The Connotation, Development Status, Development Dilemma and Improvement Strategy of Digital Competency of FLT in Private Higher Vocational Colleges in Yunnan Province

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ABSTRACT
Under the background of digital transformation of education, the development of vocational education is paid more and more attention, and teachers who in vocational school play a pivotal role in promoting the development of vocational education, especially FLT (foreign language teachers). Because they teach public English courses of the whole school, it is of great significance to improve the digital competency of them. This study takes 102 foreign language teachers in private higher vocational colleges as the research objects, the literature analysis is used to understand the connotation of teachers' digital competency, questionnaire and interview are applied to understand the current situation, development dilemma. The improvement strategies of teachers' digital competency were put forward from digital science knowledge, digital application ability, digital concept, digital personality traits and other factors.

Keywords: *FLT (foreign language teachers) in private higher vocational colleges in Yunnan Province, Connotation of digital competency, Development status, Development dilemma and improvement strategy.*

1. INTRODUCTION

In the context of digital transformation of education, it is more and more important to improve teachers' digital literacy. In 2018, China listed "Guiding Opinions on the Development of the Digital Economy and Expanding the Employment of Developed Countries" as one of the main goals of 2025 (No.1363,2018). In 2021, the Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Vision Target for 2035 set out the goals and requirements for improving the digital skills of the whole people and boosting the development of the digital economy. In October 2021, the Action Platform for Improving the Digital Literacy and Skills of the Whole People (the Platform for Action) was issued and implemented. In February 2023, the industry standard of "Digital Literacy of Teachers" was officially released in China, which clarified the definition of "teachers' digital literacy" and provided theoretical support for the research of teachers' digital literacy. As an important part of the digital literacy of teachers, digital competency should be highly valued. Therefore, under the background of digital transformation of education, this study explores the connotation, development status, development dilemma and promotion strategy of digital competency of FLT in private vocational colleges in Yunnan Province on the basis of digital competency.

2. LITERITURE REVIEW

2.1 Definition of the Core Concept

The word "Sheng Renli" comes from the Latin "competency", translated in the Oxford and Cambridge dictionaries as "competence", and interpreted as "the ability to do sth. well," and the meaning is " the ability to do something well". "Competency" and "competence" are equivalent in Oxford Dictionary and used in a mixture in some comparative studies (Spencer et al., 1993) [1].

In terms of the proposal and formation of the concept of "digital competency", it was mainly formed in the exploration of lifelong learning. In 2006, digital competency was first presented in the On Key Competences for Lifelong Learning of the European Union (domestic translation on Core Literacy in Lifelong Learning). In the report, digital competency is divided into one of the eight core elements. Meanwhile, the report also gives its definition, which is they can process and screen relevant information technology and believe that they can complete it well in the development of society (Zheng Xudong, 2021) [2]. In 2012, the European Union released the Digital Competency in Practice: An Analysis of Frameworks (Ferrari, 2012) [3]. This report systematically elaborated the specific connotation of digital competency: it is a rich collection, including both problem-solving skills and knowledge, as well as the ideological part of human collaboration. Since then, digital competency of teachers has been paid wide attention in the academic area. In 2018, the United Nations Commission on Science and Technology for Development released Building Digital Competence by Using Existing and Emerging Technologies: Specially Focus on Gender and Youth. The report proposes the concept of "pyramid of digital skills", and points out that with the continuous development of digital skills in the intelligent era, it has brought great changes to the digital environment and brought new and higher requirements for the digital competency of workers (Deng Fei, 2023) [4]. The academic area, therefore, has not formed a unified definition of the connotation and explanation of "digital competency".

For example, Krumsvik (2011) thinks that digital competency of teachers is: in the course of teaching, teacher can efficiently use information technology, adjust learning methods with the help of digital technology, improve the digital technology and digital knowledge on students, subtly develop students' digital ability, and flexibly associate with teaching strategy to improve the teaching efficiency [5]. Maderick et al. (2016) believe that teachers' digital competency is a collection of skills, abilities and knowledge that teachers can efficiently apply computer software in the practice of education and teaching [6]. This shows that Krumsvik (2011) and Maderick et al. (2016) emphasize knowledge and skills. Spiteri et al. (2017) believe that the digital competency of teachers is inseparable from the digital environment, teachers should constantly create and set up the digital education environment in daily education and teaching, so as to form their own digital advantages [7]. It can be seen from this that Spiteri et al. (2017) emphasize the development of teachers' comprehensive abilities. Tsankov et al. (2017) define that teachers' digital competency from the perspective of teachers' professional development, and emphasize the important role of digital competency in teachers' professional development [8]. However, this study is based on the definition of Deng Fei (2023) on the digital competency of teachers: the digital competency of teachers refers to the group of abilities unique to teachers, oriented to achieve high teaching goals, and can guide them to efficiently employ digital technology to carry out educational and teaching activities.

2.2 Review of the Research Status at Home and Abroad

2.2.1 The Relevant Research Combing and Research Trends at Abroad

Andreas Lund et al. (2014) take three disciplines as examples, and think that it is necessary to regard professional digital competency as a deep understanding of technology, understanding of students' learning process, and understanding of specific subject practices and characteristics of individual school disciplines [9]. Rune Johan Krumsvik (2014) believes that digital competency in Norway is the fifth basic competency in all levels of disciplines and new teacher education courses [10]. Sonia Janeth Romero Martinez et al. (2016) conclude that there are significant differences in age, gender, experience and school type, but no differences in attitudes towards ICT (Information & Communication Technology) [11]. Fredrik Mørk Røkenes et al. (2016) find that the development of overall digital competency is supported and inhibited by many factors, such as modeling,

scaffolding learning experience, linking theory and practice, reflection, access to resources and support, innovative evaluation practice, and cooperative learning [12]. Jorgen From (2017) believes that teaching digital competency is related to knowledge, skills and attitude, as well as technology, learning theory, theme, background and learning, and the relationship between them. Therefore, teaching digital competency is a capacity that may cultivate more experienced teachers [13]. Greta Bjork Gudmundsdottir et al. (2017) show that teachers' digital resources and digital media are becoming an important part of teachers' daily teaching practice, and teachers' professional digital competency is becoming more and more important in classroom teaching [14]. O. V. Kalimullina et al. (2018) suggest a closer transfer of knowledge and technology in the education process, while forming the concept of "digital competency" and identifying criteria for future assessment and teacher teaching practice [15]. Hinojo Lucena Francisco Javier et al. (2019) confirm that factors such as teacher age, type of center, previous training, degree, teaching experience and professional category have an impact on the development of digital competency [16]. Silva Juan (2019) believes that the development of teachers' digital competency should begin with the initial teacher training and continue in the following years of teaching practice. All purposes of using digital competency are intended to promote teaching and professional development [17]. Alberto D. Yazet al. (2019) show that there is a close and significant relationship between digital competency of teachers and research efficiency [18]. Siddiq Fazilat et al. (2023) show that people redefined the practice of digital competency in teaching in many ways for the first lockdown caused by COVID-19 [19]. Adel R. Althubyani (2024) conducts a questionnaire with 611 science teachers and semi-structured interviews with 13 teachers. The results show that the digital competency level is moderate (58.4%) and teachers are highly positive on the application of digital competency (78%) [20]. Hamad Faten (2024) shows that there is a strong and positive correlation between the level of intelligent information service of libraries and the level of digital ability of librarians [21].

It can be seen that research on teachers' digital competency at abroad involves from theory to practice, and believes that teachers' digital competency is related to teachers' teaching and different from teachers' age, gender and experience, which has an influence on the improvement of teachers' teaching efficiency.

2.2.2 The relevant research combing and research trends at home

In recent years, there are many studies on the digital competency of teachers in China, but most of the objects are primary and secondary school teachers and rural teachers. For instance, Zheng Xudong (2019) did the research on the construction and application of digital competency model for primary and secondary school teachers in China. Li Nan (2020) believes that the subject pedagogical knowledge of integrated technology has a positive impact on the digital competency, but the change of the subject pedagogical knowledge and digital competency of integrated technology will not have a significant impact on the classroom environment [22]. Wang Chenxin et al. (2022) believe that the exploration of the development path of teachers' digital competency based on distance teaching is conducive to the accumulation of theory and practice in this field, and can provide reference for the development of teachers in the transformation of distance teaching [23]. Lu Lin (2023) believes that the digital competency of rural teachers is still the bottleneck that restricts the comprehensive digital transformation of the education system. In practice, the gap of digital competency between urban and rural teachers is increasing; the unique and personalized factors of rural teachers participating in the digital transformation of education are ignored. At present, it is urgent to build a digital competency model of rural teachers, guide their digital practice, and provide basis and support for the improvement of rural teachers' ability and quality. [24] Hu Jingmei (2023) studied the construction and application of digital competency model for primary and secondary school teachers -- for teachers in western rural areas [25]. Chen Ken, Xin Ping (2023) show that the digital competency of FLT (foreign language teachers) plays a decisive role in the successful development of current language teaching. Establishing the digital competency framework of foreign language teachers can not only clarify the digital ability that foreign language teachers should have, but also serve as a reference guide to evaluate the effect of language digital teaching of foreign language teachers [26]. Tang Yuanbin (2024) build digital competency model for the Master of Education in vocational education field from five dimensions: the digital concept and attitude, knowledge and skills, education and teaching,

digital care and support, digital cooperation and development. Put forward the digital competency cultivation path of "6 stages and 4 stages" of learning-doing-teaching-research, and to guide the specific cultivation practice, in order to cultivate teachers who are needed for vocational education in the digital era. [27]

Therefore, it is innovative and important to take FLT (foreign language teachers) from private higher vocational colleges in Yunnan Province as the research objects.

3. RESEARCH METHODS

3.1 Research Questions

This study mainly discusses the digital competency connotation, development present situation, development dilemma and promotion strategy of FLT in private vocational colleges in Yunnan province, the aim is to provide certain strategy reference, suggestions and enlightenment for higher vocational college teachers' digital competency level, it is beneficial to improve the level of teachers' digital competency in vocational colleges, so as to promote the teaching level and quality. The study mainly answers the following questions:

- The current situation of digital competency of foreign language teachers in private higher vocational colleges in Yunnan province;
- The development dilemma of digital competency of foreign language teachers in private higher vocational colleges in Yunnan province;
- Promotion strategy for the digital competency level of foreign language teachers in private higher vocational colleges in Yunnan province.

3.2 Research Objects

The objects of this study are 102 foreign language teachers who come from private higher vocational colleges in Yunnan Province, there are 78 female, 24 male, 2 junior, 29 undergraduate degree, 67 masters, 4 doctoral students, 10 associate professors, 22 lecturers, 46 assistants, 46 without titles; 20 have administrative work, 82 are engaged in teaching; 62 have participated in scientific research projects, 88 people teach in urban areas and 14 in township.

3.3 Research Instruments

The questionnaire of Deng Fei (2023) was rearranged and used in this study. The questionnaire includes two parts, the first part is the basic information, and the second part is survey content. The survey content includes four dimensions: digital science knowledge, digital application ability, digital concept and digital personality traits, each dimension has 9 questions, a total of 36 questions. The reliability of the adapted questionnaire is 0.912 ("Table 1"), and the value of KMO is 0.765 ("Table 2").(Hong Tang et al., 2025)

Table 1. Reliability statistics

Cronbach's Alpha	N of Items
.912	42

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.765
Bartlett's Test of Sphericity	Approx. Chi-Square	3661.913
	df	861
	Sig.	0.000

3.4 The Collection and Analysis of Research Data

The researchers collected data of foreign language teachers in private vocational colleges in Yunnan Province, used SPSS23.0 to analyse, then understand the current status of foreign language teachers in private vocational colleges in Yunnan Province by descriptive statistical analysis, and understand their development dilemma by interview.

4. RESULT AND DISCUSSION

4.1 The Current Situation of Digital Competency of Foreign Language Teachers in Private Higher Vocational Colleges in Yunnan Province

The research objects can apply basic office software, have profound professional English knowledge, they can apply basic English teaching methods to classroom teaching, create digital expressions according to the teaching content, and enrich the classroom activities (Hong Tang et al., 2025) [28]. However, the operation process of the digital evaluation method and the independent creation of the digital evaluation scheme need to be further improved.

The research objects have basic digital application ability, they can use Baidu or other search engines to find the required information; most people can choose and master basic teaching software and situations to maintain the basic common software equipment; they can use digital technology, communication tools, evaluation and network channels to obtain, evaluate and create information, such as animation and video to show and explain new concepts in teaching (Hong Tang et al., 2025). However, a few people still need to improve their digital application ability to adapt to the requirements of "Digital Literacy of Teachers" under the background of the transformation of digital intelligence.

In terms of digital concepts: They can consciously maintain digital network security, obey the digital norms and moral requirements, set up good digital information, obey the laws and regulations related to digital, they have strong digital security consciousness, can protect personal data and privacy in the network environment when detect the digital environment potential risks and dangers (such as identity theft, fraud, etc.) (Hong Tang et al., 2025). However, make use of digital technology in education and teaching actively and rationally, and participate in various digital innovation activities needs to be strengthened.

As far as digital personality traits, most of the research objects can complete the teaching objectives, be competent for digital teaching activities that related to the subject, be good at sharing and cooperating with others, and some of them can set teaching objectives higher than their own levels and achieve them (Hong Tang et al., 2025). However, it is necessary to improve the flexible response to the accidents of students' learning activities in the information environment.

4.2 The Development Dilemma of Digital Competency of Foreign Language Teachers in Private Higher Vocational Colleges in Yunnan Province

This study also conducted an open-ended questionnaire and interview with the researchers, so as to get a more comprehensive understanding of the factors that affecting the digital competency level of foreign language teachers.

Among them, there are 97 people (95.1%) believe that the school hardware equipment affects the improvement of teachers' digital competency level, ninety-six people (94.1%) think that teachers' own digital and teaching skills impact the level of digital competency, 84 people (82.4%) think that the acceptance of students influences the improvement of teachers' digital competency level, 84 people (82.4%) believe that teachers' willingness to apply digitalization affects the improvement of teachers' digital competency level, 90 (88.2%) people fell that the degree of emphasis of school to education digitization also affects the improvement of teachers' digital competency, nine people (8.8%) fell that some other factors that may affect the improvement of teachers' digital competency level include: age, sex, education background, cognitive and learning attitudes to digital competency, lack of corresponding learning and training and professional guidance, the impact of social development trends on education, parents' recognition of school education, the impact of the social environment, etc. People who were interviewed agreed the above, too. The specific information is shown in "Table 3".

Table 3. Factors affecting the improvement of teachers' digital competency level from my opinion

Factors	Number	Percent(%)
the school hardware equipment	97	95.1
teachers' own digital and teaching skills	96	94.1
the degree of emphasis of school to education digitization	90	88.2
the acceptance of students	84	82.4
teachers' willingness to apply digitalization	84	82.4
others	9	8.8

4.3 Promotion Strategy for the Digital Competency Level of Foreign Language Teachers in Private Higher Vocational Colleges in Yunnan Province

This part discusses the promotion strategy for the digital competency level of foreign language teachers in Yunnan private higher vocational colleges from four dimensions of teachers' digital competency (digital science knowledge, digital application ability, digital concept and digital personality traits), and from the perspective of factors that influence the digital competency level of foreign language teachers in vocational colleges.

4.3.1 Promotion Strategy for the Digital Competency Level of FLT in Private Vocational Colleges in Yunnan Province from Four Dimensions of Teachers' Digital Competency

In accordance with digital science knowledge: teachers on the operation process of digital evaluation methods and independent creation digital evaluation scheme needs to be further improved, their digital scientific knowledge should be enhanced constantly, insight should be cultivated, the connotation of "digital literacy of teachers" should be read carefully and profoundly, the requirements of scientific knowledge ability for teachers come from "digital literacy of teachers" should be achieved gradually, so as to promote their teaching efficiency.

In terms of digital application ability: The digital application ability of some teachers needs to be improved, and the basic digital application ability is requisite to meet the basic teaching for teachers. Teachers who have basic digital application ability (e. g. the application of multimedia resources) can add other teaching software or teaching activities to enrich the class other than animation, audio and video in daily teaching, such as digital learning, peer interaction discussion and evaluation, digital stories, debate competitions in class, role-playing, games, and so forth. For example, Yueer Wei et al. (2018) find that digital learning affects critical thinking tendency of learners who regard English as a SL(second language), and although this was not the only contributor, students' overall critical thinking tendency, as well as truth seeking, analytical skills and self-confidence will be increased significantly during the four years of college [29]. The study of Hwang et al. (2023) integrated peer mutual evaluation into the story teaching practice, and found that the digital story practice of peer mutual evaluation was significantly better than the teacher's feedback. Li Tao and Zhang Lian (2024), they find that the tendency of students in the experimental group is generally positive and increasing; and the tendency of the students in the experimental group is significantly higher than that of the control group, mainly in the truth, openness, systematic ability, inquiry and cognitive maturity, which can effectively promote the development of the students [30]. Therefore, teachers should not only improve their own digital application ability, but also constantly guide students to improve their digital application ability, so as to promote the improvement of teaching effect and learning efficiency.

In terms of digital concept: A majority of people can maintain digital network security, pay attention to students' digital learning, abide by digital norms and moral requirements, establish a good view of digital information, abide by the laws and regulations related to digital, they have a strong sense of digital security, and can protect personal data and privacy in the network environment. However, more than half of the people only basically agree with the role of digital technology in daily life, and nearly half of them basically agree to advocate other teachers to actively and rationally apply digital technology in education and teaching. Therefore, teachers should abide by the law, abide

by the digital norms and moral requirements, establish a good digital information view, constantly improve their digital security awareness, protect their data and privacy in the network environment, make full use of the "double-edged sword" of the network; for some leaders who engage in administrative work should encourage teachers to make full use of different teaching technology to serve teaching and improve the teaching level constantly.

In terms of digital personality traits: Most of the research subjects can achieve the teaching objectives, be competent for digital teaching activities that related to subjects, be positive and optimistic in the process of digital teaching and believe that digital education will develop better and better; facing with the advent of new technologies, they can adjust the strategy quickly and basically; when consistent with other faculty teaching objectives, they will communicate with each other, be willing to collaborate with different teachers, and show a positive cooperative attitude; in the digital teaching process, they can construct a good cooperative relationship with students to achieve the expected teaching effect. However, teachers who with different ages, genders and professional titles need to always maintain a positive attitude, constantly improve their adaptability and keen insight into the preface of the development of the subject, and constantly improve their education and teaching level and scientific research ability. It just as Sonia Janeth Romero Martinez et al. (2016) suggested that there were significant differences in age, gender, experience and type of school, but no differences in attitudes towards Information and Communication Technology.

4.3.2 Promotion Strategy for the Digital Competency Level of FLT in Private Vocational Colleges in Yunnan Province Through Factors That Influence the Digital Competency Level of FLT

Firstly, school hardware equipment: Certain hardware equipment for teachers in digital teaching services should be provided and guaranteed by the school, so as to ensure that teachers have hardware equipment support in daily teaching. Just as: Greta Bjork Gudmundsdottir et al. (2017) shows that teachers' digital resources and digital media are becoming an important part of teachers' daily teaching practice, and teachers' professional digital competency is becoming more and more important in classroom teaching.

Secondly, teachers' own digital teaching skills: As teachers, the lifelong learning concept of "never too old to learn" should be adhered for them, they should constantly adapt to the change of The Times and social development, learn the new requirements of The Times for teachers, and gradually improve their own digital teaching skills.

Thirdly, in terms of the degree of emphasis of school to education digitization: In the era of digital intelligence, higher education schools should catch up with the development of The Times, attach great importance to the digitalization of education, and actively promote the digital teaching of schools.

And then, in terms of teachers' willingness to apply digitalization: The society is progressing and The Times are changing. Teachers should take the initiative to adapt to the great development of society and the new requirements of The Times for teachers, and improve the initiative of the application of digitalization, so as not to be eliminated by the new trend of The Times.

In terms of students' acceptance: On the basis of improving their digital competence, teachers should actively guide students to accept it. Only on the basis of better students' acceptance, can teachers realize digital teaching better, so as to achieve "win-win" in the course of teaching.

Last but not least, other aspects: Teachers should constantly improve their teaching standard, education background, actively participate in the corresponding training and learning in their spare time, actively adapt to the development trend of the times, and meet the different requirements of different times for teachers.

5. CONCLUSION

Foreign language teachers in vocational colleges are facing the students of the whole school, which is of great significance. The digital competency level of foreign language teachers in vocational colleges affects the quality of education and teaching. Therefore, it is necessary to continuously improve the digital competency level of teachers themselves and contribute to the improvement of the education and teaching level in vocational colleges.

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