

Approaches to Improve Digital Literacy of Higher Vocational Teachers

Jinghong Guo

Department of Public Basic Courses, Suzhou Health Vocational College, Suzhou, Jiangsu, China

Abstract: In the realm of higher vocational education, enhancing teachers' digital literacy holds immense importance for advancing the quality of education and teaching, as well as advancing the modernization of educational informatization. Given the current state and challenges confronted by higher vocational teachers, such as varying degrees of digital knowledge and proficiency, inadequate funding, and shortcomings in teacher training systems, several strategies are proposed to bolster their digital literacy. These include strengthening guideline, refining teaching resources and platform development, employing diverse training approaches, fostering teaching innovation and practical application, and cultivating a conducive atmosphere and cultural environment. By implementing these measures, we can effectively elevate the digital literacy of higher vocational teachers and drive the profound progression of vocational education reform.

Keywords: Approach; Digit; Literary; Higher Vocational College; Teacher

1. Introduction

In 1994, Yoram Eshet Alkalai, an Israeli scholar first proposed the concept of digitization [1]. Digitization is the inevitable result of post-informatization. In the realm of higher vocational education, digital literacy stands as a pivotal competency for teachers in this new era, holding immense value in enhancing their educational and teaching capabilities, as well as advancing the educational informatization process. Hence, delving into avenues to bolster digital literacy among higher vocational teachers holds significant practical importance, not only in promoting the modernization of higher vocational education but also in nurturing high-caliber technical and skilled professionals.

Enhancing teachers' digital literacy enables them to harness digital technology to enrich their teaching methods and improve teaching effectiveness and quality. This advancement also facilitates easier access and processing of information, leading to improved work efficiency and sounder decision-making. Furthermore, it fosters more effective communication and exchange with students and parents, elevating the standards of educational and teaching services. Concurrently, enhancing digital literacy among higher vocational college teachers aids in the widespread adoption and utilization of digital technology, thus contributing significantly to the digital advancement of society.

2. Connotation of Digital Literary

Teachers' digital literacy is the awareness, ability and responsibility to acquire, process, utilize, manage and evaluate digital information and resources to discover, analyze and solve educational and teaching problems, optimize, and innovate and transform educational activities by using digital technology [2]. Digital literacy is one of the core literacies of future teachers [3]. For higher vocational teachers, digital literacy not only includes fundamental computer operation skills and information processing abilities, but also encompasses the capability to integrate digital technology into curriculum design, teaching resource development, teaching method innovation, and other related domains. In particular, the core components of digital literacy for higher vocational teachers primarily comprise the following aspects:

2.1 Information Acquisition and Processing Ability

Higher vocational teachers are expected to proficiently utilize various search engines, databases, and other information retrieval tools to procure necessary teaching resources and learning materials. Additionally, they should

possess the ability to use the information technology to screen, classify, organize and analyze the information obtained, thus providing strong support for their teaching.

2.2 Digital Technology Application Ability

Higher vocational teachers should possess proficiency in utilizing diverse teaching software and tools, encompassing multimedia courseware, software applications, online learning platforms, and virtual simulation software. They should also demonstrate the capability to leverage digital technology to implement innovative teaching methodologies, such as blended learning and flipped classrooms, ultimately enhancing the effectiveness of their teaching.

2.3 Resource Integration and Innovation Ability

Higher vocational teachers should be adept at maximizing the utilization of network resources, integrating high-quality teaching materials, and constructing a unique teaching resource repository. Additionally, they should possess the ability to merge teaching practice with digital technology to devise innovative teaching designs, develop targeted teaching cases, and organize practical activities.

2.4 Information Security and Ethical Awareness

Higher vocational teachers should recognize the significance of information security, adhere to information ethics, safeguard personal privacy, and uphold intellectual property rights. Furthermore, they should be capable of guiding students to develop sound concepts of information security and ethics, foster their information literacy, and cultivate their moral quality.

3. Analysis on the Current Situation of Digital Literacy of Higher Vocational Teachers

Over the last few years, as the nation has emphasized educational technology advancement, the digital proficiency of higher vocational college teachers has witnessed a notable enhancement. Many teachers have gained proficiency in fundamental computer tasks, encompassing word processing, table creation, and PPT presentations. Additionally, a significant number of teachers have ventured

into utilizing digital tools to augment their teaching methods, such as multimedia course materials and online teaching platforms. Nevertheless, a broader examination reveals that challenges still persist in the digital literacy of higher vocational college teachers.

3.1 Problems in Digital Literacy of Higher Vocational College Teachers

Firstly, the proficiency in utilizing information technology is quite varied. Although a majority of teachers have acquired fundamental computer skills, there remains a considerable disparity in their mastery of advanced technological applications, including data analysis and virtual simulation.

Secondly, there are constraints in teachers' comprehension of digital technology. Some teachers continue to perceive digital tools solely as conventional teaching aids, overlooking the significant potential they hold for transforming teaching practices and fostering innovative methodologies.

Thirdly, the integration of information technology and teaching remains inadequate. In their application of digital tools, some teachers merely view them as replacements for traditional teaching methods, without deeply embedding them into the content and methodologies to achieve meaningful enhancements in teaching efficacy.

3.2 Challenges Faced by Higher Vocational Teachers in Improving Digital Literacy

The coexistence of digital dividends and digital divides is a characteristic of this era [4]. Enhancing the digital literacy of higher vocational college teachers presents many challenges.

Some higher vocational colleges have limited investment in information technology construction, resulting in a lack of necessary hardware and software support for teachers, making it difficult to fully leverage the advantages of digital technology.

Besides, the training framework for enhancing higher vocational college teachers' digital literacy falls short in several aspects. The training content lacks relevance to practical needs, while the methods employed are monotonous, making it difficult to cater to the individualized and varied learning requirements of teachers.

4. Approaches to Improve Digital Literacy of Higher Vocational College Teachers

Given the current status and issues surrounding the digital literacy of higher vocational college teachers, it is imperative to devise effective strategies to enhance their capabilities. The development of teachers' digital literacy is a process of continuous learning, accumulation, iteration and innovation, and its cultivation process is also very complicated. To explore the path of digital literacy cultivation of higher vocational teachers, it is more necessary to carry out top-level design, take multiple measures and make multi-efforts [5]. For higher vocational college teachers, improving digital literacy not only helps personal career development, but also effectively improves teaching quality and meets the needs of students. Therefore, it is crucial to establish a sound digital literacy training mechanism.

4.1 Strengthen Guidance at All Levels

The government ought to augment investments in the digitization of higher vocational education, devise pertinent policies and initiatives, and encourage and back higher vocational institutions in bolstering digital literacy training for faculty. At the same time, establish a digital literacy certification system, and make digital literacy one of the important indicators for teacher title evaluation and performance assessment.

Higher vocational colleges should prioritize investing in educational technology and infrastructure, thus ensuring that teachers are equipped with the necessary hardware and software to fully leverage digital tools. This includes providing access to updated computers, high-speed internet, and specialized software for teaching and learning, thus creating a good digital teaching environment.

4.2 Optimize Teaching Resources and Platform Construction

4.2.1 Construction of teaching resources

Higher vocational colleges should foster closer collaborations with industry associations, enterprises, and other organizations to jointly create superior teaching resources. Teachers are also encouraged to independently develop their own teaching materials, thereby forming a distinctive teaching resource library. Additionally, acquiring high-quality teaching

resources from both domestic and international sources through purchase, introduction, and other methods can provide teachers with a vast array of enriching teaching materials.

4.2.2 Platform construction

Higher vocational colleges should establish a sound online teaching platform and teaching management system to offer teachers convenient tools and methodologies for instruction. Concurrently, they should strengthen their cooperation and exchanges with other universities and institutions to share high-quality teaching resources and management insights. Furthermore, they can leverage advanced technologies like cloud computing and big data to enhance the functions and performance of the platform to cater to the diverse teaching needs of teachers.

4.3 Adopting Diversified Training Methods to Improve the Digital Literacy of Higher Vocational College Teachers

The cornerstone for enhancing higher vocational college teachers' digital literacy lies in technical training. However, traditional monolithic training approaches often fail to cater to the diverse requirements of teachers. In order to improve training effectiveness, training methods should be flexible and diverse.

Employing diversified training methods can stimulate teachers' interest in learning, making them more proactive in participating in training, thereby improving learning efficiency and effectiveness.

Given that each teacher possesses unique digital literacy foundations, interests, and learning habits, a diverse set of training methodologies can better address their individual needs, ultimately improving the effectiveness of the training. Furthermore, various training methods are tailored to distinct knowledge points and skills. By utilizing the diversified training methods, teachers can acquire a more comprehensive grasp of digital literacy-related knowledge and skills, achieving effective internalization of knowledge.

4.3.1 Specialized digital literacy training institutions or departments

Higher vocational colleges should establish specialized digital literacy training institutions or departments to provide systematic and targeted regular digital technology training

programs for teachers. The training content should cover basic information technology knowledge, digital tool usage, data analysis, teaching software application, online course design, multimedia teaching practices.

4.3.2 Offline training and seminars

Participating in professional training and seminars is another important way to improve the digital literacy of higher vocational college teachers. Schools can facilitate teachers' participation in specialized training courses or seminars focused on digital literacy, offering a conducive environment for them to engage in learning and knowledge exchange. At the same time, experts in the digital field can be invited to give lectures or guidance, providing opportunities for teachers to learn from others. By participating in professional training and seminars, teachers have the opportunity for meaningful exchanges and collaborative learning with their peers. They gain valuable insights into the latest advancements in digital technology and educational theories, while also receiving expert guidance and advice that can help them refine their practices.

At the same time, teachers have the opportunity to establish new friendships within the field and broaden their personal network of resources.

4.3.3 Online courses

Leverage digital platforms to provide online courses, allowing teachers to study at their own pace and convenience, regardless of location. These courses can incorporate video tutorials, live streaming sessions, interactive question-and-answer sessions, and various other formats to cater to the varied educational requirements of teachers.

4.3.4 Case studies

Examine exemplary digital teaching instances to illustrate the implementation and significance of digital literacy in teaching practices. These case studies can encompass both triumphant and challenging scenarios, providing teachers with the opportunity to gain insights from both successful and unsuccessful experiences.

4.3.5 Mentorship system

Assign a mentor to each teacher for individualized coaching and support. The mentor can craft tailored training programs tailored to the teacher's specific needs, offer prompt feedback and advice, and facilitate the teacher's swift enhancement of their digital

literacy skills.

4.3.6 Workshops

Workshops serve as a hands-on training approach, enabling teachers to acquire and refine teaching knowledge and skills pertinent to fostering digital literacy through concrete projects and assignments. These workshops can be tailored around a particular digital teaching initiative or task, facilitating teachers' comprehension through practical experience.

Teachers are encouraged to exchange and share ideas and experience, thus stimulating teachers' innovative thinking and cooperation spirit, and promoting the sharing and dissemination of knowledge.

4.3.7 Blended learning

Integrate online courses with face-to-face lectures, workshops, and diverse training modalities to create a blended learning approach. This model harnesses the flexibility of online courses, and the interactive elements of offline courses enhance training effectiveness.

4.4 Encourage Teachers to Learn and Practice Independently

Vocational teachers should stay sensitive to the developments in digital technology. Actually, self-directed learning plays a crucial role in enhancing higher vocational college teachers' digital literacy. Hsu found a positive correlation between teachers' belief in student-centered teaching and their belief in the advanced technology application behaviors [6]. Teachers can leverage their free time to acquire pertinent knowledge and skills in digital technology through autonomous study. They can access learning resources via online courses, learning platforms, and other avenues. At the same time, they also need to maintain sensitivity to the development of digital technology, pay attention to the development and application of new technologies in a timely manner, and constantly update their knowledge and skills. Through self-directed learning and continuous updating, teachers can continuously improve their digital literacy level and adapt to the development needs of the digital age.

Higher vocational colleges should create a conducive learning environment that fosters independent learning and practice among teachers. They can establish teacher learning communities, organize learning exchange sessions, and provide a forum where teachers

can mutually learn from each other and share their experiences.

Teachers should actively engage in teaching practice, applying the knowledge and skills they have acquired to their teaching. Through this practical application, teachers can gain a deeper understanding and mastery of digital teaching methods and techniques, ultimately enhancing the effectiveness of their instruction.

4.5 Promote the Innovation and Practice of Teaching Mode

Higher vocational colleges ought to motivate their teachers to leverage digital technology to revolutionize teaching methodologies, embracing approaches like blended learning and the flipped classroom. Concurrently, they should intensify their research and experimentation in teaching mode innovation, aiming to establish a unique teaching framework tailored to their own characteristics. Besides, higher vocational colleges should promote teachers' integration of digital literacy into their daily teaching, embracing project-based learning, cooperative learning, and other innovative teaching methods. Alongside this, they should reinforce assessment of teaching practices to guarantee the quality and efficiency of educational activities. Furthermore, fostering communication and collaboration among teachers can be achieved through organizing teaching observations, seminars, and other related events.

Teachers are strongly encouraged to engage in various digital literacy competitions spanning all levels, as these avenues offer opportunities to enhance their practical skills and innovative capabilities.

4.6 Create a Conducive Atmosphere and Cultural Environment

Facing the situation of "information island" of college teachers, it is urgent to build a digital learning community to promote the communication and learning of digital teaching [7]. Higher vocational colleges should strengthen the publicity and promotion of digital literacy and raise the awareness and attention of teachers and students across the school to digital literacy. Both the technical and humanistic atmosphere of digital literacy of college teachers need to adhere to the tenet of teacher development [8]. Concurrently, they should establish a digital literacy showcase

platform or exhibition space to highlight teachers' achievements and students' outstanding works in this field. Additionally, organizing events like digital literacy weeks and festivals can foster a vibrant digital cultural atmosphere within the college.

Furthermore, higher vocational colleges should promote an open, collaborative, and innovative digital cultural mindset, encouraging both teachers and students to engage actively in the construction and dissemination of digital culture. Concurrently, they should intensify exchanges and collaborations with other universities and institutions to jointly promote the prosperity and development of digital culture. Additionally, they can enrich campus cultural life by founding digital cultural clubs and organizing digital cultural lectures.

4.7 Establish Digital Literacy Evaluation and Incentive Mechanism

To effectively advance the national education digitization strategy, the Ministry of Education issued Digital Literacy of Teachers, aiming to provide macro-guidance for the cultivation of quality literacy of teachers in vocational colleges, and constantly improve the data-driven dynamic digital literacy evaluation system for all types of teachers at all levels, so as to ensure the sustainable development of teachers' digital literacy [9].

Therefore, higher vocational colleges should first device digital literacy evaluation criteria that precisely outline the specific prerequisites and benchmarks for digital literacy. These evaluation standards should be operational and quantifiable to facilitate the assessment of teachers' digital literacy capabilities.

Secondly, higher vocational colleges should conduct regular evaluations of teachers' digital literacy to provide a comprehensive and unbiased assessment. The results of these evaluations should serve as a significant basis for teachers' performance appraisals and should be tied to their promotion, evaluation, and other related aspects.

Thirdly, higher vocational colleges should establish an incentive mechanism for digital literacy to recognize and reward teachers who have made exceptional contributions to advancing digital literacy. Meanwhile, digital literacy should be considered a crucial factor in teachers' career development, motivating them to consistently enhance their digital literacy

skills.

In addition, the digital literacy evaluation system also includes students' online learning ability, learners' personality characteristics and individual needs [10].

5. Conclusion

The improvement of digital literacy of higher vocational college teachers is a long-term and complex process that requires the joint efforts of the government, higher vocational colleges, and teachers themselves. Through bolstering positive guidance and training support, optimizing teaching resources and platform construction, fostering teaching model innovation and practical application, as well as cultivating a conducive atmosphere and cultural environment, various measures can significantly augment the digital literacy of higher vocational college teachers.

Only by continuously increasing investment, improving mechanisms, stimulating motivation, and deepening reform can we effectively improve the digital literacy level of higher vocational college teachers and promote the in-depth development of higher vocational education reform.

References

- [1] Qijun Wu. Teachers' Digital Competence: Connotation, Evolution Path and Framework Construction. Higher Education in Heilongjiang, 2021, 39(9): 83-90.
- [2] Jingjing Song. Strategies for Improving Digital Literacy of College Teachers. Higher Education Forum, 2023, 11(11): 40.
- [3] Guangfen yan, Li Liu. Reserch on Teachers' Digital Literacy and Its Cultivation Path. Comparative Educational Research, 2022, 3: 14.
- [4] Xinfeng Gao. An International Review of Digital Literacy and Skills Upgrading Strategies for Educators. Chines Journal of ICT in Education, 2023. 29(7): 38.
- [5] Fengdan Chen, Shirui Ma. Research on the Cultivation Path of Digital Literacy of Higher Vocational Teachers. Journal of Wuhan Shipbuilding Vocational and Technical College, 2023, 6: 43.
- [6] Jianfeng Feng, Yuning Wang. Research on Mechanism of School Digital Support to Improve Teachers' Digital Literacy. Teacher Education Research, 2024, 3(36): 50.
- [7] Weiwei Hu. Research on Cultivation Path of Digital Literacy to College Teachers under the Background of Digital Transformation of Education. Journal of Shijiazhuang Railway University, 2023, 18(1): 96.
- [8] Yu Zhang. Research on Improvement of Digital Literacy of College Teachers from the Perspective of Intelligent Education Ecology. Foreign Trade, 2023, 05: 157.
- [9] Lijuan Wang. The Connotation, Framework and Approaches to Improve the Digital Literacy of Vocational Undergraduate Education Teachers. Quality Education in Wester China, 2024, 1(10): 18.
- [10] Siyuan Feng, Chen Huang. Digital Transformation of Higher Education and Enhancement of Teachers' Digital Literacy. Chinese Educational Information, 2023(1): 118-28.