Review on the Research of Phone Learning in China through CNKI Quantitative Visual Analysis System

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Abstract. This study mainly adopts the literature measurement method to analyze and sort out phone-related papers from the dimensions: the number of published papers, published journals, authors, and keywords, which is a kind of analysis method commonly used. With the help of CNKI Quantitative Visual Analysis System, the study describes, analyzes, evaluates the development status of phone learning in China from 2004 to 2019 and predicts the direction of future research.

1. Introduction

In recent years, with the rapid development of network communication technology and the popularity of mobile devices, phone learning has attracted great attention from researchers. There are three different cognitive approaches to phone learning: first, phone learning is a new form of distance learning [1]. The second is to see phone learning as an extension of digital learning [2]. Third, phone learning is regarded as a new learning technology and learning method based on mobility and situational characteristics [3]. The studies argue that phone learners, with terminal equipment (smart phones), under the support of network, according to the own needs, can get information, resources, or services at any time and at any place, which is a new form of distance learning, providing the learners' lifelong learning [4].

Along with the advancing of education informalization and the change of the learners' learning needs, adult education, corporate training, migrant workers training, and school education begin to pay close attention to phone learning. Schools and mobile device manufacturers began to explore the practice of phone learning [5] as it has gradually become hot academic research. How to understand phone learning? What are the key elements of phone learning? What are its hot spots and trends? In order to study these problems in-depth, with the help of CNKI Quantitative Visual Analysis System, this study conducted quantitative statistics and qualitative analysis on the papers published in domestic academic journals, effectively figured out the research status of phone learning, and proposed the development of phone learning in China in the future.

2. Data, Research Methods and Research Tools

2.1. Sources of Data

Published in various journals in China, a lot of papers, which, in recent years, have been based on phone learning. In order to make the research data complete and accurate with high credibility, this study took the largest academic journal database, CNKI, as the source.

The research deals with the total number of papers: 91; Retrieval conditions: (topic = English learning) and (keywords = phone) (fuzzy matching), searching for academic journals.

2.2. Research Methods and Tools

This study mainly adopts the literature measurement method to analyze and sort out phone-related papers from the dimensions through CNKI Quantitative Visual Analysis System: the number of published papers, published journals, authors, and research hot spots (keywords), which is a kind of analysis method commonly used. With the help of CNKI Quantitative Visual Analysis, the study uses statistics and mathematics to describe, analyze, evaluate and predict the development status of phone learning.
3. Research Process and Data Analysis

3.1. Phone Learning Research from the Perspective of the Number of Papers

To some extent, the number of journal papers in a certain field indicates the theoretical level and development speed of academic research in this field. Through CNKI Quantitative Visual Analysis System, it was found that from 2004 to 2019, 91 articles in journals about phone learning were published in China.

They include 4 papers in core journals, accounting for 4.40% of the total while 2 papers in CSSCI journals, accounting for 2.20% of the total. The number of journal articles increased from 2004 to 2019, basically showing a linear upward trend. Compared with journal articles, core journal and CSSCI articles are a few. These data show that phone learning are getting more and more researchers' attention, but there are fewer high-quality papers.

Bibliometrics puts forward: There are four stages in the growth of scientific and technological literature. The first stage is: the discipline is just emerging, the number of papers is small, and the growth is unstable. The second stage: the discipline entered a period of great development, with the rapid development of professional theories and the sharp increase in the number of papers, which strictly followed the exponential growth; The third stage: The theory of the discipline becoming more and more mature, the increase of the number of papers slows down and evolves into a linear increase, only maintaining a fixed increase of literature; The fourth stage: with the completion of the theory, the discipline literature is gradually reduced, and the curve is gradually parallel to the abscissa, or various irregular oscillations occur [6]. It has been verified that the research on phone learning in China started in 2004, which can be seen that the number of papers increased slowly from 2004 to 2015, which belongs to the first stage. After 2015, the number of papers basically showed an exponential growth trend, indicating that the research on phone learning in China has entered the vigorous development period, which belongs to the second stage.

3.2. Call for High-quality Papers on Phone Learning from the Perspective of the Number of Journals

All the papers in this study are from journals. Statistical analysis of the corresponding journal sources is helpful to further understand the research status of phone learning in China.

The journals with the highest number of publication are the following: Overseas English: 5 (5.5% of the total), Chinese education: 2 (2.2% of the total), English square: 2 (2.2% of the total), Information journal 2 (2.2% of the total), Computer nerd 2 (2.2% of the total), others 68 (74.7% of the total). All of them are not core journals in which papers contained high quality providing a good communication platform in the process of the development of phone learning.

3.3. Phone Learning Research from the Perspective of the Cooperative Authors

There are very few researchers working together, only 8 groups of them, without influential groups formed.

3.4. Phone Learning Research from the Perspective of High-frequency Keywords

The study of high-frequency keywords in a certain field is helpful to determine the development trend, hot spot and frontier of the field. In this study, many key words related to phone-learning were obtained through CNKI Quantitative Visual Analysis System.

Many high-frequency words constitute the keyword relationship with "mobile learning"( Frequency: 56 ) as the core, the largest, followed by "phone" ( Frequency: 38), "English" ( Frequency: 13, "college English" ( Frequency: 28), "college students" ( Frequency: 11), "WeChat" ( Frequency: 8), "English teaching" ( Frequency: 7), "incentive "mechanism" ( Frequency: 6), "college English teaching" ( Frequency: 6), "APP" ( Frequency: 6), "English listening"( Frequency: 5), "smart phone" ( Frequency: 5), "college students" ( Frequency: 4), "poor students" ( Frequency: 4), "higher vocational English" ( Frequency: 3), which respectively has become the hot spot of research on phone learning.

4. Suggestions

The analysis of the above dimensions directly reflects the research status of phone learning in the
past through CNKI Quantitative Visual Analysis System: from the perspective of the number of papers, the number of papers published, on an exponential rise. And in the next few years, the number of papers on phone learning will continue to increase; From the perspective of published journals, 91 papers were published, which were mainly educational technology journals, with only two CSSCI journals. From the point of view of the authors, the researchers are more scattered. A number of core papers with high reference value have not been formed in aspects of the theory, platform (system) design and all-round teaching strategies of phone learning. From the perspective of research topics, scholars pay the most attention to the teaching and learning design of phone learning. However, they are currently in the development stage of "technology" driven "teaching". In the future, they will transit to "technology" driven by "teaching". From the perspective of research hot spots, researchers should pay more attention to the development of platforms and resources.

4.1. Calling for High-quality Papers on Phone Learning

In view of this, the following suggestions are proposed for scholars' reference: Core journals should pay more attention to phone learning. In this research, 91 papers were published in the journals, among which 4 were core journals, including two CSSCI journals, with a total ratio of 4.40%. These data indicate that China's core journals (including CSSCI journals) are relatively few, and their attention to phone learning is far from enough. Therefore, the volume of articles is low. It is suggested that the core journals of education and education technology should promote relevant research and pay more attention to the research of phones by adding research columns about phone learning, so as to effectively promote the reform of education and teaching in China and promote the comprehensive development of education informalization.

4.2. Strengthening the School-school and School-enterprise Cooperation

Strengthen the school-school and school-enterprise cooperation to form a core research group. Although the source units of authors are widely distributed, they are mainly teachers from universities or vocational schools, and there are more amateur writers and fewer continuous researchers. With the exception of a few schools, there are few cross-school or institutional exchanges and little cooperative research.

In view of these characteristics, the following suggestions are proposed: first, strengthen "school-school" cooperation. Academic researchers in colleges and universities should have long-term cooperation and exchanges with teachers in ordinary colleges and universities to form a research team. Theoretical researchers in colleges and universities should guide teachers to carry out teaching practice from the aspects of phone teaching philosophy, supporting the environment and teaching design, so that teachers can effectively use phone teaching in traditional teaching to improve students' learning efficiency and quality.

Second, strengthen school-enterprise cooperation. Phone teaching is based on the situation of personalization and socialization forms of learning, providing learning opportunities for everyone. In the next few years, according to demand, researchers should expand the phone resources, pay attention to its application model research, providing equal opportunity to the people who want to learn.

4.3. Further Deepening Theoretical Research

As for phone learning, the following problems exist: First, phone application mode makes the learners from passive acceptance of knowledge into active knowledge acquisition, but they were less effective pattern, which shows the lack of a solid theoretical foundation; Second, the phenomenon of low-level repetition exists; Third, compared with foreign countries, the research on the basic theory of phone learning is still quite weak. Therefore, in the next few years, researchers need to further improve and deepen the theoretical research, carry out empirical research on the application mode of phone learning, form a complete and reliable theoretical evaluation system, and promote the effective occurrence of phone learning for learners.

4.4. Focusing on the Research of Key Elements

Based on the analysis of the research topics, it can be seen that in the research on phone learning design, domestic phone research focuses on the design of phone learning strategy on listening, but
there are a few types of research on other English skills, such as speaking, reading, writing, translation and so on. It is suggested that scholars enhance the design and development of phone learning environment based on context awareness and reality technology, so as to provide simple operation and easy learning atmosphere for learners. In addition, the research on resource development technology should be intensified to make resources conform to certain development standards and have the characteristics of sharing.

4.5. Strengthening the Integration of Phones, Resources, and Applications

The application of phone learning has mainly been involved in the two fields, higher education and vocational education. Therefore, in the future, researchers should focus on the deep integration of phones, resources and applications, and develop multiple learning resources for schools at various levels, even aiming at adult education, corporate training, migrant workers training as well. At the meantime, as Internet browsing speed has been improved and more and better mobile operating systems have emerged, application-based research should become more frequent, with online systems being quite complex, including recording learning progress and matching function to meet individual learners' needs.

5. Conclusion

The analysis of the above dimensions directly reflects the research status of phone learning. The suggestions for future research are as follows calling for high-quality papers on phone learning, strengthening the school-school and school-enterprise cooperation, further deepening theoretical research, focusing on the research of key elements and the integration of phones, resources and applications.

References


