Information Literacy Education in the Context of Education Informatization

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Abstract:In the era of educational informatization, the application of information technology in the field of education is becoming more and more extensive. In order to improve people's ability and literacy of autonomous learning, problem-solving and knowledge innovation , this study aims to provide reference for information literacy education and research. It hopes to innovate the way of information literacy education by exploring new ideas, new concepts and new models.

This study used bibliometric method. It uses the Web of Science core data set as the data source, searches the literature related to information literacy in the past 20 years, selects the representative research literature, and analyzes the literature from the perspectives of publication year, leading countries, institutions and authors. It uses CiteSpace as a tool to conduct citation analysis of relevant literature, identify important node literature and research points, and grasp the research overview and development context of information literacy education.

The content of information literacy education research has the diversity of theory and practice, and it is applied to various scenarios such as scientific research, study and life. This study can promote its reform and innovation, and make corresponding contributions to popularizing information literacy education.

Information literacy education can promote the development of quality education. It helps people to rapidly improve their learning ability, scientific research ability, problem-solving ability and innovation ability. This study can provide reference for information literacy educators.

Keywords: Informatization of education, Information literacy education, CiteSpace, Citation analysis

1. INTRODUCTION

With the rapid development of information technology and corresponding equipment, the application of them in the field of education is becoming more and more extensive, and it is gradually inseparable from the assistance of information technology. The education industry has shown the characteristics of education informatization. Information technology has become a tool for education and teaching. The teaching and learning mode has gradually changed from the traditional offline education mode to the new offline and online hybrid mode. Information resources are no longer a single paper material, but extremely rich network information resources. How to quickly search and identify the knowledge content you need from a large number of network information resources depends on your own good information literacy ability.

The essence of information literacy is a basic ability that people need to possess in global informatization. This ability enables people to determine when information is needed, and how to access it, how to evaluate and effectively use it.

Information literacy education is the training of users' ability to search, access, evaluate and use information. Its main goal is to establish the information awareness of the educated, cultivate their ability to obtain and use information, and make them independent self-learners with the ability of lifelong learning, so as to promote the development of the entire quality education.

This paper analyzes and researches information literacy-related research papers in the past 20 years, understands the relevant research overview, and provides ideas and references for the latest research. I hope that this research will help information literacy education innovate educational approaches and improve educational standards.

2. METHODOLOGY

This study used the Web of Science Core Collection as the data source to search for the main relevant literature of information literacy research.

First, select the Web of Science core collection database, select "subject" in the search field, enter "information literacy" in the search term, select "article" and "review" for the document type, select "2003-2022" for the time period, the search date is October 18, 2022, and return 3596 literature records.

By analyzing the collected data, sorting and interpreting from the perspectives of the number of published articles in the year, countries/research institutions, authors, etc., to grasp the overview of information literacy-related research from a macro perspective. Chart the way for the practical development of information literacy education.

At the same time, CiteSpace tools are used to explore and study the information literacy research literature. In research, the common citation and co-word network functions of this tool are mainly used to analyze and interpret the research content from the perspective of citation.

3. RESULTS AND DISCUSSION

3.1 The Number of publications published annually
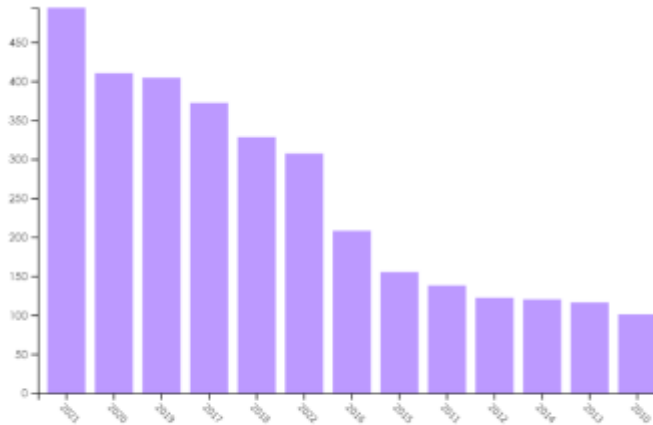

Figure1 Number of publications per year

According to the number of relevant literature published each year from 2003 to 2022 provided by the search results, it can be seen that before 2006, the annual literature volume was small, indicating that the relevant research in this period is still in the exploratory period. Early researchers put forward various research opinions and hypotheses, provide research ideas and ideas, and allow subsequent researchers to further explore, verify and develop. In the 10 years from 2007 to 2016, there was a significant leap in the amount of literature, and relevant research has been improved. Since2017, the amount of literature has grown by leaps and bounds. In2021, it reached about 500 articles, which shows that relevant research has become more extensive and in-depth and gradually matured in recent years.

Information literacy educators should pay more attention to the latest research results, learn from the latest research results, and find advanced theoretical support and practical experience for the development of information literacy education.

3.2 The research leading countries/institutions

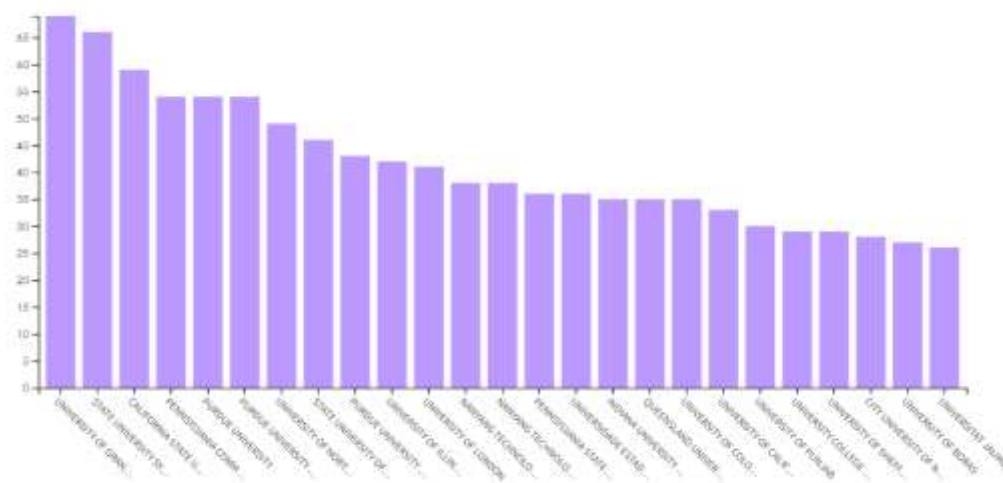Figure2 Research leading countries or regions

Figure3 Key research institutions

The concept of information literacy was proposed by American scholars, and the research on information literacy is also based on the research strength of the United States, and the number of published articles occupies a leading position in the world, ranking first in the list, and it is a well-deserved research leading country. Followed by the United Kingdom, Spain, China, Australia, Canada and other countries.

The institutions with more published literature and strong research strength are University of Granada, Florida State University, California State University System, etc. According to the statistics of the country where the institution is located, the US institution occupies an absolute dominant position.

Information literacy educators should pay more attention to the relevant achievements of leading countries and institutions in this field, understand the research progress and direction of information literacy, learn the most advanced theoretical and practical experience, absorb the latest research information and ideas, and draw on and refer to them, so as to inject the freshest blood into information literacy education.

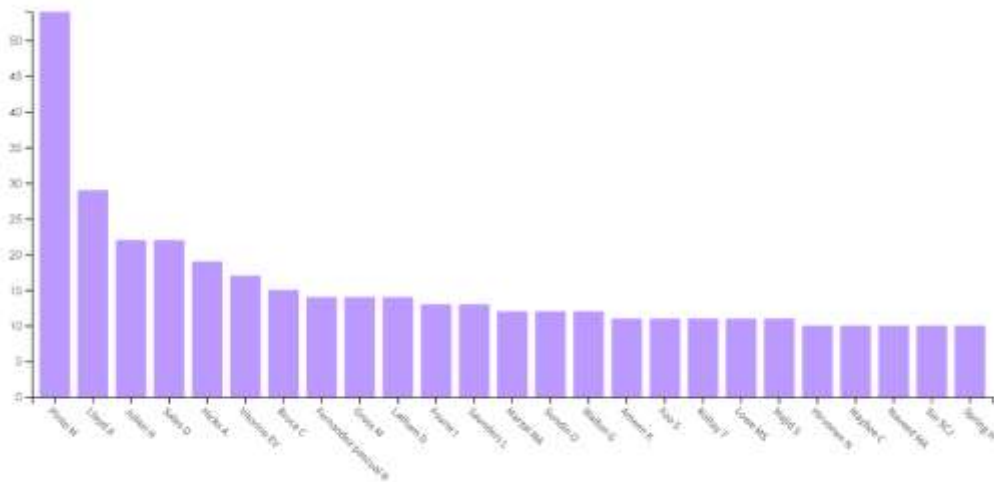## 3.3 The important research scholar

Figure 4 Important research scholar

Understanding scholars and research teams with outstanding research work in a certain field is convenient for quick understanding of new developments in that research field. According to the search results, Mari Pinto from the University of Granada, Spain, ranked 1st in the literature volume and is an important author in the field of information literacy research. His research interests include the conceptual connotation of information literacy, the assessment of information literacy, undergraduate information literacy ability, empirical research on information literacy, information literacy training, and information literacy research in social sciences and health sciences. Among the most prolific scholars in the ranking are Charles J. from Australia Annemaree Lloyd of Stater University, Heidi Julien of the State University of New York, etc.

4. KEYWORD AND CITATION ANALYSIS

4.1 Keyword Analysis

Import the retrieved data into CiteSpace for keyword analysis, and obtain the co-word network diagram as follows.
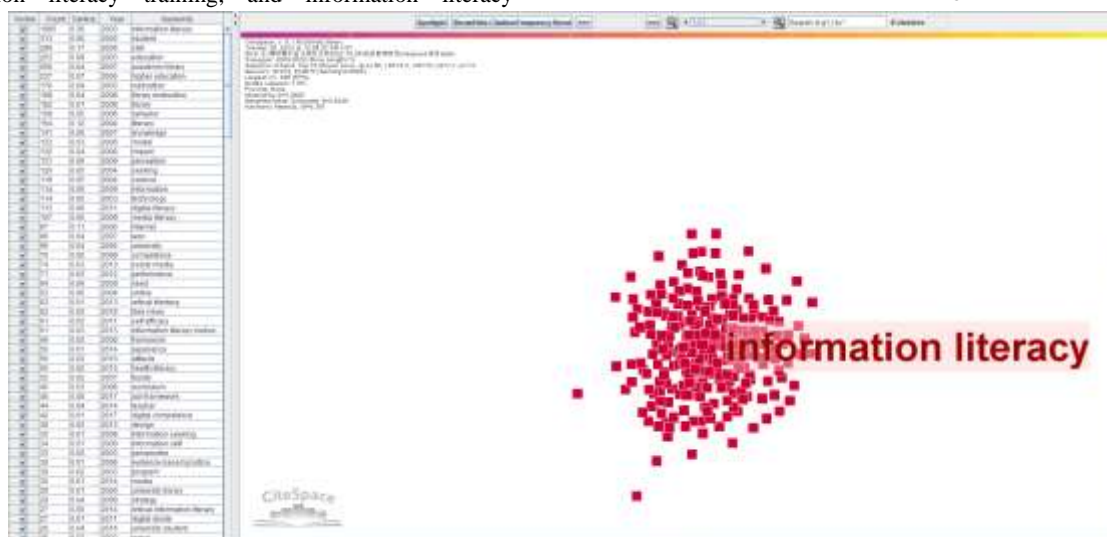

Figure 5 Keyword Analysis

The analysis results show that the most frequent occurrence is information literacy, followed by student, skill, education, academic library, higher education. Information literacy's Centrality metric has the highest value at 0.36, followed by skill and education's Centrality The indicator values are 0.17 and 0.09, respectively. The higher the metric value of Centrality, the greater the importance. The results show that education and skills are currently the most important focus of information literacy research. Therefore, in the practice of information literacy education, especially skills training and education, it is necessary to accelerate the construction of teachers, improve the ability and level of education, and do a good job in related education.

4.2 Citation analysis

In CiteSpace, research frontiers refer to emerging theoretical trends and emerging topics, and co-citation networks form the knowledge base. The analysis of the literature from the perspective of citation can identify the important literature and key literature of the theme research, and depict the overall research context of the theme.
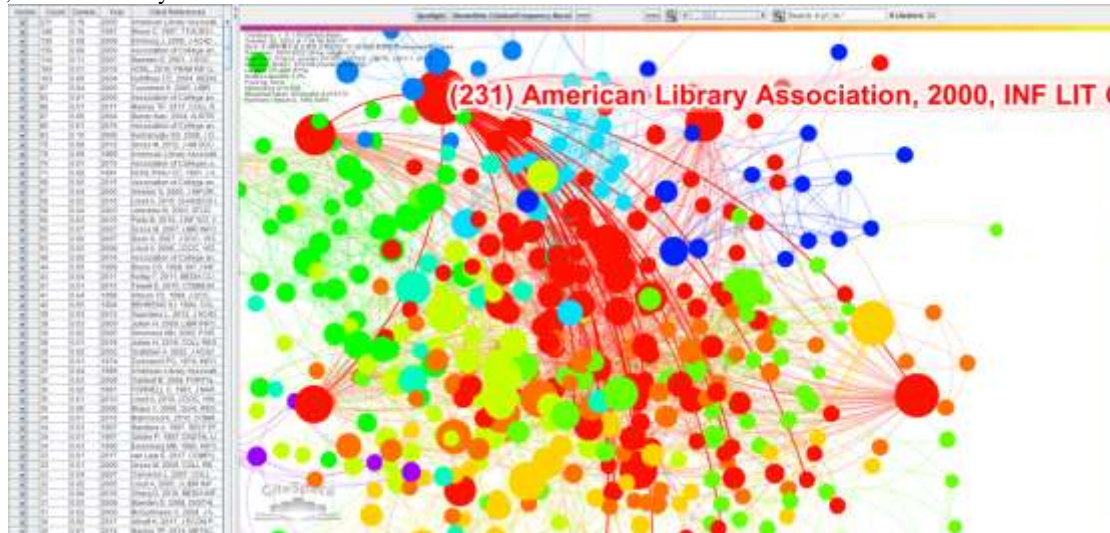

Figure 6 Co-cited network

The Count value represents the number of times the document has been cited. The higher the count value, the more important the literature has a more important academic impact in the research process of information literacy. According to the analysis, the highly cited article on pedagogy is Critical Information Literacy: Implications for Instructional Practice, published by James Elmborg in 2006.This literature uses critical literacy theory to define information literacy. David Bawden's 2001 publication Information and digital literacies: a review of concepts describes and reviews the concepts of information literacy and digital literacy. This paper discusses the concepts of computer literacy, library literacy, and network literacy and explains the relationship between them. What's skill got to do with it?: Information literacy skills and self-views of ability among first-year college students, published in 2012, highlighted students' information literacy skills as an area that educators need to focus on all the time.

5. CONCLUSIONS

With the increasingly extensive and in-depth impact of information technology on all areas of society, the importance of information literacy education has received more and more attention and recognition. At present, the development of information literacy education is not perfect, mainly because people pay insufficient attention to information literacy education, lack of formed information literacy competency standards, teaching models and methods need to be improved, lack of educational capacity and other problems. In practice, systematic information literacy education has not yet been universally developed.

Through the previous data retrieval and visual analysis, we can find the research results and important literature in the field published by important scholars in the research leading countries and institutions and fields in the recent year. It contains the latest research information, subject theory and practical experience. In order to carry out information literacy education smoothly and effectively, relevant educators can focus on drawing theoretical knowledge and experience from these research results, and timely learn and pay attention to the latest research results, development trends and important research literature in related fields. Only by continuously learning the most advanced theory and practical experience can relevant educational work keep pace with the pace of information development.

6. ACKNOWLEDGEMENT

7. REFERENCES

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