

A REVIEW OF THE TEACHERS' INFORMATIZATION TEACHING ABILITY IN CHINA

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ABSTRACT

With the deepening of China's education and teaching informatization, informatization teaching ability has gradually become a necessary teaching skill for modern teachers in China. In this paper, through the survey and analysis of research papers related to teachers' informatization teaching ability in China in the past ten years, and through the in-depth study of relevant papers from two different aspects, namely, the distribution of relevant literature sources and the content analysis, we summarize the remarkable achievements and the current deficiencies of research on China's informatization teaching ability, with a view to providing important references for the smooth development of China's research on informatization teaching ability in the future. In order to provide important references for the smooth development of future research on teachers' Informatization Teaching Ability in China.

Keywords: Educational Management, Teaching ability, Informatization Teaching Ability, Research review

INTRODUCTION

The development of the era of information technology in education has prompted changes in the traditional education model, and has put forward newer and higher requirements for teacher quality. Information technology has a revolutionary impact on the development of education and must be given high priority. (2012). At the beginning of the second decade of the 21st century, China has successively introduced policies such as the Outline of the National Medium- and Long-Term Educational Development Plan, the Ten-Year Development Plan for Educational Informatization (2011-2020), and the Modernization of China's Education 2035. China proposes to vigorously promote the in-depth integration of information technology and education and teaching, and adopt a variety of methods and means to help teachers effectively apply information technology, update teaching concepts, improve teaching methods, and improve teaching quality (2012). In the process of education development, education informatization should be fully implemented into all aspects of education and teaching, reflecting the guiding role of

education informatization in promoting education development. (2012). Informatization application is the direction of education development in the new era. The informatization of education is an important part of the informatization of society, and the development of the informatization of teacher education is an important key link in the development of the informatization of education, as well as an important force to promote the informatization of education. In the informatization society, the ideological concept of education, teaching content, teaching methods and other changes have occurred, and the informatization society has challenged the knowledge system and ability quality of teachers. At present, teachers' informatization teaching ability has become an important factor affecting the development of education and has triggered widespread concern among educators around the world. The research on teachers' informatization teaching ability has been paid more attention by more scholars, and the related research has also achieved certain results. By systematically combing the relevant research on teachers' informatization teaching ability in China in recent years, the author aims to find the shortcomings of the current research related to teachers' informatization teaching ability and provide some references for researchers.

LITERATURE ANALYSIS

This study focuses on China's research results from 2014 to 2024, mainly using academic papers and journals published by China Knowledge Network.

Quantity of literature

The author searched the advanced search page of China Knowledge Network (CNKI) with the title of "teachers' informatization teaching ability", in which a total of 1,833 journal records were retrieved from 2014 to 2024. Domestic research on teachers' informatization teaching ability began in 2002, and since 2010, with the support of national policies, relevant research has gradually increased, and in the past ten years, it has been roughly divided into three phases.

From 2014 to 2017, a total of 452 literature counts were published, accounting for 24.6% of all literature, and since 2014, China's education informatization has been rapidly developed and is in a period of development.

From 2018 to 2020, a total of 845 documents were published, accounting for 46.1% of all documents, indicating that the research on teachers' informatization teaching ability has begun to attract the attention of academics, and has become an important key for Chinese scholars to explore the development of education informatization. The number of researchers, the number of documents, and the content of research are gradually increasing, among which 322 documents were published in 2020, which is the year marking the largest number of research results on the theme of "teachers' informatization teaching ability". This indicates that the research on teachers' informatization teaching ability is in a period of rapid development and will reach its peak in 2020.

From 2021 to February 2024, a total of 536 papers were published, accounting for 63.4% of all the literature, from 2021 onwards the heat of the research is gradually decreasing, in terms of quantity 235 papers in 2021, 175 papers in 2022, 123 papers in 2023, and 2024 as of February is 3. This research topic is still a hotspot of academic discussion.

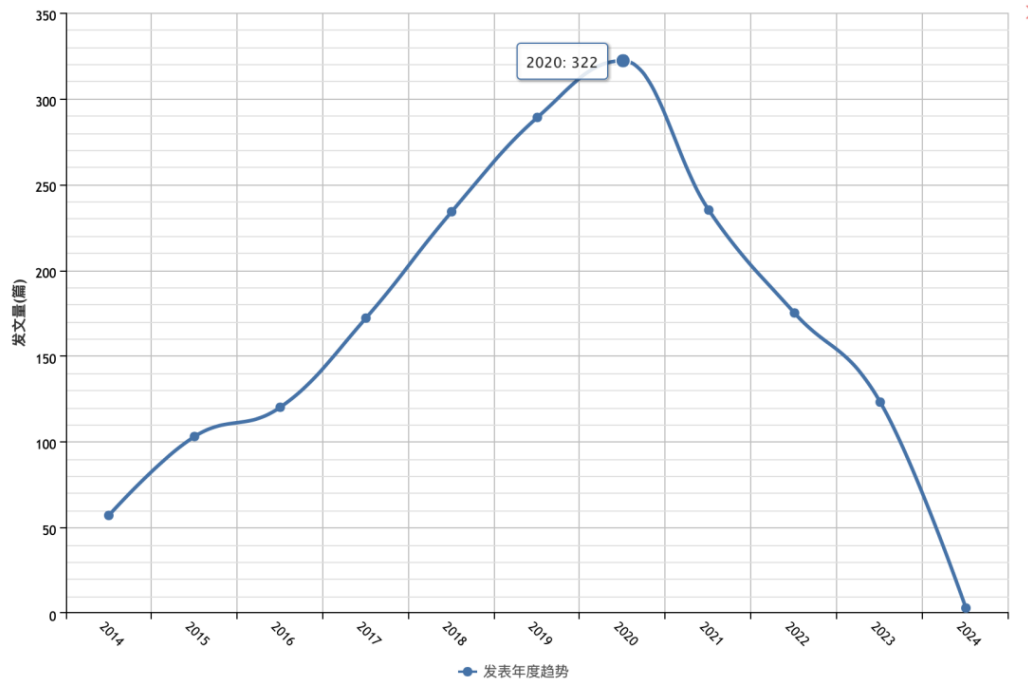


Table 1: Literature publication statistics from 2014 to 2024

Published journal information

Table 2 lists the top 10 journals with the highest number of papers published, totaling 269 articles, accounting for 14.6% of the total literature, which are mainly published in education, especially vocational education, education technology-related journals, including 51 articles in Modern Vocational Education, 32 articles in Chinese Journal of ICT in Education, 27 articles in China Educational Technology& Equipment, 25 articles in Education Modernization, 25 articles in Western China Quality Education,, these journals are all influential journals in China's education category, which have played a great role in promoting the research related to teachers' informatization teaching ability.

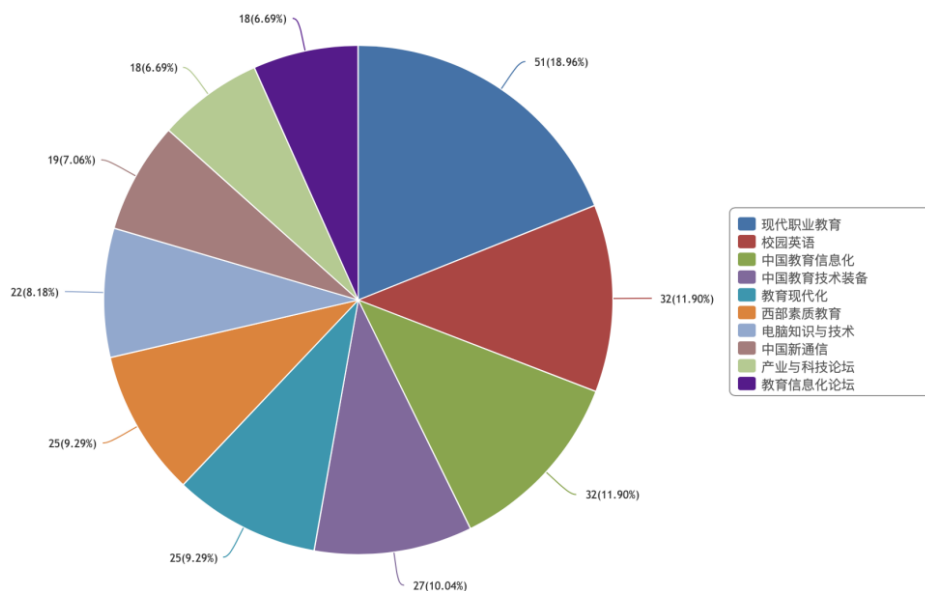


Table 2: Top 10 publications with related articles

LITERATURE REVIEW

The quantitative statistics of the literature related to teachers' informatization teaching ability are conducive to grasping the overall situation of the research related to teachers' informatization teaching ability from a macroscopic point of view, which will help to further reveal the current situation and characteristics of the research on teachers' informatization teaching ability. Based on this, the author carries out a more in-depth analysis of the relevant research content from two aspects: theoretical studies and status studies.

Theoretical Studies on Informatization Teaching Ability

There are about 344 theoretical studies on teachers' informatization teaching ability. They mainly include research on the connotation of teachers' informatization competence, research on the structure of competence, research on the stages of competence development, and related research reviews. Different scholars have different views on the connotation of informatized teaching competence.

At present, there is no unified understanding of the concept of "informatization teaching ability" in the research field, and different scholars define it from different perspectives. Scholars Liu Zhe summarized the definition of "informatization teaching competence" as "purpose theory", "technology theory", "combination theory", and deeply defined these three categories, arguing that informatization teaching competence, with informatization as the main form of manifestation, is the way of teaching with deep integration of technology on the basis of traditional teaching, and emphasized that the teachers' proficiency in the application of technological means is the core element of the emergence of informatization teaching competence(2014).Zhang Shu and Leng Shiliang analyzed the connotation of informatization teaching from four perspectives: awareness and attitude, knowledge and skills, application and practice, and ethics and culture, and believed that teachers should firstly hold a correct understanding of informatization teaching, then master the knowledge and skills, and then carry out the practice and application, and finally, they should continue to enhance their own awareness of informatization ethics, establish a correct ethical relationship between teachers and students, and form a positive atmosphere of educational informatization (2018).

Research on the connotation of teachers' informatization teaching ability: scholars have described the connotation of teachers' informatization teaching ability from the perspectives of teaching process, promoting students' development, and psychology. Teachers' informatization teaching ability is a special ability formed in the process of informatization teaching practice, which is a kind of ability pointing to practicability. (2018).

Research on the structure of teachers' informatization teaching ability: domestic scholars have not reached a unified understanding of the definition of the structure of informatization teaching ability, some scholars define it from the perspective of the teaching process, and some scholars define it from the perspective of promoting students' development. Teachers' informatization teaching ability is a comprehensive practical ability composed of several sub-competencies, including four sub-competencies: informatization teaching design ability, teaching resources integration ability, teaching implementation ability and teaching evaluation ability (2015).

Research Review on Teachers' Informatization Teaching Ability: At present, as the research on teachers' informatization teaching ability is not very mature, the research review is also relatively small, about 20 articles.

Studies on the development and status of Informatization Teaching Ability

There are 336 related papers on the study of the status of teachers' informatization teaching ability.

Most of the studies on the development stages of teachers' informatization teaching ability start from the theory of the stages of teachers' professional development and combine the characteristics of the development of teachers' informatization teaching ability with the stages of teachers' informatization teaching ability development from different perspectives. The development of teachers' informatization teaching ability is divided into four stages: confusion period, adaptation period, application period and creation period. It mainly involves three aspects: firstly, the investigation of the current situation, secondly, the analysis of influencing factors, and thirdly, the case study.

There are relatively more research studies on the status quo of teachers' informatization teaching ability, with higher vocational education and secondary vocational education as the main objects of research, and fewer universities and secondary schools. Most of these studies conduct questionnaire surveys on the example of a certain school or a few schools to analyze the deficiencies in teachers' informatization teaching ability and put forward targeted strategies for the enhancement of teachers' informatization teaching ability. Analysis of influencing factors of teachers' informatization teaching ability: the research is based on empirical research, and through several case study research, the influencing factor model for the development of teachers' informatization teaching ability is constructed by using quantitative analysis, such as Yang Ning's Exploration of Influencing Factor Model for the Development of Teacher Trainee's Informatization Teaching Ability (2014). Sui Xinghua and Zhao Guodong used structural equation modeling with some colleges and universities in Hunan Province as the research object to verify that college teachers' sustained informatization teaching intention, teachers' perception of usefulness and ease of use of technology, teachers' self-efficacy of technology, and computer experience have important impacts on the informatization teaching ability of college teachers, and accordingly put forward corresponding countermeasures. (2020).

The case studies on teachers' informatization teaching ability are mainly master's theses, and the research subjects include primary and secondary school teachers and teacher trainees. This kind of research analyzes the deficiencies and problems in the development process of the informatization teaching ability of the research subjects by following them for a long time, and provides them with strategies to improve it. A total of 357 teachers from 15 elementary school in H County, Heilongjiang Province were surveyed in five dimensions: attitude and awareness of informatization teaching, basic knowledge of informatization teaching, ability to collect and integrate informatization resources, ability to design and implement informatization teaching, and ability to evaluate and reflect on informatization teaching. It was supplemented by interview surveys, from which the common problems in informatization teaching of rural elementary school teachers were summarized (2022).

CONCLUSION AND FUTURE WORK

Through the collation and analysis of the content related to informatization teaching ability in the past ten years, it is not difficult to find that in recent years, China's research on information technology teaching ability has gradually increased, and the content is gradually in-depth, whether it is a theoretical study or a practical study has completed the transition from shallow to in-depth, and the cultivation mode, the construction of the training mode is increasingly highlighting the landing of the policy. However, along with the gradual increase of research, the existing problems have gradually appeared, specifically reflected in the following four aspects.

There is no consistent definition of the connotation of informational teaching competence in the country. Connotation definition is the basis for understanding a specialized term. There is no authoritative

policy document on the connotation of informatization teaching ability and no unified definition by experts in the field, which makes its conceptual meaning diversified and blossomed in the research field. Domestic scholars carry out research on the connotation of informatization teaching ability from different perspectives, which has led to a rich variety of research on the connotation of informatization teaching ability and at the same time prevented the further development of informatization teaching ability, and in general, it lacks a certain degree of uniformity and authority.

Schools resource construction becomes an important factor affecting teachers' informatization teaching ability through the analysis of many papers, it is found that most of the teachers have a strong awareness of informatization teaching and basic information literacy, but the hardware facilities in many schools are not enough to support teachers to carry out informatization teaching, and the construction of school resources and the environment needs to be strengthened. Schools and teaching institutions should pay great attention to this and make efforts to implement the relevant policies.

Teachers' ability to apply information technology needs to be improved. Through the study, it is found that most teachers have a strong awareness of information technology, but the application of some emerging teaching software and the ability to use various teaching tools still need to be improved, especially for older teachers. Schools should actively organize appropriate teacher training or sponsor teachers to go to different places for exchange and learning. Teachers can also continuously strengthen their skills through some online training or courses, and strive to improve their informatization teaching ability in line with the education and teaching reform and the development of informatization.

It is difficult to popularize the results of research. Educational research results are a kind of potential "productive forces", in order to make educational research results from potential "productive forces" into actual "productive forces", it is necessary to promote the results in teaching practice. To transform the results of educational research from potential "productivity" to actual "productivity", it is necessary to promote the results in teaching practice. At present, the research related to teachers' informatization teaching ability has not been promoted in teaching practice, resulting in the difficulty of promoting research results mainly due to two reasons: First, it is their own reasons, the research related to teachers' informatization teaching ability is only aimed at the existence of a certain teacher's problems, and put forward corresponding measures to solve the problems, and the research does not have a general applicability; second, the teaching management department does not know how to promote the research, and lacks of results in applying and promoting the platform. Secondly, the teaching management department does not know how to promote and lacks a platform for the application and promotion of results.

The improvement of teachers' informatization teaching ability is a long-term process, and there is still much room for research. By improving teachers' informatization teaching ability, realizing the informatization and intelligence of college education is the direction of future efforts in education development, which is where the author needs to continue to work hard in the future.

ACKNOWLEDGEMENTS

The successful completion of this paper is inseparable from the careful guidance of the tutor, from the selection of the topic to the writing, the tutor gave me a great deal of patience and concern, in the tutor's rigorous and responsible teaching, not only enriched my knowledge, while in a foreign country I

have a lot of life help. Doctoral study is an opportunity to exercise, in Suan Sunandha Rajabhat University, let me learn to struggle, learn to grow. I would like to thank every teacher I met for their education and teaching, which made me gain a lot; I also thank my family for their support and understanding, as well as my classmates for their help.

At the moment of finishing my thesis, I would like to express my gratitude to my teachers, family and classmates.

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