

Research on Psychological Characteristics and Behavior Law of College Students' Online Learning in the New Era

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Keywords: Online learning, Psychological characteristics, Behavior law

Abstract: Nowadays, with the rapid development of network and the increasingly rich network culture, the network is dramatically changing the study and life of college students, and has an impact on their psychology. In terms of improving education and teaching effect, it will decrease with the passage of time. Although the general query of data can meet some needs, there is still little information knowledge which is instructive to teaching management from data resources. The quality of online education and learners' learning effect can be guaranteed by analyzing and utilizing specific behavioral data such as the number of times students visit courses and participate in discussions, and the progress of learning. Teachers should explore effective online mental health education forms and online psychological counseling skills in combination with college students' psychological characteristics and network characteristics. In this paper, according to the psychological characteristics and behavior rules of online learning of college students in the new era, suggestions are put forward to promote online interactive behavior of schools, in order to better promote the communication and interaction of similar virtual learning communities.

1. Introduction

“Internet plus education” changes the traditional educational mode with modern information technology, and promotes the modernization of education by [1]. Online education promotes the reform and development of education management, teaching and research. Online learners also get great freedom of learning. They can not only choose courses independently, but also participate in learning anytime and anywhere, making full use of their spare time [2]. Online learning behavior is the sum of a series of operations carried out by learners in the network learning environment, and is the result of two-way interaction between learners and the learning environment [3]. Learning behavior data in e-learning is considered to be the key to realize the development of e-learning resources and solve the important problems of teaching and learning in Teachers' teaching. Due to the timeliness and value of data [4]. For improving the effect of education and teaching, it will decrease with the passage of time. Although the general query of data can meet some needs, there are still few informative knowledge that can guide teaching management from the analysis of data resources [5]. With the rapid development of the Internet, the network has become an important way for college students to obtain information, understand society, and exchange ideas and emotions [6].

While the network plays a positive role in college students, it also has some negative effects on them, forming the network psychological characteristics of college students with the characteristics of the times [7]. Learning behavior can represent the learners' learning state from the external operation level, which is of great value for understanding the rules of online learning. From the perspective of learning analysis, behavior pattern analysis starts with the time series and relationship between learning behaviors, aiming to reveal the learning behavior characteristics of individuals and learning groups, identify the behavior differences of different learning groups, diagnose the key learning events in learning activities, and predict the learning performance of Learners [8]. In the process of online learning, students can analyze and use the specific behavior data such as the number of times of visiting courses and participating in discussions, learning

progress and so on, and the quality of online education and the learning effect of learners can be guaranteed [9]. How to rely on the network learning system, arrange online and offline network teaching activities, improve the real-time interaction between teachers and students in online education, improve the network learning experience, and then improve the learning efficiency and effect, has become an important education topic [10]. Based on the psychological characteristics and behavior rules of College Students' online learning in the new era, this paper puts forward some suggestions to promote the online interactive behavior of schools, in order to better promote the communication and interaction of similar virtual learning communities.

2. Psychological and Behavioral Characteristics of College Students' Online Learning

College students are in a critical period of growth and development, and their psychology has great plasticity. In the process of gradually forming their own stable psychological structure and characteristics, they show strong conflicts and contradictions. Learning behavior patterns can describe the sequence and direction of learning behavior in time, reflect the behavior characteristics of individual learners and learning groups from the perspective of the whole process, help teaching stakeholders identify the behavior differences of different learning groups, diagnose key learning events in learning activities, and predict learners' learning performance. Active online learning and interpersonal communication can enable college students to learn rich knowledge, gain emotional support, realize some personal values and promote their better growth. Unhealthy network behavior will have a negative impact on college students' moral formation, interpersonal communication, ideological personality and personality development, as well as physical and mental health, and even make them appear some network psychological obstacles.

Public elective courses in colleges and universities are helpful to broaden students' horizons and improve students' comprehensive abilities and qualities. However, during the course offering in some colleges and universities, students can't find the willingness to study courses, such as the limitation of teachers' resources in colleges and universities, the conflict between the class time of various professional courses and public elective courses at school level, and the lack of teaching resources. The openness of the Internet makes college students like to learn new things online and improve their knowledge in all aspects. Network information resources are mixed. College students get useful knowledge on the Internet, but they are also exposed to various unhealthy and negative things. Setting up some network elective courses in colleges and universities can alleviate the lack of teachers' facilities for public elective courses in colleges and universities, and can also exercise students' network autonomy and cooperative learning ability. By using the analytical tools and methods of learning analysis technology, the study of concepts, models, influencing factors and other theoretical aspects is turned to the application of learning analysis technology in online learning, and the data of students' online learning behavior is analyzed and visualized around the core contents of teaching activities, including teaching tasks, learning process and assessment of learning achievements.

Learning behavior is generally defined as the explicit behaviors that can be observed and measured during the learning process, such as the general process of implicit learning and thinking, such as study habits and communication methods. On the other hand, online learning behavior is an explicit learning activity in various Internet environments with interactive mechanism, with the help of Internet, computer technology, various network communication tools and software tools, in order to achieve their learning goals in the daily learning process. The elements of learning path are shown in Figure 1.

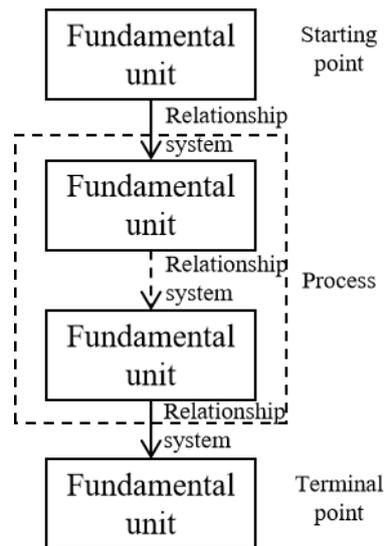


Fig.1 Elements of Learning Path

Because college students have not experienced social training, their thoughts are easily divorced from reality, and they are easily influenced by various erroneous thoughts. Some college students are not strong enough in judging right and wrong and self-control, and receive all kinds of information without thinking and analysis. It is difficult to find their own goals and outlook on life in the diversified value system, but they are suspicious of mainstream thoughts and values, which makes them fall into depression and confusion. Analyze and visualize the learning behavior data in online learning, and mine the learning behavior information, which can provide reference for online course developers to better design high-quality online courses. College students, who often vent their emotions on the Internet, lack the study and exercise of interpersonal skills in reality. They can't communicate with other people when they return to reality from the Internet, but deliberately isolate themselves and close themselves, resulting in the narrowness and dilution of interpersonal relationships. The main body of online learning behavior is learners, and digital learning resources are the environment where learning takes place, that is, online learning environment.

3. Research Framework of Learning Behavior Pattern Analysis

The research of learning behavior pattern focuses on the mining and extraction of learners' operation behavior sequence. Based on the recognition and characterization of online learning behavior pattern, the prediction model is constructed according to the typical learning behavior sequence, which provides the basis for the prediction of learning environment and learning performance. On this basis, diagnostic analysis reveals the relationship and development path of behavior sequence through key behavior sequence, and reveals the key sequence and internal mechanism of online learning process. Predictive analysis further takes the identified key behavior sequence as independent variables to build a model for predicting learning results. The analysis of learning behavior patterns is interrelated in three aspects: descriptive analysis, diagnostic analysis and predictive analysis, forming a triangle cycle of interdependence and mutual promotion, forming a triangle analysis framework of learning behavior patterns. For contemporary college students, the rational use of the network can provide useful help for their own growth. Although the network may bring negative effects and the resulting network psychological barriers, it can not simply let college students away from and refuse the network. We should help college students to regulate and restrict their network behaviors and habits, guide them to learn to identify good and bad on the network, and enhance their consciousness of psychological prevention and seeking advantages and avoiding disadvantages, so that they will not appear psychological obstacles in the network and can maintain a good psychological state. Cyberspace is only the extension of real life, only through online activities to develop its favorable behavior and enrich their own understanding.

Colleges and universities should let college students take the initiative to compare reality and

virtual, such as holding some seminars on network phenomenon, so that they can understand the difference between reality and virtual network, master the appropriate time and frequency of Internet access, correct the purpose and mentality of Internet access, and correctly handle the relationship between reality and virtual. In the specific research, by drawing the behavior transformation diagram to analyze the transformation relationship between the behavior sequences, the behavior sequence with multiple sequence correlation can be initially defined as the key event. Key events can explore and interpret the internal mechanism of interaction between learners and learning environment, and analyze the important learning processes that affect learners' performance. Network is the inevitable product of cultural development to a certain stage. It is a global trend for college students to learn knowledge and understand the world through the Internet. This trend is likely to change the current education system in the near future. Through the integration of learning analysis technology and data mining algorithm, combined with early warning sequence to build a prediction model. For example, Song Tao proposed the regression model of behavior sequence based on Bayesian network and hidden Markov model, trying to solve the complex modeling problem of combining static covariates with hidden variables of dynamic behavior sequence in predictive research. The purpose of network mental health education is to help college students maintain a positive attitude when using the Internet, maintain psychological balance when offline, and better grasp the relationship between virtual and reality. Predictive research can provide basis and support for accurate teaching intervention for teaching stakeholders, help teaching stakeholders identify learners with learning risks in time, and provide the basis for personalized online learning intervention. To solve the contradiction between learning effect and learning time, we need to contact the online and offline activities of teachers and students, reveal and understand the rules of network learning time from the main body of network teaching, arrange teaching according to the rules, and improve teaching efficiency.

4. Conclusions

Network is the inevitable product of cultural development to a certain stage. It is a global trend for college students to learn knowledge and understand the world through the Internet, and this trend will probably change the current education system in the near future. Network information resources are mixed. College students get useful knowledge on the Internet, but they are also exposed to various unhealthy and negative things. Setting up some network elective courses in colleges and universities can alleviate the lack of teachers' facilities for public elective courses in colleges and universities, and can also exercise students' network autonomy and cooperative learning ability. To solve the contradiction between learning effect and learning time, it is necessary to contact the online and offline activities of teachers and students, expose and understand the law of online learning time from the inside of the main body of online teaching, and arrange teaching according to the law to improve teaching efficiency. We should make full use of the advantages and characteristics of network, dig out the advantages of traditional school education and network education, give full play to the practical significance of the existence and development of network courses in schools, make full use of network resources, and realize the redevelopment of network course resources and the integration of resources.

5. Acknowledgment

Qiqihar Philosophy and Social Science Planning Project in 2020: Influence and Strategy of Online Learning on Psychological Change of Medical Students-Investigation Based on the Background of COVID-19 Epidemic (QSX2020-37YB)

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