Research on Application Strategy of Cloud Technology in Teachers' Professional Development

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ABSTRACT

Based on literature review and analysis, this paper discusses the significance of cloud technology in teachers' professional development, and explores the confusion. It proposes that the education authority should establish a "cloud system", educators should develop "cloud thinking" model, teachers should use "cloud methods" to participate in training, and the application strategy of "cloud evaluation" should be adopted in teachers' professional development. At the same time, it also reflects on and anticipates the professional development of teachers in order to make cloud technology effectively play its role in promoting teachers' professional development.

***Keywords**: cloud technology, big data, teachers' professional development*

1. INTRODUCTION

At present, China's society is in a critical stage of reform and development. It's a period of sudden contradictions and profound adjustment in the pattern of interests. The success of economic system reform has had a huge impact on all areas of society, and it also puts forward more urgent requirements for education as the foundation of society. How to build an excellent team of teachers with high quality, high education and high ability to cope with these opportunities and challenges has become the focus of education administrators' research. The rapid development of cloud technology and big data technology has played a huge role in strengthening teachers' professional development. How to apply these technologies and how to effectively solve problems in the application process is the focus of this paper.

2. THE SIGNIFICANCE OF CLOUD TECHNOLOGY IN TEACHER PROFESSIONAL DEVELOPMENT

2.1. Cloud Technology Brings New Ideas to the Theoretical Innovation of Teachers' Professional Development

Ye Lan, a famous educator in China, believes that teachers' professional development is the process of teachers' growth, the essence of which is human development. It is a prerequisite for teachers to have a complete educational theoretical knowledge structure for their development. Massive cloud resources have brought new opportunities for educational theoretical innovation and teaching model reform.[1] Education administrators can use cloud technology to innovate teacher training models, change teaching evaluation methods, and provide new research perspectives. Decision-makers at all levels can transform from traditional policy research and opinion-based decision-making to a modern educational decision-making model powered by cloud technology, thereby promoting the scientific decision-making process.

2.2. Cloud Technology Brings New Ideas to the Construction and Improvement of the System of Teachers' Professional Development

By using cloud technology to track teachers' development process instantly and procedurally, and sort out and analyze personalized data, education administrators can provide targeted training plans for each teacher to improve the effectiveness and quality of teachers' development. This enables teacher training to return to the essence of promoting individual's development. At the same time, a flexible and individualized supervision system and incentive system for teacher professional development can be established according to the teacher's learning process, learning effect and subsequent development.

2.3. Cloud Technology Brings New Ideas to the Innovation of Mode and Methods of Teacher Professional Development

The traditional training mode focuses on classroom teaching and ignores the cultivation of teachers' professional practical ability. Such a training mode is not conducive to improving teachers' ability to solve practical problems or integrating new curriculum ideas into specific teaching practices. In this situation, education administrators could use cloud technology to analyze teachers' teaching behaviors and provide targeted assistance and guidance for their behavioral deviation in teaching.[2] This way can break through the traditional thinking stereotype and innovate the means of teachers' professional development, so as to realize the combination of training and practice.

3. THE EXISTING PROBLEMS IN TEACHERS' PROFESSIONAL DEVELOPMENT

3.1. Teachers' Lack of Initiative in Professional Development

Through surveys and interviews, it is found that many teachers lack the initiative and autonomy of professional development and lack self-development awareness. Although most teachers have realized the importance of self-development, only a few teachers have made corresponding development plans for themselves. In the analysis of the reasons for this phenomenon, 45% of teachers think that their daily work is heavy and they have no time for professional development learning, while 32% of teachers think that the current professional development model is too procedural and unattractive.

Innovative professional development activities using cloud technology can shorten the time for professional learning and take up fewer teachers' spare time. This novel training mode can attract the attention of a large number of young teachers and effectively improve their enthusiasm for professional development. At the same time, education administrators should vigorously promote cloud technology and formulate corresponding encouragement mechanism to improve teachers' understanding of the application and development of cloud technology.[3]

3.2. Lack of Advanced Platform of Teachers' Professional Development

At present, there are a wide variety of training platforms in China, and the quality of the courses offered is also uneven. There are few high-quality platforms based on teacher professional development that can meet the needs of different majors, which also limits the enthusiasm of

some teachers in professional development. [4]According to the survey, 38% of the teachers surveyed said that the current training platform content is not suitable for their needs, 42% of the teachers said that the training assessment is too formalized to customize the learning content according to the actual situation of the individual, and 23% of the teachers said that the training platform does not provide communication channels and methods between teachers and students. In general, one of the important reasons why so many current training platforms cannot meet the professional development needs of teachers is that the training platforms do not make an in-depth investigation into the current situation of the development needs of teachers in China. These platforms only set up courses for training, but lack personalized training programs for different groups. With the rapid development of cloud technology, the way of knowledge storage and sharing has gradually become intelligent. Rapid and efficiency has become the most important characteristics of "cloud platform". Training platforms should make full use of cloud technology to conduct in-depth investigation and analysis of different teachers' different needs, and carry out personalized customized services, so as to establish a high-quality professional development service platform.

3.3. The Evaluation Method of Teacher Professional Development is not Scientific

The lack of effective supervision mechanism and incentive measures is an important reason why many teachers do not pay attention to their professional development. The evaluation content of teachers' professional development should not only include the evaluation of teachers' own professional ability, but also include the students' learning effects. Most colleges and universities in China adopt a summative evaluation system for teachers. The disadvantage of this evaluation method is that it ignores the process work, especially innovative teaching activities. It is difficult to get objective evaluation in this method. In the current situation which the credibility of traditional evaluation methods is not high, building a teachers' professional development evaluation system supported by cloud technology can effectively solve these problems.

4. APPLICATION STRATEGIES OF CLOUD TECHNOLOGY IN TEACHERS' PROFESSIONAL DEVELOPMENT

4.1. Educational Authorities Need to Establish a "Cloud System"

Under the background of rapid development of big data, educational authorities should change the training concepts and establish a "cloud system." To grasp the direction of

work and explore the rules of work from the huge amount of relevant data, the following aspects need to be accomplished: Firstly, a multi-dimensional collaborative mechanism should be established to organize and gather the efforts of education management departments, society, schools and teachers, so as to form a joint force. In this mechanism, teachers' professional development is no longer the sole responsibility of teachers. Secondly, the educational authorities should timely improve the teacher training system and adjust the training model. In the era of cloud technology, the orderly dissemination of data increases the transparency of the operation of educational administrative organizations. A more perfect and fair teacher training system should be established to meet the adaptability of teacher training. Finally, the formulation of educational management strategies is neither a simple imitation of experience nor theoretical speculation by policy makers, but a summary of the truth and experience from a large number of facts. It is a process of continuous exploration.

4.2. Teacher s Should Develop "Cloud Thinking" Mode

In the current situation that most teachers are only satisfied with offering good classes, the top priority of education management is to enhance teachers' awareness and initiative for professional development. Japanese educator Manabu Sato pointed out that teachers in the 21st century should be "experts in learning". According to Maslow's hierarchy theory of needs, teacher pays more attention to high-level social needs, respect needs and self-realization needs. In terms of individuals, teachers of different genders, ages, cultural backgrounds and positions have different demands, and the same teachers also have different needs in different periods. This requires educational administrators to make use of cloud technology to investigate and analyze the leading needs of the large group of teachers and the leading needs of the individual teacher. On the basis of fully understanding these two needs, educational administrators may formulate training systems and incentive mechanisms that are not only suitable for all teachers but also for individual development, so as to enhance the enthusiasm of teachers for professional development.[5]

4.3. Teacher Training Should Adopt "Cloud Methods"

In the context of big data, the mode of knowledge transmission becomes more open and diversified, which provides a broad development prospect for education authorities to make full use of various "cloud methods" to carry out teachers' professional development. Educational administrators can use network communication technologies, such as online learning forums, internet phones, online videos, etc., to build a communication

platform for teachers, which could expand teachers' learning space and increase teachers' learning channels. In addition, the education administrative department can also use "cloud storage", "cloud management" and other cloud technologies to scientifically and effectively manage learning resources to improve teachers' ability to learn, use, manage, and share knowledge.

4.4. "Cloud Evaluation" Should be Used in Teachers' Professional Development

The educational authorities should use cloud technology to build a three-dimensional and diversified "cloud evaluation" system for teachers' development. This evaluation system should be based on the objective reality of teacher development, focus on the growth of teachers, and pursue systematic, fair and scientific evaluation method. In this system, the process and results of educational professional development and later teaching effects should be included. Cloud technology can record and save teacher information, learning progress and learning results to analyze and feedback data in time. This cloud evaluation system can help educational administrators adjust teaching strategies in time and improve the efficiency of teacher training.

5. CONCLUSION AND PROSPECT

As a new power in the field of education, cloud technology has great potential in promoting the professional development of teachers. The teacher has weak adaptability to new technologies and slack psychology in professional development, which is an important factor restricting the application and development of cloud technology in the field of teachers' professional development. How to promote the overall improvement of teachers' quality in China, enhance teachers' cloud consciousness, enrich teachers' data knowledge, upgrade teachers' training mode, expand teachers' professional development model, and improve the evaluation system are the problems that educational administrators urgently need to solve.

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