learning resources. During the learning process, it promotes interaction and collaboration among learners, which helps to improve the learning effect. At the same time, user-friendly interface of digital resources and flexible learning methods make the learning process more enjoyable and efficient. Most importantly, it can give learners greater autonomy and make learning more targeted, thus better meeting learners' personalized development needs.

4.2 Impact of IDLFL on self-directed learning abilities and learning outcomes

The teachers interviewed generally agree that IDLFL has a significant positive impact on promoting students' self-directed learning abilities and enhancing learning out-

comes under specific conditions. These conditions cover students' personal attributes, appropriateness of course contents, effective guidance from teachers, and richness of learning resources. First, students need to show a high degree of self-motivation, initiative and concentration, have a clear understanding of the learning objectives, and be willing to use digital tools for foreign language learning. Second, the difficulty of the course contents should be moderate and match the actual level of the students in order to stimulate their interest in learning. Furthermore, the role of teachers is also critical, as they need to encourage students to engage in digital learning outside the classroom, provide timely guidance, and assess students' IDLE. Finally, rich and easily accessible digital learning resources can greatly facilitate students' learning process.

This study further finds that when the four elements involving course contents, students, resources and teachers are properly arranged, IDLFL can greatly stimulate students' interest in learning, and bring fun to foreign language learning. Therefore, IDLFL then generates positive impacts in many ways. It helps to cultivate students' learning awareness and competence, stimulate students' initiative and participation, and improve their competence in listening, speaking, reading and writing. It also contributes to improving students' capability of practical application, time management, self-reflection and self-assessment.

4.3 Acceptance of IDLFL by students

In exploring students' acceptance of IDLFL, most teachers interviewed are optimistic, noting that students are naturally curious about new things and are quite proficient in digital skills. However, some teachers also raise their concerns that only a few students would actively engage in digital learning resources and tools if not explicitly instructed by their teachers; and that although students can easily access online classes and use digital tools, there is still a question mark as to whether such a way of learning is truly effective. Results of the questionnaire reveal the fact that about one-third of the teachers had reservations about whether their students would really embrace IDLFL.

4.4 Challenges and difficulties

When discussing the effectiveness of IDLFL, the teachers interviewed raise key challenges and dilemmas involving students, teachers and schools. These challenges not only reveal the current dilemmas faced by the field of higher vocational education in promoting and applying IDLFL, but also provide us with valuable clues to deepen

our research and optimize our strategies. Specifically, we cannot help but wonder: Are students sufficiently empowered to effectively implement IDLFL? Do teachers possess sufficient digital literacy and resources support to guide students to successfully engage in this new learning mode?

The teachers interviewed suggest that the greatest difficulty lies in stimulating students' interest, followed by developing digital literacy and competence, guidance and assessment, and screening resources.

5. Discussions

5.1 Challenges and strategies for students

The core of the efficient implementation of IDLFL is that students need to demonstrate a high degree of autonomy and self-discipline. However, the reality is that some HVC students lack the awareness and ability of self-directed learning, have difficulty in effectively planning and managing their learning time and progress, and tend to get lost in the vast digital learning resources. In order to effectively address this challenge, teachers should take on the role of a guide to help students learn independently by means of using digital tools, and focus on developing their plan-making and time management skills.

Specifically, teachers should clarify the goals and methods of independent learning outside the class, instruct students on how to make efficient use of fragmented time for learning, and continuously monitor their digital learning process to ensure the effective use of learning resources. This includes regularly assessing students' learning progress, providing personalized feedback and suggestions, and promptly answering questions encountered by students in the learning process.

In addition, teachers can also make use of modern communication tools, such as WeChat groups, to show students' learning achievements, which can not only enhance students' self-confidence and sense of achievement, but also promote learning exchanges and interactions within the classroom and create a positive learning atmosphere. Through these measures, teachers will be able to effectively improve the implementation of IDLFL and provide strong support for students' language learning.

5.2 Challenges and strategies for teachers

As the trend of digitalization of foreign language learning becomes increasingly significant, how should teachers in HVC proactively embrace and effectively respond to this shift with positive attitudes and practical strategies? In this regard, the teachers interviewed propose the following strategies.

First of all, teachers should hold an open and enterprising attitude and positively embrace digital changes. Facing digital foreign language learning, teachers must take the initiative to update their teaching concepts and deeply realize the revolutionary significance of digital learning in foreign language teaching. By actively learning and mastering various online teaching platforms, digital tools and applications, teachers should design innovative and effective digital teaching activities. In addition, they should continue to participate in professional training, seminars and other activities to continuously improve their digital teaching ability to cope with the requirements of the era of education informatization.

Secondly, teachers should implement refined management and diversified assessment strategies. In the informal digital foreign language learning environment, the direct supervision mode of traditional classroom is difficult to apply, and learning assessment also faces new challenges. To this end, teachers should design high-quality pre-class and post-class learning tasks and adopt diversified assessment methods, taking into account the learning objectives and students' actual situations. At the same time, they should make use of the learning data and analysis tools provided by digital platforms to track students' learning progress and performance in real time and provide them with accurate and personalized learning guidance.

Finally, teachers should focus on resource screening and matching to ensure the quality and efficiency of learning content. With the increasing abundance of digital learning resources, it has become a major challenge to screen out content that meets students' needs and is of high quality. To this end, teachers should have a high degree of information literacy and screening ability, and learn about the latest teaching resources and teaching methods by consulting professional websites and participating in academic seminars. Simultaneously, taking into account the characteristics of students' learning situation, they should select interesting and practical learning contents to stimulate students' interest and enthusiasm in learning and enhance the learning outcome.

6. Conclusion

Through questionnaires and semi-structured interviews, this study reaches out to a group of HVC foreign language teachers to collect and analyze their perceptions and practical experiences of IDLFL. The data are systematically coded and analyzed using the professional qualitative analysis software Nvivo14, aiming to uncover effective ways to promote IDLFL to enhance the foreign language learning effect of HVC students and to explore strategies for HVC foreign language teachers to cope with digital

foreign language learning.

The results of the data analysis show that HVC teachers generally recognize the advantages of IDLFL in enhancing students' learning outcomes and autonomy, while also focusing on students' acceptance of IDLFL, the need to integrate IDLFL into teaching and learning, as well as the challenges and difficulties encountered in the implementation of IDLFL.

For HVC students, the key to achieving efficient independent learning through digital means outside the classroom is to overcome doubts and resistance to digital learning, and actively accept and adapt to this new mode. They need to increase their autonomy and self-discipline, and manage their study time effectively to maximize the benefits of IDLFL. Teachers, on the other hand, need to change their traditional teaching concepts and continue to learn in order to improve their digital competence and literacy. At the same time, they need to establish a good interactive relationship with their students, gain a deep understanding of their learning needs and difficulties, and provide personalized learning guidance. In addition, teachers need to carefully select high-quality digital teaching resources, supervise students' digital learning process, and scientifically assess learning outcomes. However, we should also rationally look at the role of IDLFL, which as a useful supplement and auxiliary tool for formal learning in the classroom, needs to be combined with other teaching tools to jointly promote students' learning development.

By implementing the strategies mentioned above, teachers will be able to respond more flexibly to the challenges posed by digital foreign language learning, and help students have a richer and more interesting learning experience and achieve more significant learning outcomes.

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