Research on E-Commerce Course Teaching Reform: A Bibliometrics Method
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Abstract. This paper collects literatures on e-commerce reform field from CNKI databases, and utilizes bibliometrics method and visual analysis tools CiteSpace to explore the e-commerce teaching reform pattern which visualizes by knowledge map. This paper provides valuable reference for the other course teaching reform.

Introduction

As the trend of global economic development, E-commerce plays an important role in economy and trade. E-commerce course is a major of business management, economics and marketing professional. E-commerce teaching also plays a very important role in the realization of the goal of the teaching plan and talent cultivation, including personnel training program and curriculum system reform, teaching methods and assessment methods of reform etc. In recent years, the teaching reform of e-commerce has emerged in a number of published academic journals. Therefore, tracking research status and trend can help to promote the continuing development of the field.

This paper analyzes journals and institutions distribution, keywords co-occurrence to reveal the hot research spot, and tries to explore the research by summarizing the characteristics of the field based on the recent ten years literatures on e-commerce teaching reform.

Data Analysis

This paper analyzes the data collected from the CNKI database using the CiteSpace software \cite{1}. For the full text retrieval, we set electronic commerce and reform as keywords, and limit the source journals from \textit{EI source journals}, \textit{core journals} and \textit{CSSCI}. We get 454 related literature records and introduce CiteSpace software to draw knowledge map.

E-commerce Teaching Reform Literature Output

According to figure 1, the e-commerce teaching literatures first appeared in 1998 and reached the peak in 2008 and 2013, an average of 40 times a year since 2008. After 2008 the document output remains about 30.
Journal Sources

As shown from Table 1, there are more than 10 journals which publish 10 articles, accounting for 71.6% of all papers. The China occupation technology education, education and occupation are top contributors in the e-commerce teaching reform research; occupation technology education and Vocational Education Forum are also in the forefront of the area.

<table>
<thead>
<tr>
<th>Name of journal</th>
<th>publications</th>
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<tr>
<td>Chinese Vocational and Technical Education</td>
<td>49</td>
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<tr>
<td>Education and Vocation</td>
<td>39</td>
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<tr>
<td>Vocational and Technical Education</td>
<td>26</td>
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<td>Vocational &amp; Technical Education Forum</td>
<td>23</td>
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<tr>
<td>Experimental Technology and Management</td>
<td>21</td>
</tr>
<tr>
<td>China University Teaching</td>
<td>21</td>
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<tr>
<td>China Adult Education</td>
<td>20</td>
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<tr>
<td>China Higher Education</td>
<td>14</td>
</tr>
<tr>
<td>Research and Exploration in Laboratory</td>
<td>11</td>
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<tr>
<td>Distance Education in China</td>
<td>10</td>
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Research Institutions and Subject Distribution

As shown in Figure 2, major research institutions are universities and occupation colleges in the e-commerce teaching reform field. Beijing Normal University, Wuhan University and Zhejiang University have most output in Colleges and universities; Zhejiang Economics and Trade Polytechnic, Yiwu Industrial and Commercial College and Zhejiang Business Technology Institute are the top contributors in occupation colleges, because of Zhejiang province in the forefront of the e-commerce development.
As shown in Figure 3, *occupation education* and *higher education* gets more than 100 articles of e-commerce teaching reform, which also reflects the e-commerce occupation education becoming a new field of occupation education. In addition, e-commerce is listed as a top 10 professional since the Ministry of Education approved the first 13 universities undergraduate professional e-commerce in 2001, and then many colleges and universities have set up e-commerce major, so e-commerce teaching activities develop fast in the setting of electronic commerce course, the reform and exploration of the training mode of e-commerce talent series. At the same time, e-commerce is an interdisciplinary subject, so the teaching reform of this course also leads to the curriculum reform in the related fields, such as trade economy, computer software and computer application.

**E-commerce Teaching Reform Research Hot Spot Analysis**

Keywords are the core and essence of an article and can be highly summarized and concise theme [2, 3]. The high frequency of keywords is often used to determine a hot issue in the research field. This paper uses the pathfinder algorithm to draw the scientific co-citation network [4], and displays high frequency keywords to determine the main research field and research hotspot.

As Figure 4 shows, the hot keyword co-occurrence network has 574 nodes and 1329 links, and the network density is 0.0081, Modularity Q=0.8913, average Silhouette=0.6623. The results show that the e-commerce teaching reform research about *talent cultivation, major setting, undergraduate education, teaching reform* and *classified catalogue* with high frequency, indicating that these knowledge points are the main contents in e-commerce in China.

**Conclusions and Discussion**

Through the CiteSpace software, this paper carries on the quantitative analysis and the
visualization research to the related literature data of the e-commerce teaching reform in the CNKI database: The time distribution shows that the reform of e-commerce first began in 1988, started to focus on the emergence in 2003, entered the stage of rapid development in 2008, and received extensive attention. The institutions involved in the teaching reform of e-commerce are mainly composed of colleges and vocational colleges, which are the most abundant in the field of vocational education and higher education. Keywords co-occurrence analysis shows talent, specialty, teaching quality and practical innovation are hot topic around e-commerce reform research focus. The keywords co-occurrence network structure is relatively loose; the density is not high, so researchers need to further study in the research subject, research content, and research direction.

This paper analyzes the hot spot and describes the knowledge map of the research on the e-commerce teaching reform, so provides a method reference for researchers in related fields based on bibliometrics. There are some place needs to be improved, such as the use of CiteSpace software to generate the knowledge mapping process, threshold setting, the keyword clustering map generalized etc.

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References


