Construction of Rural Primary School Teachers' Professional Ability Promotion System based on Cloud Platform

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Abstract. At present, primary school teachers often face the problems of insufficient resources and guidance. Under the cloud platform learning, teaching and research are more efficient. In this paper, based on the cloud platform of rural primary school teachers' professional ability improvement system as the research object, through the current situation of primary school teachers' ability, combined with the current intelligent technology, the ability improvement of primary school teachers is studied. The results show that 75% of the respondents believe that their decision-making in the department actually relies on data analysis. 40% of the people think that using the results of data analysis to make decisions improves the importance of their work and their position in the enterprise. Decision making based on data has become the new normal, and the efficiency of primary school teachers' ability improvement has increased by more than 45%. Similarly, education big data also has a profound impact on teaching decision-making. Cloud platform is the fundamental direction and key focus of teacher leadership in the new era. As a kind of dynamic leadership, teacher leadership has changed due to cloud platform learning. The impact of cloud platform learning on teachers' leadership is omni-directional. Under cloud platform learning, teachers' post requirements are higher, cooperation among teachers will be enhanced, teaching improvement will be strong, and teaching improvement and change behavior will be more active.

Keywords: Cloud Platform Technology, Rural Primary School Teachers, Teachers' Ability Improvement, Teaching under Internet

1. Introduction
In order to promote the effective integration of practice elements, primary school teacher education should fully tap the resources of educational practice, constantly explore multiple channels of innovative educational practice, and effectively integrate university education with primary and secondary education. Through learning analysis technology, mining and analyzing the big data associated with students can better help us grasp the learning situation, help teachers more accurately identify the real needs of each student, and carry out targeted teaching.
With the continuous maturity of big data technology, teaching and research personnel can not only obtain more extensive technical support, resource integration and data sharing, but also get rid of the previous single work mode, let the same or related research field team carry out more extensive communication and cooperation, produce wisdom collision, develop research ideas, improve research process, improve research quality and deepen research results. The network famous teacher studio mode actively explored by various places also breaks through the time and geographical limitations of data-based intelligent scientific research. Hallhuber K believes that teaching students in accordance with their aptitude under cloud platform learning is more refined. First of all, personalized learning is constantly strengthened [1]. Teaching students in accordance with their aptitude is to carry out personalized teaching and targeted learning guidance on the basis of truly understanding students. Big data provides strong technical support [2-3]. Due to the limitations of data acquisition and survey samples, the traditional teaching and research focuses on the results, and it is difficult to abandon the subjective perspective in the attribution of the results. Under the background of cloud platform learning, big data can be used for teaching, research and scientific research. Teachers can better grasp and analyze the full sample information, discover real problems, use data for calm thinking and decision-making, make the research process more empirical, and make the research results more convincing. With the use of smart classroom, more process data can be captured, which is a powerful data support for teachers to carry out efficient scientific research. At the same time, in the environment of smart classroom, the visualization of the whole process of students' learning also makes the research results better serve the teaching. The Internet promotes the popularization of education, and big data promotes the individualization of education, especially the individualization of learning [4]. E-learning has the inherent advantage of personalization, but without the support of big data, the machine can not really understand each student, and the push of personalized resources and services is also difficult to achieve [5]. Igler J pointed out that the strong support of big data is indispensable for individualized teaching and learning [6]. Under the cloud platform learning, teachers can not only effectively improve the ability and level of truly understanding students, but also continuously enhance their ability to provide students with truly personalized learning programs. Secondly, the intelligent level of teaching students in accordance with their aptitude has been continuously improved [7].

In this paper, based on the cloud platform of rural primary school teachers' professional ability improvement system as the research object, through the current situation of primary school teachers' ability, combined with the current intelligent technology, the ability improvement of primary school teachers is studied.

2. Cloud Platform Education Mode and Teacher Ability Evaluation Model

2.1. Education mode of Intelligent Cloud Platform
In recent years, with the continuous improvement of educational informatization and intelligence, new forms of education such as MOOC and micro class are developing rapidly. With the advantages of diversified resources, fragmented time and diversified choices, online courses have injected vitality into traditional education. But it also exposed many problems in emotional expression and interpersonal communication. Primary school teacher education must build online and offline learning platform [8-9]. On the one hand, it is necessary to highlight the diversified and convenient characteristics of online teaching in learning resources and learning ways, and systematically carry out open, interactive and shared online teaching activities with the help of Internet media and network virtual space, so as to meet the learning needs of primary school teachers for universal knowledge and personalized development [10-11]. On the other hand, it is necessary to give full play to the emotional and interactive characteristics of offline teaching, and actively play the functions of real interaction, emotional edification and ideological promotion of offline classroom on the basis of online knowledge teaching, so as to make teaching more authentic and affinity, and make primary school teachers realize the development of personality and key character in a strong learning atmosphere and emotional communication [12].
The development of teachers' professional quality is inseparable from external guidance and training, but more from autonomous learning and self-improvement. Paying attention to the consciousness of life and education is not only an important trend of teachers' development in the post professional period, but also a return of teachers' essence. As learners, primary school teachers should take the initiative to understand and adapt to the trend of the times, actively respond to the opportunities and challenges brought by the strong foundation program, and become future educators. Primary school teachers should promote the integration of knowledge and experience through self reflection, whether as learners or educators. Primary school teachers should realize the integration of personal and social destiny in the same new era. Promote the common development of themselves and groups in the process of cooperation [13]. In short, primary school teachers' learning is not isolated, but the result of interaction in the learning community. No matter what subject they choose, their identity is highly consistent. In the community, primary school teachers need to break the barriers between subjects, and regularly carry out free and equal thinking and dialogue in view of the classical theories, practical problems and cutting-edge ideas shared by teachers, so as to form a broad disciplinary vision and integrated curriculum concept. In addition, members of the community should actively share learning resources, exchange education and teaching experience, teach educational research methods and skills, provide rich resource selection and experience reference for the improvement of primary school teachers' professional quality, effectively improve primary school teachers' ability of problem exploration and team cooperation, and enhance primary school teachers' professional beliefs such as sense of participation and responsibility. It is a long-term process to evaluate the generation and development of primary school teachers' professional quality by integrated development. It is necessary to build a scientific and systematic evaluation system with coherent and clear indicators, while the traditional education evaluation attaches importance to summative evaluation. For primary school teachers' moral cultivation, the process evaluation of concept development and ability promotion is insufficient. It is difficult to show the development of all aspects of primary school teachers' professional quality. At the same time, the static evaluation method also leads to the lack of learning enthusiasm and motivation of primary school teachers. It further restricts the improvement of primary school teachers' education quality. Therefore, we should implement integrated development evaluation to promote the integration of process evaluation and summary evaluation of primary school teachers. At the same time, it is necessary to strengthen the phased assessment to realize the connection of the selection, training and use of primary school teachers.

From the perspective of teaching process, more and more comprehensive teaching behavior data make the past difficult to quantify teaching behavior become quantifiable. The combination of qualitative and quantitative analysis of teaching behavior makes the improvement of teaching and learning behavior more accurate. From the perspective of teaching decision-making, cloud platform learning has changed the one sidedness and uncertainty of decision-making based on experience. Teaching decision-making has changed from empirical decision-making to professional decision-making, and teaching decision-making is more scientific. From the perspective of education management, with the help of big data visualization technology, education management has changed from hard to see to visualization, making education management more transparent and efficient.

2.2. Cloud Platform Teacher Training Evaluation Model

First of all, we should implement a dynamic and flexible curriculum system of general education according to the situation of different teachers, and timely adjust the curriculum content according to the development and reform of education and teaching. We should encourage primary school teachers to choose courses flexibly according to their own knowledge base, hobbies and practical needs, and improve the basic knowledge evaluation formula of primary school teachers:

\[ N = k + \frac{N_0 - k}{1 + (\frac{x}{T})^p} \]  

(1)
y = d + \frac{e - d}{1 + \left(\frac{x}{c}\right)^b} \tag{2}

Secondly, we should enrich the types and forms of teacher education curriculum, organize and carry out a series of curriculum activities including educational research methods, thesis writing skills, research results reports, academic lectures, etc. In order to help primary school teachers form a broad knowledge base and profound academic literacy with a variety of curriculum learning methods, the incentive model of teachers' learning situation is established:

\ln\left(\frac{k - n}{N}\right) = a - rt \tag{3}

N = \frac{k}{1 + e^{a - rt}} \tag{4}

N is the lifetime utility of subject K at time t. Same as equation (4), the budget constraint of entity K is:

\frac{dN}{dt} = rN(k - N) \tag{5}

Finally, we should promote the integration of educational practice and research, educational probation and curriculum thesis, encourage the assessment of each course in the form of curriculum thesis, guide primary school teachers to pay attention to educational reality, find educational problems, strengthen educational research, and promote the development of primary school teachers' innovative thinking and research ability through regular academic research activities.

3. Experimental Research Design

3.1. Objects

In this paper, based on the cloud platform of rural primary school teachers' professional ability improvement system as the research object, through the current situation of primary school teachers' ability, combined with the current intelligent technology, the ability improvement of primary school teachers is studied.

3.2. Process of Teaching Ability

Before class, the teacher provides the reading range of teaching materials to the students according to the teaching situation. Each graduate student is required to select one of the teaching materials for intensive reading and make a PPT. Around the key scientific or application problems solved by the teaching materials, the teacher explains for 10-15 minutes, analyzes the research ideas and science and technology adopted by the author of the teaching materials, points out the innovation points of the teaching materials and the main evidence supporting these innovation points, and analyzes the teaching materials. Finally, the author puts forward some ideas for further research. In class, the reporter should complete the report within the specified time. After listening to the report, other students should put forward targeted questions or constructive opinions. The reporter should answer the questions raised by the questioner accurately and clearly in a short time. In order to evaluate the situation of students' seminar, the teacher recorded each student's performance in each link of explanation, questioning and answering, evaluated the students' performance according to four grades, A (excellent), B (medium), C (pass) and D (fail), and calculated each student's performance in the seminar. After each student's discussion, the teacher points out the problems existing in the classroom discussion and asks the students to modify the previous ppt according to the teacher's opinions or select the content of the textbook to make the PPT that meets the requirements.
4. System Analysis of Rural Primary School Teachers' Professional Ability Improvement based on Cloud Platform

Cloud platform learning becomes teacher leadership structure in the new era, and big data has become an important factor of production in all fields of society. As shown in Figure 1, in the composition of teaching structure, big data has become the fifth element in addition to teachers, students, media and content. As a new element, big data is deeply embedded in a unique form, which constitutes not only teachers' power element, but also teachers' non power element. It reshapes teachers' leadership in the new era by means of data literacy. As an important component of teachers' leadership structure in the new era, teachers' data literacy level not only directly affects the efficiency of cloud platform learning, but also directly affects the efficiency of cloud platform learning. The pace of digital teaching and educational information development. Therefore, strengthening the training of teachers' data literacy is the inevitable requirement of optimizing the structure of teachers' leadership.

Figure 1. Cloud platform learning becomes teacher leadership structure in the new era

Cloud platform learning has become a new element of teacher leadership structure in the new era, and big data has become an important factor of production in all fields of society. As shown in Figure 1, in the composition of teaching structure, big data has become the fifth element in addition to teachers, students, media and content. As a new element, big data is deeply embedded in a unique form, which constitutes not only teachers' power element, but also teachers' non power element. It reshapes teachers' leadership in the new era by means of data literacy. As an important component of teachers' leadership structure in the new era, teachers' data literacy level not only directly affects the efficiency of cloud platform learning, but also directly affects the efficiency of cloud platform learning. The pace of digital teaching and educational information development. Therefore, strengthening the training of teachers' data literacy is the inevitable requirement of optimizing the structure of teachers' leadership.

Figure 2. Use the results of data analysis to make decisions
As shown in Figure 2, 75% of the respondents believe that their decisions in the department actually rely on data analysis. 40% of the people think that using the results of data analysis to make decisions improves the importance of their work and their position in the enterprise. Decision making based on data has become the new normal, and the efficiency of primary school teachers' ability improvement has increased by more than 45%. Similarly, education big data also has a profound impact on teaching decision-making. Cloud platform is the fundamental direction and key focus of teacher leadership in the new era. As a kind of dynamic leadership, teacher leadership has changed due to cloud platform learning. The impact of cloud platform learning on teachers' leadership is omni-directional. Under cloud platform learning, teachers' post requirements are higher, cooperation among teachers will be enhanced, teaching improvement will be strong, and teaching improvement and change behavior will be more active.

Table 1. Teachers' professional development and personal diagnosis are more comprehensive

| Item             | Education Group | Research Mode | Resource Sharing | Young Teacher | Way of Working | Faculty Management |
|------------------|-----------------|---------------|------------------|---------------|----------------|--------------------|
| Resources        | 3.88            | 2.97          | 4.52             | 4.27          | 4.64           | 5.82               |
| teacher          | 4.08            | 5.96          | 4.2              | 3.84          | 1.24           | 1.58               |
| student          | 4.16            | 3.04          | 1.79             | 2.46          | 4.67           | 3.18               |
| community        | 5.72            | 5.87          | 2.57             | 4.44          | 4.93           | 6.53               |

As shown in Table 1, under the cloud platform learning, teachers' personal diagnosis of professional development is more comprehensive, they can know their true self, find out the short board of professional development, and clarify the new requirements of professional development. Students' selection, acceptance and reaction force will vary from person to person. Only by constantly learning and accelerating the updating of knowledge, ability and strategy can teachers maintain efficient teacher leadership. Cloud platform learning is not only an important symbol of digital competency, but also a new requirement of teacher leadership development in the new era.

Figure 3. Compared with the overall requirements of cloud platform learning

As shown in Figure 3, compared with the overall requirements of cloud platform learning, the digital competency of primary and secondary school teachers is generally insufficient. Therefore, improving teachers' digital competency is not only the need of cloud platform learning to empower teachers' leadership, but also the new requirement of teachers' professional development with teachers'
leadership as the core. Cloud platform learning has become a new key to the effectiveness of teachers' leadership in the new era. Teachers' leadership, as a necessary ability of teachers directly engaged in front-line education and teaching work, has become an important part of teachers' leadership. Cloud platform learning creates a stronger professional working atmosphere for schools, the state of discipline isolation is broken, and the interaction between teachers and students is frequent, which is not only conducive to improving teachers' professional level, but also conducive to improving teachers' leadership efficiency.

5. Conclusions
Based on cloud platform learning, teachers can see more carefully and diagnose students' shortcomings and pain points in more detail. Teachers based on cloud platform learning can see further, help students predict the development and effectiveness of learning, and timely give students personalized help and guidance, teachers based on cloud platform learning can see more accurately, cloud platform learning makes learning situation analysis more real and comprehensive, and teachers' teaching design on this basis is more optimized and more scientific. We should encourage universities and primary and secondary schools to sign construction agreements, establish school local construction organization and management institutions, clarify the professional responsibilities and task division of each subject, and ensure full communication and exchange, so as to promote the long-term and normative education practice. Secondly, it is necessary to scientifically design the implementation plan of educational practice, and comprehensively consider the matching degree of base, nature, category, goal and primary school teachers' professional knowledge and ability.

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