The Research on Open Online Courses in China

----Content Analysis of High Impact Factor Journals (2002-2013)

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ABSTRACT: Massive open online courses (MOOCs) have rapidly developed in instructional reform in higher education, even though, compared with some developed nations, studies on open education started later in China. The findings of the related research may contribute to Chinese instructional reform in higher education. Thus, it is necessary to investigate the status quo of open courses by analyzing the content of the collected high impact academic papers from China Knowledge Resource Integrated Database (CNKI) in terms of features of literatures and studies. The results demonstrate that (1) open courses are mainly addressed by the scholars of higher education or educational technology in top universities; (2) categories of application and evaluation are seldom concerned while most studies focuses on design, development and management; (3) the majority of study of open courses has applied qualitative methods such as historical comparison, case analysis and theoretical deduction meanwhile some quantitative methods are used in the minority of these studies. These findings suggest increasing homogeneity of researchers and research methods which results in non-insightful views presently. Therefore, it is significant to improve future research in terms of theory, construction, application and evaluation, management and methodology.

KEYWORD: Open Courses; Status; Content Analysis; Outlook

1 INTRODUCTION

MOOCs (Massive Open Online Courses) have already gradually risen since 2008. Consequently, some unprecedented surprise and challenges have been brought for worldwide higher education continuously. Meanwhile, MOOC has been a hot topic within the field of higher education quickly. In October 2011, the Ministry of Education in China issued the *Opinions on the Implementation of the Construction of National High-Quality Open Courses* and planned to construct 1,000 first-class open video courses and 5,000 state-level high-quality resource sharing courses from 2011 to 2015 in order to provide people (including college students and others) with high-quality free higher instruction and promote educational justice. This suggested that a major project was officially started to enhance the nation's cultural quality in the context of the popularization of higher education. Therefore, it is necessary to investigate the status quo of open courses in China to realize how about current research develops and how to research open courses in the future. This paper attempts to address the following three questions by analyzing literatures of research on open online courses in China in terms of features of researches and literatures:

(1) Who are studying open courses in China?

(2) What are the research frontiers of this area? What is the hottest research focuses?

(3) What are the research methods which are applied in this area?

2 METHODOLOGY AND TOOLS

In this paper, content analysis is used to synthetically describe and analyze the status quo of research on open courses in China. It is a quantitative research method which is developed to objectively quantify and to systematically describe the clear content communicated (Kedong Li 2003). Because it involves rigorous logic analysis frameworks, literature categories and standards for searching, this method adapts itself to describing and analyzing the current status and developing trend of the number of literatures, researchers, research institutions, research contents and research methods. After reading each paper in available samples, we encode all literatures which conform to the standards and

uses Excel to make a comprehensive analysis in order to reveal related problems.

3 SAMPLES

3.1 *The standards for samples*

Firstly, only complete papers about open courses in high impact factor scholarly journals are analyzed meanwhile reports & informative articles are neglected. Secondly, it is necessary for us to choose papers involving studies of open courses in China and exclude literatures which just introduce MOOCs of other countries.

Maybe someone suggest publication bias will be found if only literatures in journals are analyzed, however, none dominant paradigm has resulted in any positive skew, negative skew or invalid studies within the field of distance education respectively for many years (Liguo Zhang et al. 2012). Accordingly, the bias in our research is not significant. In addition, it is necessary to choose literatures in high impact factor journals in order to ensure quality of samples and research value. Thus, samples collected are not so many, even though, to some degree, our research is still worth revealing some related problems.

3.2 *Collecting and choosing literatures*

On January 1, 2014, 74 high impact factor academic papers were collected from the items of Higher Education & Educational Theory and Educational Management in China Knowledge Resource Integrated Database (CNKI) by using open courses or courses & open or MOOCs as keywords respectively. Then 51 papers were chosen as available samples after reading every paper.

4 RESULTS AND DISCUSSIONS

The status quo of open courses is investigated in terms of features of literatures and studies.

4.1 *The features of literatures*

4.1.1 *The number of literatures*

Figure.1 displays the studies on open courses were started in 2002 in China. There were not any specific studies on this field from 2003 to 2005. Open courses were focused by a small number of researchers again from 2006 to 2008. However, more and more researchers began to study open courses from the end of 2008, which results in the number of papers were rising continuously.
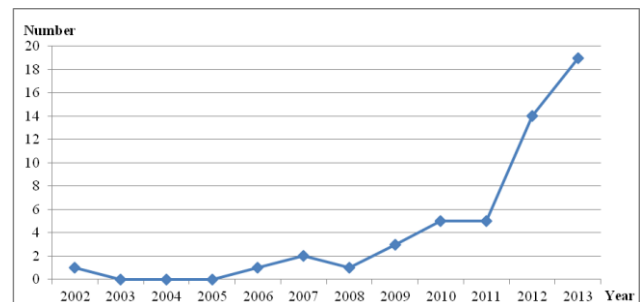

Figure.1 Number of literatures of open online courses in China

4.1.2 *Researchers*

As Table.1 demonstrates, the researchers involve scholars (62.75%), developers (27.45%) and managers of courses (9.80%). It suggests open courses are mainly studied by the scholars of higher education or educational technology in universities and seldom focused by developers and managers of courses to some extent. And members of other organizations have not begun to study open courses. Accordingly, the diversification of researchers and research perspectives has not been yet formed.

Table.1 Characteristic of researchers

Researchers	Characteristic	Number	% of Total
Scholars	● Scholars of higher education or educational technology; ● Studying higher education or open education in research institutions for higher education (colleges or departments)	32	62.75%
Developers	● Working in the Information Network Center, the Modern Educational Technology Center or the Distance Education Center; ● Teachers of open courses or other workers	14	27.45%
Managers	Working in the Ministry of Education, provincial Education Departments or academic administrations in universities	5	9.80%
Total		51	100.00%

* The data is collected from literatures.

4.1.3 *Research institutions*

According to the investigation, the research institutions are divided into universities (88.24%), open universities (7.84%) and governments (3.92%). To some degree, it indicates that open courses are still mainly concerned and developed by universities, with the loss of some other organizations.

4.1.4 Regional difference

Research regions are also different. As Figure.2 shows, studies are mainly concentrated in developed areas, such as Beijing, Shanghai, Zhejiang and Guangdong, where the scale of open courses is much larger than other provinces, such as Shaanxi, Henan and Heilongjiang, where open courses are not paid much attention.
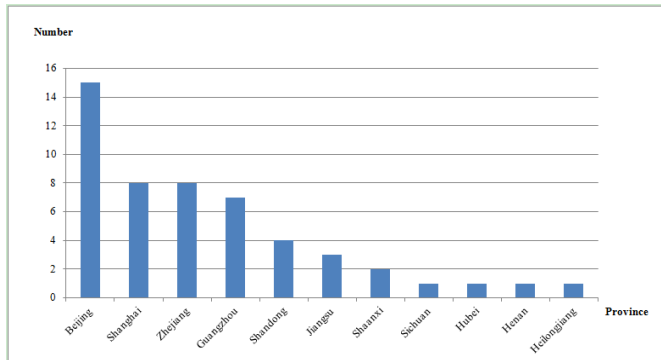

Figure.2 Research regional distribution of open online courses in China

Table.2 The research categories of open courses

Categories	Attached topics	Number	% of Total
Theoretical construction	Course ideas	4	7.84%
Design & development	Construction of Courses, Design of Courses, Design of Course Model, Course System, Indigenization of Course Resource, Development Strategies, Instructional Design, Instructional Strategies and Teacher Education	14	27.45%
Application	Construction of Courses, Application of Course Model, Design of Course Application Model, Course Resource Sharing and Participation of Students	7	13.73%
Management	Construction of Courses, Construction of Teachers' Team and Course Policy	21	41.18%
Evaluation	Quality of Courses and Evaluation Strategies	3	5.88%
Design & application	Design and Application of Course Model	2	3.92%
Total		51	100.00%

* The data is encoded by authors.

4.2.2 Research methods

Firstly, methods of collecting data include literature research (90.20%), investigation (13.73%) and interview (3.92%). As researchers do not use a single method to collect data, the sum of all the methods' proportions is more than 100%.

Secondly, the findings reveal that qualitative analysis (78.43%) is mainly used to explain data, such as description, comparison and speculation; quantitative analytic approaches (3.92%) are applied in two papers to content analysis and organizing questionnaire results; qualitative-quantitative combined analysis (17.65%) is used in other studies.

Finally, Figure.3 reveals 7 research paradigms are used in studies of open courses. Historical and comparative study, theoretical study, development study and explanatory study are widely used meanwhile investigation, experimental study and evaluation study are seldom applied.

4.2 The features of studies

4.2.1 Research categories and research topics

As Table.2 indicates, the research categories of open courses are divided into theoretical research, design & development, application, management, evaluation and design & application. Because course design is often the earlier stage of course development, they are integrated so closely that both of them are merged into "design & development". And then, the category, design & application, is proposed due to two literatures about design and application of course model.

Every category includes its own attached research topics. Among these topics, the construction of courses, approximately 49.02% of the total, is the most widely studied, which is involved in three categories, such as design & development, management and application. Accordingly, it suggests that the construction of courses is the highest impact topic in recent years.
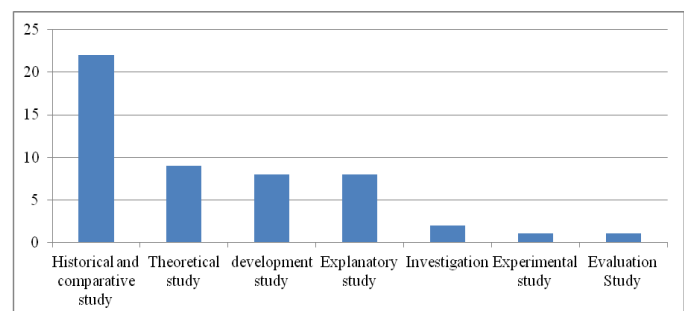

Figure.3 The research paradigms of open courses in China

5 CONCLUSION

5.1 Researchers

According to the number of literatures and the analysis of researchers, the findings demonstrate that open courses are mainly studied by the scholars of higher education or educational technology,

especially the scholars of educational technology, who are interested in application of educational technology in higher education. In terms of research institutions, most researchers are from top universities in China. When it comes to research regions, studies are mainly concentrated in the developed areas where the range of open courses is also large.

However, a homogeneity phenomenon occurs in terms of researchers and research institutions, for constructers, managers of courses and members of other nongovernmental organizations insufficiently participate in studies. What's more, there are significant differences and serious imbalance between different universities in terms of research regions. It is determined by the level of higher education and informational technology and the scale of open courses in China to some degree.

5.2 Research contents

On the one hand, in terms of research categories, design, development and management are focused by most scholars. On the other hand, some research topics receive widespread attention, such as the design and development of course models, strategies of the construction of courses, instructional design and other topics. And the construction of courses has become the highest impact topic in the past nine years. Meanwhile, the range of research on open courses is increasingly wide in recent years.

However, firstly, some categories, especially application and evaluation, are paid less attention meanwhile data in some studies is ineffective. Secondly, most studies contribute to descriptive suggestions ignoring substantive issues, such as the nature of open courses (or MOOC), the connection between open courses and higher education and other issues. Thirdly, the research on students is paid less attention, too. For example, there are two papers about participation and satisfaction of learning of students in 51 literatures. These reveal that the construction of open course is still at the stage of explorations and it is necessary to improve most studies. Additionally, application and evaluation of courses, the nature of open courses and other substantive issues will be increasingly noticed with the development of open courses in China.

5.3 Research methods

Literature research and qualitative analysis are mainly used to collect and explain data respectively. Prime research paradigms include historical and comparative study, theoretical study and explanatory study. Development study, investigation,

experimental study and evaluation study have been gradually applied from 2011. It is worthwhile to notice that the amount of application study and evaluation study is rising annually. These methods are mainly used to study the construction of courses, assessment of courses, participation of students and other topics. In terms of the choice of methods, historical and comparative study is employed by managers of courses to study construction and ideas of courses; historical and comparative study, theoretical study, explanatory study, development study and experimental study are applied by constructers of courses to design the curriculum, develop course models and investigate instructional effect; scholars in colleges use various methods to do extensive studies. However, observational methods, investigation, evaluation study and experimental study are not still widely used. It indicates that a homogeneity phenomenon also occurs in terms of research methods.

5.4 Future research

Apparently, those conclusions suggest increasing homogeneity of researchers and research methods which results in non-insightful views presently. Accordingly, it is worthwhile to put forward the following five proposals for improving our current research and development activities:

(1) In terms of theories, it is necessary to study the theoretical basis of open courses, the nature of open courses, the relationship between open courses and higher education.

(2) With regard to the construction, operating mechanism for open courses, effective course models and strategies of construction need to be found, designed and developed respectively.

(3) Concerning the evaluation, certification standards and evaluation systems are required to be taken to improve the quality of open courses.

(4) As for the management, it is necessary to consider the collaboration among universities, governments and other organizations.

(5) Regarding the methodology, it is significant to widely use empirical studies and take appropriate methods to get effective data.

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