

Visual Analysis of Present Situation of Teacher Development Research

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Abstract. This paper combs the present situation of research on teacher development and training through visual analysis. This paper analyzes 538 high-level documents of related research collected in China HowNet since 2014, and systematically analyzes the present situation of teacher development research in China from the visual perspective. The analysis results show that the research topics of teacher development and training mainly focus on teacher development, teacher professional development, teacher training, teacher evaluation and teaching quality. The research also found that the research results of teachers' development and training showed a downward trend in recent ten years, especially the research on teachers' development in colleges and universities was less.

Keywords: teacher development; teacher training; visual analysis

1. Introduction

Teachers' development and training is an important way for teachers' professional growth. The research on teachers' development and training is not only related to teachers' personal professional growth, but also related to the improvement of education system and quality. In recent years, domestic scholars have discussed the research on teacher development and training from different angles^[1-4]. In order to get a more systematic and comprehensive understanding of the research status of teacher development and training, this paper mainly explores the visual analysis of the research on teacher development and training, aiming at promoting the in-depth development of the research on teacher development and training through in-depth study and discussion on the research hot-spots, key issues, trends and development directions.

At present, the development and cultivation of teachers has become one of the research fields that have attracted much attention in the field of education. Teachers are the mainstay of education and play an extremely important role in the growth path of students. However, with the development of the times and social progress, the requirements for teachers are constantly improving. Traditional teaching methods can no longer meet the needs of modern education, so it has become an inevitable trend for the long-term development of education to train teachers with new thinking, new abilities and new methods^[5-6]. At the same time, with the development and application of information technology, great changes have taken place in education and teaching activities, and educators are actively seeking ways to improve their educational skills and knowledge, further enhancing the importance of the research on teacher development and training. The purpose of this paper is to comprehensively grasp the current situation in the research field of teacher development and training through data analysis and visualization technology, and provide reference for researchers.

The research results analyzed in this paper cover the literature in recent 10 years, mainly from the aspects of teacher development and training^[7-9], teacher professional development^[10], teacher professional ability training^[11], teacher development path^[12-13], etc. Through visual analysis, the present situation and trend of teacher development and training research are revealed. This paper will use visualization technology and statistical methods to collect, sort out and analyze the relevant literature and network data of teacher development and training research, trying to reveal the present situation and development trend of teacher development and training from the data surface,

and provide more scientific theoretical and practical guidance for the future research and practice of teacher development and training.

This paper will analyze from the following aspects: First, analyze the existing research literature and explore the core concepts, research hot-spots and trends of teacher development and training. Secondly, the existing research on teacher development and training is displayed visually, and the development and future trend of the research field are presented intuitively through charts and data. Finally, according to the research results, suggestions and countermeasures are put forward in order to provide more meaningful and practical discussions for the development and training of teachers. In a word, the research on teacher development and training is an important part of current education and an important way to promote teachers' professional development and improve the quality of education and teaching. Through in-depth analysis and visual display, this paper aims to fully grasp the current situation in the research field of teacher development and training, explore the direction and focus of future research, and provide reliable reference for promoting the healthy development of teaching. Therefore, this paper systematically analyzes 538 documents related to teacher development and research in China HowNet in recent ten years, and sorts out the research status of teacher development and training. By analyzing the annual publishing trend, main themes, subject distribution, periodical distribution and fund distribution, this paper sorts out the present situation of teacher development research and provides reference for teacher development and training research.

2. Statistical Analysis of Teacher Development and Training Research

2.1 Posting trend

Visualize AND analyze the annual publishing trend of related papers retrieved by China Hownet. The retrieval conditions are: ((keywords =' teacher development (accuracy)') and (publication time between ('2014',' 2024'))); Search scope: academic journals. Figure 1 shows that from 2014 to 2017, the number of related research papers on teacher development and training increased year by year; However, in recent five years, the number of published articles has been decreasing, indicating that the research on teacher development has been relatively reduced in recent years, and the degree of attention has dropped significantly.

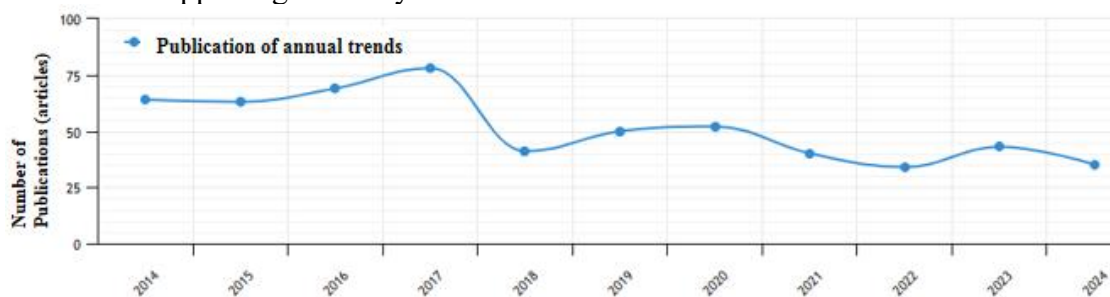


Figure 1. Annual trend chart of the amount of documents issued

2.2 Main topics

Figure 2 shows the distribution of research topics on teacher development from 2014 to 2024, which shows that the number of papers on teacher development topics accounts for 60.06%. Figure 3 shows the annual distribution trend of research topics. As can be seen from the figure, the theme: Although the annual trend of "Teacher Development" fluctuates, the overall number of papers is on the decline. The annual trend of "College Teachers' Development" and "Development Path" is basically the same, and the number of articles is small. It shows that in recent years, the attention paid to teacher development research has dropped significantly.

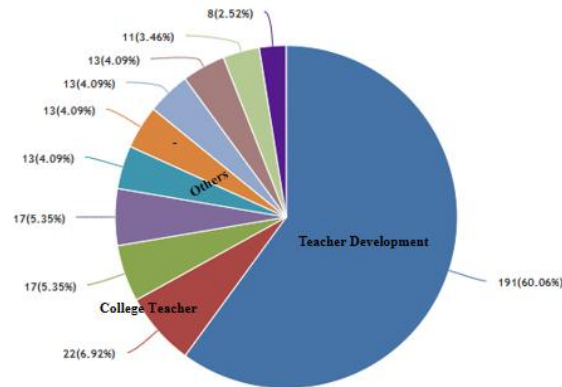


Figure 2. Pie chart of theme distribution

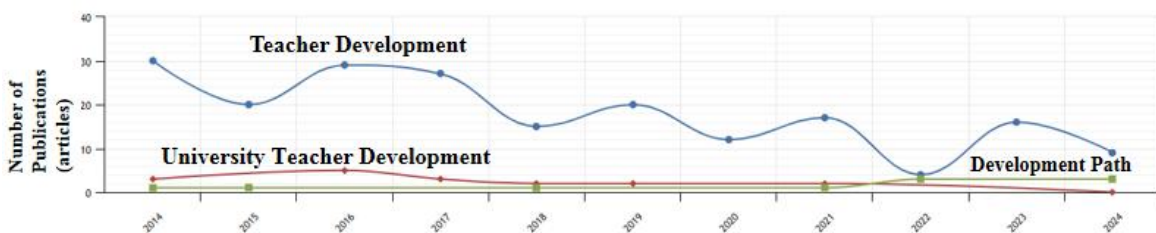


Figure 3. Trend chart of annual publication of research topics

2.3 Distribution of disciplines

Figure 4 shows the pie chart of discipline distribution from 2014 to 2024. It can be seen from the figure that "higher education" has the largest number of articles, accounting for 34.19%. According to the annual trend chart of discipline, the number of articles published in 2014-2017 basically showed an upward trend, while the trend of articles published in 2019 did not change obviously, but the number of articles published in 2014-2017 decreased, as shown in Figure 5.

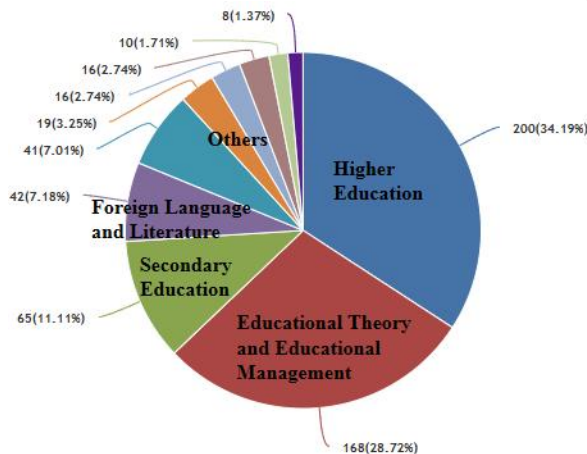


Figure 4. Discipline distribution

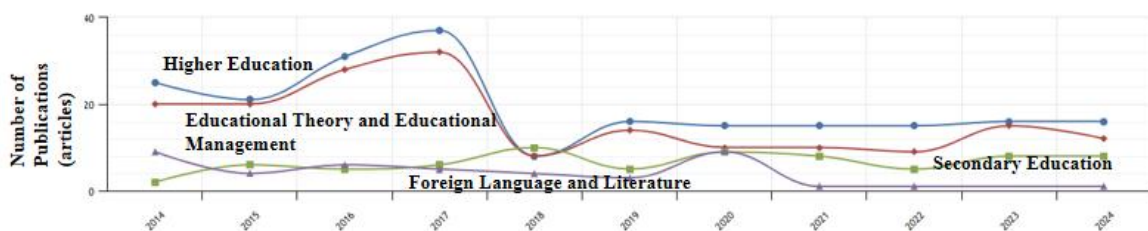


Figure 5. Trend chart of discipline annual publication

2.4 Project establishment

As can be seen from Figure 6, the research fund projects on teacher development are mainly the national educational science planning project, the National Social Science Fund and the humanities and social science research projects of the Ministry of Education, accounting for about 76.82% of the total number of papers published, but the support of the fund projects is unstable, as shown in Figure 7.

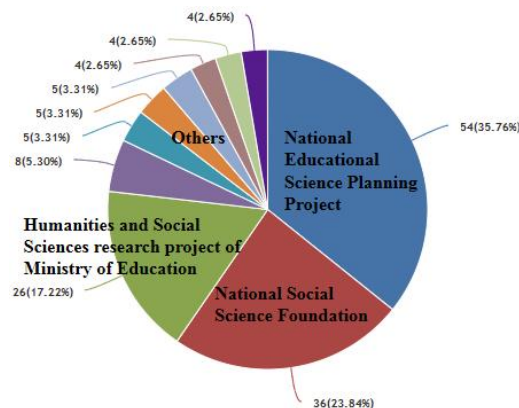


Figure 6. Pie chart of project establishment distribution

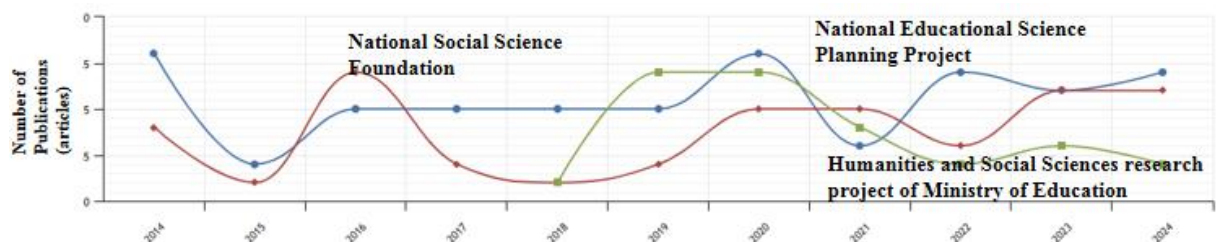


Figure 7. Project support annual posting trend chart

2.5 Other circumstances

Fig. 8 is a pie chart showing the distribution of the source categories of posts from 2014 to 2024. It can be seen that high-level periodicals always account for a relatively high proportion. According to Figure 9, Beijing Normal University, East China Normal University and Northeast Normal University have published more papers, accounting for 20.44%, 16.06% and 13.14% respectively. Fig. 10 is a pie chart for studying hierarchical distribution. The figure shows that the research on teacher development mainly focuses on applied research and development research, accounting for 87.81%.

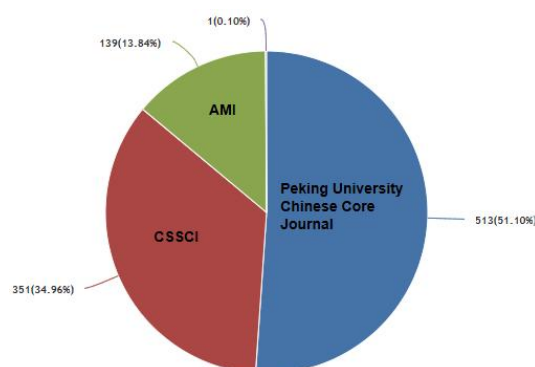


Figure 8. Source category distribution

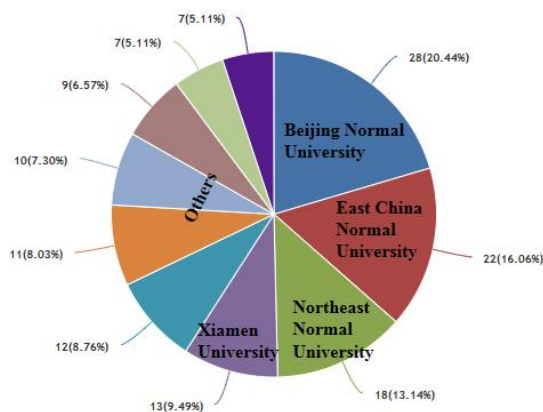


Figure 9. Distribution of issuing agencies

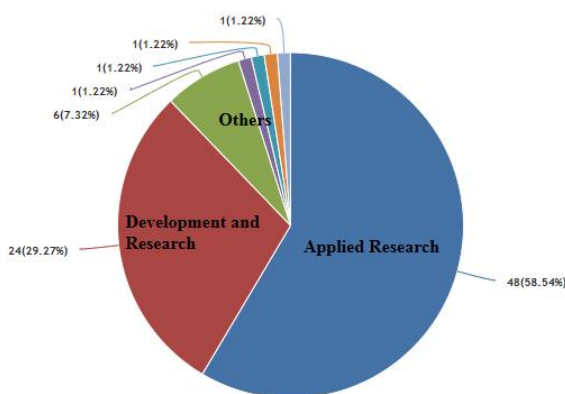


Figure 10. Hierarchical distribution

3. Conclusion

In this paper, the visual analysis method is used to systematically analyze the research on teacher development and training in China. This paper makes an analysis of 538 papers in the field of teacher development research from 2014 to 2024 in terms of the annual publishing trend, main themes, subject distribution, research level and fund project support. The main conclusions of this paper are as follows:

First, in recent years, the research on teacher development and training, especially on the development of teachers in colleges and universities, has decreased significantly, and the degree of attention has declined. Teachers' development and training is an important way for teachers' professional growth. The research on teachers' development and training is not only related to teachers' personal professional growth, but also to the improvement of education system and quality. Therefore, it is necessary to carry out the research on teachers' development and training continuously.

Secondly, there are few studies on teacher professional development, teacher evaluation, teacher education reform, teacher development path and teacher teaching development center, and in recent years, the support of fund projects is unstable. Therefore, in order to ensure the research progress, it is necessary to continue to increase the support of fund projects. At the same time, take advantage of the leading role of national and provincial teacher teaching development teacher training centers to strengthen teacher training and training.

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