

# An Exploration of Digital Literacy Improvement Practice for Teachers in Sports Universities

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**Abstract:** The 20th National Congress of the Communist Party of China put forward the requirements of “accelerating the construction of high-quality education system”, and clearly “promoting the digitization of education” as an important task to build a digital China and a powerful education country. As the mainstay of the strategic action of education digitization development, teachers are facing many challenges. Based on the dual driving forces of technological upgrades and teaching reform, teachers’ digital literacy has gradually become a restricting factor for the high-quality development of education. This paper aims to explore the effective practical approaches for improving the digital literacy of teachers in sports universities. In view of this, it is imperative for teachers in sports universities to transform from knowledge-oriented to literacy-oriented teachers for future education. Improving teachers’ digital literacy has become an urgent task and a key focus of current research in teaching and learning of sports universities.

**Key words:** Sports Universities Teachers; Digital Literacy; Teaching Quality; Digital Transformation; Promotion Strategy

## 1. Introduction

The increasing reliance on digital technology in the digital era has made it more urgent to address the gap in digital skills. With the continuous promotion of the new generation of enhanced digital technologies such as big data, Internet of Things and artificial intelligence in various fields, the field of education is also facing the challenge of rapid development and wide application of digital technology. Digital literacy for teachers is one of the core competencies in the new era. As the mainstay in sports universities, teachers need to adapt to and utilize digital technology for teaching and nurturing students. This paper will take the “Teacher digital literacy” standard issued by the Ministry of Education as the theoretical framework, and propose solutions to improve teachers’ digital literacy. Through in-depth research on the standards set by the Ministry of Education, it will explore methods to cultivate the skills, knowledge and attitude required for digital teaching in sports universities. It aims to promote the innovative approaches that combine digital technology with education and encourage teachers to actively participate in digital education practices. Finally, it is to ensure that teachers in sports universities have the ability to adapt to the development of digital education, meet the challenges of educational future, effectively respond to the digital education environment, and provide students with a higher-quality education experience.

## 2. The theoretical framework of digital literacy for university teachers

The concept of digital literacy has been evolving with the invention and widespread use of new digital technologies, which has greatly changed the traditional culture, social interaction and information acquisition, and people’s demand for digital skills is also developing. The term “digital literacy” was first defined by American educator Paul Gilster in his book “Digital Literacy: Preparing for the Information Age” in 1997. In 2012, the American Library Association (ALA) defined digital literacy as “the ability to retrieve, understand, evaluate, create, and communicate digital information using information and communication technologies, requiring cognitive and technical skills.” In 2017, the European Union (EU) for the first time introduced the publication of the “European Union Educator Digital Competence Framework (DigCompEdu) (Redecker, 2017), and In 2023, the UK released the Framework for the Digital Transformation of Higher Education to clarify the key areas for future development. It is clear that national governments and policy makers in various countries recognize that digital literacy is very important for future education and employment, and regard digital literacy as an indispensable part of the education system to better cope with the educational challenges of the digital age.

As the importance of digital literacy in higher education, in February 2023, the Ministry of Education issued “Digital Literacy for Teachers” (hereinafter referred to as “literacy”), which clarified the core connotation digital literacy for teachers. And the framework of digital literacy elements was constructed from the five dimensions of digital consciousness, digital technology knowledge and skills, digital application, digital social responsibility, and professional development.

## 3. The value dimension of digital literacy improvement of university teachers

Based on the requirements of “Literacy” for teachers’ digital application ability, strengthening the cultivation of digital literacy is not only a necessary requirement for the development of the digital economy, but also a key component of the digital citizenship literacy. Being sports universities that prioritize demand- and goal-oriented talent cultivation, who are committed to helping teachers enhance their digital literacy comprehensively, which not only meets the current societal development needs but also holds significant practical significance for building a modern digital powerhouse and achieving the great rejuvenation of the Chinese nation.

1. Strengthening digital consciousness is a prerequisite for teachers to carry out educational activities in the new era

Strengthening digital consciousness means that teachers must realize that digital technology has become an indispensable part of

education field, and timely seize the opportunities brought by digital technology, and integrate it into their own teaching practices, which can realize the role of optimizing teaching methods, expanding teaching resources and improving learning effects. Teachers in sports universities can provide real-time data support and multimedia teaching resources by mastering and familiarizing themselves with digital teaching tools and platforms, such as virtual training systems, sports data analysis software and online teaching platforms. Also, they can provide more abundant teaching content and training experience to stimulate students' interest and participation through the innovative use of sports tracking equipment, virtual reality technology and augmented reality technology. Therefore, teachers in sports universities should always maintain a mindset and habit of continuous learning, actively learn and update their knowledge and skills, and apply digital tools and platforms to their teaching practices, so as to provide students with a better educational experience and better cope with the challenges of the digital education environment.

2. The use of digital technology knowledge and skills is the way for teachers to realize the deep integration of digitalization and education

As a teacher, it is essential to select appropriate digital technology resources and skills and apply them in sports-related teaching practices. By using data collection techniques, statistical analysis, and data visualization tools, teachers can gain a deeper understanding of individual differences and learning needs of students, thus enabling them to develop targeted teaching plans and training programs. For instance, various digital tools, platforms, and applications can be employed to support teaching activities. Multimedia resources, online learning platforms, and educational software, etc. can be used to create diverse teaching content, increase the interactivity and enjoyment of teaching, and ultimately achieve personalized and innovative educational objectives. Meanwhile, teachers can utilize their knowledge and skills in digital technology to conduct learning assessments and provide feedback on students' learning progress. This allows for precise analysis and guidance on students' learning situations, further improving the effectiveness and quality of teaching. Moreover, it fosters students' creativity, collaborative spirit, and problem-solving abilities.

3. Strengthening digital application is the core element of teachers' realization of digital education and teaching

Digital application refers to the ability of teaching subjects to expand teaching activities by the use of digital technology resources, which is serving the whole teaching process such as teaching design, teaching practice, academic evaluation and coordinated education. Finding the teaching mode that matches students' cognitive characteristics and the adaptability of digital technology by collecting students' learning data and analyzing their preferences, weaknesses, and strengths in sports, integrating the teaching resources, and truly achieving curriculum reform, so as to achieve the value goal of cultivating students' moral character and effectively deliver curriculum knowledge and values. The OAO mode achieves seamless integration between online and offline spaces, presenting an organic fusion in an integrated form. By establishing connectivity between the online and offline realms, it enables 'bidirectional' circulation. Based on wearable smart devices, XR technology, and big data, the OMO mode is gradually blurring boundaries in sports education. For example, sports universities teachers can utilize technologies like "5G+ motion control" and holography to carry out sports teaching activities, aiming to stimulate students' active participation and enjoyment in learning, while upholding the principles of 'people-oriented' and 'great moral education', and paying attention to students' physical and mental health, sustainable development and lifelong development, as well as comprehensive development.

4. Enhancing digital social responsibility is the fundamental guarantee for teachers to carry out inclusive, green and open digital education

Digital social responsibility refers to the moral cultivation and code of conduct of teachers in digital activities, and also includes legal and ethical standards, as well as responsibilities related to digital security protection. Sports universities teachers in today's digital society need to have a grasp of legal regulations and ethical standards, and apply them in the practice of digital education. They are responsible for teaching students to comply with laws and regulations, prioritize personal privacy protection, and uphold online ethics. It is essential to enhance students' consciousness and skills in digital security, ensuring the legality and safety of educational activities. Sports teachers should guide students to correctly use digital technology and platforms, as well as the ability to rationally use Internet resources to prevent network risks and threats, so as to provide students with a more secure, stable and reliable digital education environment.

5. Continuous professional development is the cornerstone to support teachers' digital innovation practice

Professional development refers to the capacity of teachers to utilize digital technology resources to facilitate their own and community's professional development. By establishing a comprehensive support system and resource platform is essential in providing necessary support and guidance for the professional development of sports universities teachers. Teachers can participate in learning, sharing, and collaboration through these platforms to acquire the necessary support and guidance for professional development, which includes teacher training institutions, professional development plans within schools, online communities, and resource libraries. It is encouraged for teachers to actively engage in digital learning and training by participating in educational seminars, workshops, and academic exchange activities. Through these interactions, teachers can collaborate and assist each other from different fields, broaden their perspectives, gain new teaching ideas, concepts, and methods, and apply them to digital teaching practices, ultimately achieving continuous professional development.

#### **4. Practical approaches for improving digital literacy of sports universities teachers**

In the digital era, science and technology have a profound impact on the healthy development of nations and the well-being of people's lives. As important contributors in the field of education, teachers from sports universities also need to enhance their digital literacy in order to tackle this challenge and apply ethical wisdom of the digital era to facilitate technology becoming a ladder to promote the comprehensive

development of individuals and the pursuit of a better life.

Firstly, sports university teachers can enhance their digital literacy by updating their educational concepts. They need to realize that technology plays a significant role of in education, and recognize that it has an enormous impact of the digital era on teaching. Also, they should actively engage with the latest digital education concepts and trends, and learn how to integrate digital technology with sports teaching to better meet the needs of students.

Secondly, the key to enhancing the digital literacy of sports universities teachers is to integrate digital technology knowledge and skills. Teachers need to learn to use digital tools and platforms, master methods of data analysis and evaluation, and be familiar with online teaching design. Through systematic training, teachers can continuously update their technical abilities to provide better support for digital teaching. By utilizing digital teaching tools and resources, teachers can create diverse and rich teaching content. Through interdisciplinary collaboration projects, digital teaching can be combined with sports science and athletic training fields to enhance students' learning experience and outcomes.

Finally, it is crucial for sports university teachers to actively participate in shared platforms and continuous development to enhance their digital literacy. Teachers can join digital education resource sharing platforms, where they can share high-quality sports teaching resources, experiences, and cases, as well as gain inspiration and learning from other teachers to promote continuous learning and development. In addition, it is necessary to establish a sound digital education management system and evaluation system, clarify the responsibilities and obligations of teachers in digital teaching, and ensure that teachers adhere to the norms and ethical guidelines in digital activities, which is better to improve the digital literacy of teachers in sports universities.

## 5. Conclusion

In the new era of educational development, the teachers in sports universities need to seize the opportunity and make rational use of digital technology to promote innovation and development in teaching. By improving the information literacy level of teachers in sports universities and conducting targeted training activities to enhance their digital application capabilities, not only can it effectively improve students' information literacy, but also enable physical education teachers to better fulfill their work tasks. Therefore, this paper actively explores these improvement initiatives to achieve new breakthroughs in the field of physical education.

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