Change of Psychology Teaching Methods in the Era of Big Data

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Abstract. In today's highly competitive society, most people have different degrees of psychological problems. The development of psychology courses based on this has also received considerable attention. The integration of big data and education has promoted the reform of psychology teaching methods. However, influenced by many factors, psychology teaching methods in China are still traditional. The purpose of this paper is to study the main problems existing in the teaching methods of psychology courses in the era of big data, and to explore the specific strategies to promote the transformation of teaching methods with the support of big data technology. This article first to the era of big data and psychology course has carried on the summary of relevant, and briefly discusses the big data the significance of the development of psychology course, and then take in the form of questionnaire survey as the main experimental investigation on the teaching of psychology, according to the experimental results obtained conclusions about psychology course teaching, based on this, advances the transformation of the mode of teaching by means of big data technologies, establish efficient interactive teaching mode. The experimental results show that the existing teaching methods of psychology course result in low teaching effect, so we must reform the teaching methods.

Keywords: Big Data, Psychology Courses, Teaching Methods, Teaching effect

1. Introduction
With the rapid development of the society and the continuous improvement of the pace of life, people are facing great psychological pressure. Therefore, people pay more and more attention to psychology courses, and psychology courses play an important role in education. At present, the teaching method of psychology course is backward and the teaching effect is low. The arrival of the era of big data not only provides enough information and data for the teaching content of psychology courses, but also provides a new teaching idea for psychology. The transformation of psychology teaching methods in the era of big data is an inevitable requirement for realizing the development of psychology.
Psychology is an in-depth exploration of the process and law of human psychological development. Based on this, domestic and foreign scholars have conducted a series of studies on it, including the study of psychology courses. In [1], the author emphasizes the important role of information technology in psychology teaching, and discusses how to realize the effective combination of psychology teaching and information technology by combining relevant cases. In [2], the author takes the practical characteristics of psychology as the starting point, and advocates that the teaching of psychology courses should reflect the students' dominant position and achieve the teaching goal of putting what they learn into practice. The author advocates that inquiry learning, meaningful learning and interactive learning should be implemented in psychology teaching. In [3], focusing on psychological research, the author intends to discuss the important changes brought to psychological research by the era of big data. The author firstly gives an overview of big data and psychology, then analyzes the current situation of psychological research in the era of big data, and establishes the relationship between big data and psychological research.

To sum up, among the existing researches on psychology, many researches involve the research on the teaching of psychology courses, but most of them focus on the reform of teaching content, and few of them involve the teaching methods of psychology courses. Few studies combine psychology teaching with the background of the era of big data [4-5]. Therefore, the research results are lack of pertinence and concreteness, and there are some theoretical gaps in the research.

In order to promote the era of big data psychology change the way of teaching, enhance the teaching effect of psychology course, this article first to the era of big data and psychology course has carried on the summary of relevant, and briefly discusses the big data the significance of the development of psychology course, and then take in the form of questionnaire survey as the main experimental investigation on the teaching of psychology, according to the experimental results obtained conclusions about psychology course teaching, based on this, advances the transformation of the mode of teaching by means of big data technologies, establish efficient interactive teaching model [6-7]. The research of this paper not only promotes the reform of psychology teaching methods, but also provides reference for the future research of related aspects.

2. Method

2.1. Overview of the era of big data

McKinsey, a foreign consultancy, is proposing an "age of big data", the inevitable outcome of high-tech development. At present, with the development of the social era, more and more information and data are exchanged, with a linear growth trend [8]. Based on the development background of mass data, big data analysis is generated to effectively realize the effective processing of data. The main characteristics of big data analysis are the diversity of data types, the complexity of data and the efficiency of data processing. With the help of big data analysis, it can carry out rapid calculation and processing of massive and complex data, and realize accurate prediction of the future development trend of things [9-10]. Big data analysis is based on massive data, and data collection is carried out mainly by means of information technology. The final analysis results have a positive relationship with data quantity. That is, the more data are collected, the more accurate the analysis results will be. It is the essence of big data analysis to collect and store data with the help of current cloud computing
information technology. At present. Big data analysis has been widely used in various fields of society, such as logistics and e-commerce [11-12]. The era of big data has not only promoted the transformation and development of data processing technology, but also promoted the transformation of thinking mode, including the thinking of making full use of data, accepting inaccurate thinking and related thinking of data. To sum up, the era of big data is an inevitable outcome of social development and an irreversible development trend [13].

2.2. Big data and psychology courses
Psychology refers to the science of studying people's psychological activities and the behaviors triggered by psychological activities. The research scope mainly includes applied psychology and basic psychology, and the research object is relatively broad, including various aspects of behavior, action, inner feelings and social relations. On the basis of the research, it can explain and predict the psychological activities and behavioral reasons of people. In addition, it can guide people's mental state and thinking and action towards a healthy direction, promote the improvement of people's lives, and especially provide professional help for special industries. The main purpose of psychology courses is to train professionals in psychology by imparting theories, knowledge and skills. The arrival of the era of big data has a great impact on the development and reform of psychology courses. The era of big data not only expands the realization of the rapid integration of psychological data, but also facilitates the expansion of the learning scope of psychology courses. In addition, the emergence of various information technologies has provided new teaching ideas and means for psychology teaching. The most important thing is that in the era of big data, the application of psychology courses has been widely improved in order to directly participate in psychological services with the help of the network.

3. Investigation and experiment on teaching methods of psychology courses
The change of psychology teaching method must be carried out in combination with the current situation and the development advantages of the era of big data, supported by a large number of experimental survey data, to ensure the scientific and accurate research results. This paper mainly focuses on the questionnaire survey, supplemented by other research methods to investigate and analyze the current situation of psychology teaching in China. First, the collection of original data. Check the students' scores of psychology courses and the employment status of psychology major in recent years, and grasp the actual effect of psychology course teaching; Secondly, the psychology teaching questionnaire survey. The respondents of the questionnaire are teachers and students majoring in psychology in 17 schools in region A, including the development of psychology teaching methods, the application of big data in teaching and so on. A total of 800 questionnaires were issued and 791 valid questionnaires were finally collected. SPSS software was used to conduct data statistics on the questionnaire survey and record the statistics accurately. Finally, the analysis and comparison of experimental data. On the basis of the survey data, this paper analyzes the problems existing in the teaching methods of psychology and draws relevant conclusions. In addition, expert interviews were conducted to put forward relevant improvement Suggestions based on expert opinions and experimental results.

4. Discuss
4.1. Analysis and results

Through the investigation and experiment of psychology teaching above, the following experimental data are obtained in this paper. The specific experimental data are shown in figure 1 and table 1, and the data in the chart are the results of the author's investigation and experiment.

**Table 1.** Current teaching methods of psychology courses

| Project               | Data and information | Composite scores |
|-----------------------|----------------------|------------------|
| Interest in learning  | 37.18%               | 61.27            |
| Learning efficiency   | 47.29%               |                  |
| Learning effect       | 63.35%               |                  |

*Data were collected from questionnaires and documents

**Figure 1.** Data comparison table of different teaching methods

It can be found from the data in table 1 that the current teaching method of psychology courses fails to achieve the desired teaching effect, with a comprehensive score of only 65.27 points. This teaching method not only causes low interest in learning, but also low learning efficiency and effect. The data in figure 1 shows that the teaching method under the integration of big data technology and psychology courses shows great advantages, which can effectively stimulate students' interest in learning and improve the final learning effect by about 33%. Therefore, teaching methods must be changed. Based on the above experimental results, this paper, supported by big data technology, has realized the transformation of teaching methods before, during and as a whole. The specific implementation is as follows.
4.2. Reform of teaching methods based on big data

(1) Rely on big data to diagnose learning situations and promote teaching design

At present, the teaching methods of psychology courses lack the grasp of students' learning situation, and teachers' teaching design is based on the syllabus. Big data technology can help teachers to realize the pre-class collection of learning situation, so that the teaching design around the needs of students. First of all, teachers can design certain teaching content according to the syllabus as students preview materials; Second, students upload preview materials to the network platform to guide students to conduct independent study and discussion. Teachers use the network platform to collect the learning data of different students, including the learning duration, preview status and other data, and on this basis, with the help of big data analysis technology to form the situation analysis report; Thirdly, on the basis of the analysis report of students' learning situation, the teaching difficulties of psychology courses are set up to meet the actual development needs of students.

(2) Rely on big data for real-time feedback to promote teaching adjustment

In psychology courses in practical teaching, the teacher in the network platform to focus on classroom data real-time feedback information, on the basis of accurate judgement of students learning situation, and according to the students' learning situation, the implementation of teaching way and content of rapid adjustment, continuously promote the development of students' thinking ability, making students actively participate in classroom activities psychology. First of all, according to the data of the pre-class learning report, the learning groups are arranged to facilitate students' classroom learning. Secondly, the teaching method of differentiation and integration should be adopted to guide students to establish the relationship between new and old knowledge and improve the overall efficiency of classroom teaching.

(3) Rely on big data to collect teaching evaluation and optimize teaching results

The current psychology teaching method can not take into account the psychology teaching after-class counseling, the final teaching effect can not be further improved. Therefore, teachers can make use of big data technology to collect students' overall learning conditions and provide after-class guidance for psychology courses according to specific situations. First of all, teachers should adjust the teaching methods according to the data feedback so that students' learning is always kept in the maximum state. Secondly, according to the data analysis of students' actual learning status, make appropriate content supplement; Finally, according to the students' after-class practice results, the corresponding learning outcome data report is generated to find the weak links in the students' classroom learning and optimize the learning effect of psychology courses.

5. Conclusion
The era of big data has become an irreversible trend of social development and has been widely applied in various fields. Big data technology based on psychology and made a profound impact on the reform of the teaching methods, the technology of data can be supported by information technology to establish the advanced psychology courses learning platform, to achieve learning data updated in real time, the teacher can according to the real-time data to establish the integration of organic before, class, after class teaching, effectively improve the psychology course teaching effect.

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