

Analysis On The Application Of Learning Analysis Technology In Vocational Education

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Abstract

Learning analysis is the collection, storage, processing, analysis and application of data generated by learners and their learning contexts to understand and optimize the learners' learning and their learning environment. The application of learning analysis technology in the field of vocational education is of great significance for carrying out targeted teaching in vocational education and achieving personalized learning, and proposes a new way of thinking for the realization of vocational education informatization. This paper aims to classify the beneficiaries of the application of learning analysis technology in vocational colleges into teachers, students, and teaching managers through the understanding of learning analysis technology, thereby constructing an application model of learning analysis technology in vocational education. The model divides teaching into three stages: before, during, and after class. The application of learning and analysis technology is mainly reflected in the data collection, storage, processing, analysis, and application. The purpose is to promote the application of learning analysis technology in vocational education and teaching, and to provide methods and approaches for realizing vocational education informatization.

Keywords

Learning Analysis Technology; Vocational Education; Personalized Learning; Precision Teaching.

1. Introduction

At present, with the rapid development and application of new technologies such as big data, cloud computing and artificial intelligence in various fields of society, it has brought about drastic changes to our production and life, and also has an important impact on education and teaching. How to extract valuable information from massive education data is something that every education participant should think about. Therefore, in the face of educational big data, we need to apply technology to obtain valuable information. Learning and analyzing technology is particularly important. Learning analysis is regarded as the third wave of educational technology development by Malcolm Brown [1] For the fourth consecutive year, the New Media Alliance (NMC) of the United States has made learning and analysis technology a key technology and the future development trend of education. In education and teaching, we use learning analysis technology to collect data on students and learning processes in education and teaching. Based on the analysis of these data, we give targeted training to students, and give teachers and education managers more reasonable suggestions to achieve personalized learning and precision. Teaching provides new ideas and technical support. In this study, by understanding the connotation and characteristics of learning analysis technology and analyzing the characteristics of vocational education, the application model of learning analysis technology in the vocational education teaching process was constructed to realize the "learning, intervention, and optimization of learning analysis technology" ". To achieve teachers' personalized teaching and precise guidance in the teaching process, while promoting the breadth and depth of the application of learning analysis technology in the field of vocational education.

2. Vocational Education and Learning Analysis Technology

As an important part of China's education system, the quality of vocational education is related to national plans. The Ten-year Development Plan for Educational Informatization (2011-2020)[2] issued by the Ministry of Education clearly proposed to speed up the construction of vocational education informatization, support the cultivation of high-quality skilled personnel, integrate information resources, and improve the modernization of education management. It can be seen that vocational education has been given great attention in national policies. On the eve of Teacher's Day in 2017, Premier Li Keqiang visited Tianjin Vocational and Technical University to encourage "craftsman teachers", which shows that national leaders attach great importance to China's vocational education. Vocational colleges play an important role in achieving school-enterprise cooperation. The quality of vocational education has affected the production of enterprises to a certain extent. Therefore, in order to achieve good teaching quality, the advantages of learning and analysis technology are used in the education and teaching of vocational colleges to process data, assist teachers' teaching and students' learning, and assist teaching managers in teaching management, so as to find out The shortcomings and gaps have been continuously optimized to achieve the ideal teaching effect and train more "craftsman masters" for the society.

The first International Conference on Learning Analysis Technology and Knowledge in 2011 defined the core elements of learning analysis: purpose (understanding and optimizing the process and environment of learning), data sources (the learner and the context in which the learner is located), and data processing (Measure, collect, analyze, summarize) [3]. In this article, the author defines learning analysis technology as: learning analysis technology is based on the collection, storage, and processing of teaching data in the three stages before, during, and after class, further analyze the data, and apply the analysis results to In education and teaching, the teaching is in a process of continuous optimization and virtuous circle. Learning analysis technology is a measure to interfere with student learning in a sense. Adopting this measure in education and teaching can improve the efficiency of teacher teaching and the efficiency of student learning, and the work efficiency of teaching managers, and optimize teaching.

3. Application of Learning Analysis Technology in Vocational Education

This article will study the application of analytical techniques in vocational education at three stages and five links. The three stages are divided into before, during, and after class, and each stage has five links, namely data collection, data storage, data processing, data analysis, and data application.

The application of learning analysis technology in the field of vocational education is very extensive. The application of learning analysis technology in vocational education plays an important role for teachers, students and education managers. The applications discussed in this article are mainly reflected in classroom teaching. Through learning and analysis techniques, teachers' teaching and student learning are predicted, intervened, and optimized to provide technical support for the teaching reform of vocational colleges and the development of vocational colleges. Next, this article will explain in detail the three stages and five links of the application of learning analysis technology in vocational education. We divide the complete teaching process of vocational education into three learning stages: before, during, and after class. Learning analysis technology has played an important role in these three stages. On the one hand, learning analysis technology plays the same role in the same link in different stages. In the data storage link, learning analysis technology is used before, during, and during the lesson. The data storage link in the last three stages is responsible for storing the collected data, and the data processing link is responsible for filtering information to ensure the accuracy, uniqueness and availability of the information. On the other hand, the specific role of learning analysis technology also has its own focus in the three stages: before the lesson, the main role of learning analysis technology is data analysis, which is responsible for analyzing learner characteristics, teaching environment and teaching content. The teaching in the lesson provides the foundation; in the lesson, the main role of the learning analysis technology is data collection,

collecting learning performance, learning behavior, learning attitude and learning process, providing rich data for optimizing teaching after class; after class, learning The main role played by analysis technology is data application. It analyzes the previous data, summarizes reflections, and adjusts teaching in time according to the actual situation to optimize subsequent teaching. This is also the goal of applying learning analysis technology in education, which is to continuously optimize teaching. , Improve teaching. This article will discuss the role of learning analysis technology in vocational education from three stages before, during, and after class.

3.1 Before class: estimated teaching

Prior to the start of classroom teaching, the role played by learning analysis techniques in vocational education was primarily predictive teaching. Collecting data through learning analysis technology, which mainly includes analyzing learner characteristics, teaching environment, and teaching content, and performing a storage and preliminary data processing on these data to ensure the accuracy, uniqueness, and availability of information, Then analyze the collected data, find hidden information, make a preliminary estimate of classroom teaching, predict the possible teaching situation in teaching, adjust the original teaching plan and prepare related teaching plans. Through the application of learning analysis technology before class, teachers can have a deeper understanding of students, learning environment and teaching content, and have a basic estimate of the upcoming classroom teaching, so that teaching can be carried out "with the best of their hearts". For students, learning analysis technology enables students to better understand themselves, and can help students to carry out targeted learning in the future to maximize the effectiveness of classroom learning; for teaching managers, the collected data will It is an intangible wealth, which plays a very important role in timely adjustment of teaching arrangements and attention to student growth, and provides data support for the school's teaching decision-making and management teaching.

3.2 In class: intervention teaching

In classroom teaching, the role of learning analysis technology in vocational education is to intervene in the teaching process in time to ensure the quality of teaching activities. In the lesson, the data of the learner's learning process, learning attitude, learning behavior and learning performance are collected through learning analysis technology, and the processed data is analyzed. On the one hand, in the course of this lesson, teachers are provided with timely adjustments to the teaching. Help, teachers timely give effective intervention in classroom teaching, implement personalized teaching and precise teaching according to the different performances of students, and truly implement teaching according to their aptitude; teaching managers analyze classroom teaching effects through these data, and conduct more rational management of classroom teaching . On the other hand, the data collected in classroom teaching is a valuable resource for front-line teaching, and it has a good reference meaning for the development of similar courses in the future. It can give play to advantages and avoid deficiencies when developing and implementing similar teaching in the future. The teaching cost is minimized and the teaching effect is optimal. At the same time, for students, it is a complete record of their own learning process, which makes it easier to understand their learning process and find their shortcomings, so as to continuously improve and improve themselves.

3.3 After class: optimize teaching

After the classroom teaching is completed, the role of learning analysis technology in vocational education is mainly to analyze the data collected during the lesson and apply it to teaching to optimize the following teaching lessons by collecting learning results, that is, students Mastery of teaching content), learning feedback (that is, student feedback on this lesson, mainly including difficulty and adaptability to teaching methods), teaching evaluation, (including self-evaluation by students, self-evaluation by teachers, and others Teacher evaluation), use learning analysis technology to process, collect the analysis results and merge them into the student's electronic file and teacher's teaching file. At the same time, teachers and teaching managers should reflect and summarize the teaching content and teaching process based on the information presented by the data The summary results are entered into the system for future application in teaching and the teaching is continuously optimized.

To sum up, the application value of learning analysis technology in the field of vocational education and teaching is summarized in this article as predictive teaching before class; interventional teaching during class; and optimized teaching after class. In a complete "before-in-class-after-class" teaching process, the extensive application of learning analysis technology is very important to the learning process and learning results, and it is also of great help to teachers, students, and education managers. Role, also has a positive effect on the school's curriculum construction and discipline construction. Therefore, the application prospect of learning analysis technology in vocational colleges is very broad, and it also has high application value.

4. Conclusion

This study builds an application model of learning analysis technology based on vocational colleges, and proposes new ideas for the application of learning analysis technology in vocational colleges. Considering teachers, students, and teaching managers, at the same time, starting from the three stages before, during and after class, the teaching effect is fully optimized. However, there are some shortcomings in this research. This research is still in the theoretical stage and lacks practical examples of models. Therefore, the author will further follow up the research to make up for the shortcomings in the research, further enrich the application of learning analysis technology in the field of vocational education, and promote the development of vocational education.

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