International Journal of Information and Communication Technology Education
Volume 20 • Issue 1

Construction and Improvement of a Vocational Education and Teaching System Oriented to "Internet+"

Yan Zhang, Anyang Normal University, China*

ABSTRACT

Given the current rapid development of informatization, people will increasingly use online teaching methods to learn for their quality improvement. Starting from the fundamental theories, such as the concept, classification, basic process, task, and method of data mining under the background of Internet Plus, this article analyzes the problems that must be considered in data mining application. Secondly, the Apriori algorithm is studied, the FP-Tree flow chart is established, and the Internet Plus vocational education teaching system model is constructed using multiple databases as data sources. Finally, the results of the teaching system are analyzed and verified, with the model analysis showing that the minimum confidence boost of the system is 0.65, and the minimum support reaches 0.03. The maintainability of the database based on the association rules Apriori algorithm is good; the data entry can be completed smoothly, and the update, deletion, and modification can also be completed smoothly.

KEYWORDS

Internet +, Internet Plus, vocational education,teaching system

INTRODUCTION

With the continuous development of the knowledge economy, the demand for education in society is also increasing. More and more countries realize that in order to improve national competitiveness, education must be developed first (Zhuang & Zhu, 2023). For a long time, traditional vocational and technical colleges have been influenced by factors such as educational positioning, educational model, faculty strength, and student abilities (Atteh et al., 2023). They have not fundamentally broken away from the subject-based teaching model. In teaching implementation, teachers play a leading role as knowledge transmitters, and they usually adopt a preaching style of teaching (Liu, 2023). This teaching mode allows teachers to organize teaching content and implement teaching practices, monitor the teaching process, play the leading role of teachers, and impart systematic scientific knowledge (Pan et al., 2023). However, it can easily lead to a disconnect between theory and practice and a single teaching method and examination form. This teaching model is more suitable for cultivating knowledge-based or technical talents than innovative or skilled ones (Li, 2023).

DOI: 10.4018/IJICTE.337897 *Corresponding Author

This paper aims to introduce the Internet Plus technology into constructing the vocational education teaching system, intending to optimize the practical teaching system in vocational colleges further and improve the teaching quality. Based on the analysis of the deficiency of the current network learning system and the research status of collaborative learning mode at home and abroad, facing the background of internet plus, this paper first introduces the fundamental theories of data mining in Internet Plus, such as concept, classification, primary process, tasks and methods. It analyzes the problems to be considered in the application of data mining. This part is the theoretical basis of our research on vocational schools' network teaching management systems.

Secondly, the Apriori algorithm is studied, and the FP-Tree flow chart is established. Using multiple databases as data sources, valuable information such as learners' access behavior rules, errors, and problems in the learning process can be found in the accumulated log information. Then, the Internet Plus vocational education teaching system model is constructed. Finally, the results of this teaching system are analyzed and verified, and good results and performance are obtained. To provide reference significance for optimizing and promoting the overall level of practical teaching in vocational schools.

This paper is focused on Internet Plus and studies the construction and improvement of vocational education teaching system. Its innovations are as follows:

(1) It realizes the organic combination of teaching management standardization and the education and teaching innovation; all the key links that form the teaching quality are under control. The teaching and training process management should be standardized and flexible rather than too rigid.
(2) Ensure that the basic model and ideas of the established teaching quality assurance system continue to be effective. According to this, vocational colleges' standardized quality assurance system can constantly monitor, analyze, and improve itself in the application process and solve problems in time. It can also adjust schools' education and teaching work according to social needs, standardizing and improving so that established teaching quality assurance systems can continue to be effective.

LITERATURE REVIEW

The development of computer technology provides opportunities for optimizing educational resources, making it possible to deliver rich teaching resources to individuals located at a certain distance or educational groups scattered in different regions (Li, 2023). Online education has special significance in achieving personalization as teaching according to individual needs has always been tha principal goal pursued by the teaching service system. However, due to education system constraints and a lack of educational resources, there was still a long way to go towards this goal (Zhou, 2023a). Today, students have largely overcome the limitations of time and space through online learning.

In online learning, students can choose corresponding majors based on their education level and learning interests, achieve a people-oriented and self-centered learning network, and adjust their learning content and progress according to their learning conditions. Most advanced vocational school's online teaching management system websites have accumulated rich learning materials, learner user information, learning progress, and operational record logs (Dai & Nie, 2023). However, problems will arise if this information cannot be effectively used (Zhao, 2023a), and it can then represent a significant waste of resources in the collation and storage of data. The disadvantage of online teaching is passive execution, which fails to adjust based on students' interests and knowledge abilities. While online teaching resources enrich teaching content and methods, the existing teaching methods and methods are relatively traditional and not flexible enough, making it difficult for learners to learn as needed. The current e-learning system mainly supports self-directed learning, lacking an environment for solving poorly structured and complex problems (Wang & Chen, 2023).