Educational Economics Research: A Bibliometric Analysis

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Abstract— **This study provides an overview of bibliometric analysis of scientific publications on the theme of education economics, the method used in this study is a bibliometric analysis using a publication database from Google Scholar obtained through the Publish or Perish application. The limitation of the research in this study was the last ten years, from 2012-2022. Based on the results of the study, a total of 483 articles were analyzed using VOSviwer. The results from mapping using VOSviwer show that there is a decline in the publication trend in 2020-2022. then the most studied theme in this research is education, students, and universities. The input from this research is research because there is no theme regarding the covid-19 pandemic, so I recommend doi**

Keywords— academic supervision, teaching-learning quality, online learning

INTRODUCTION

The problem of education cannot be separated from economic issues. The contribution of education to the economy and development must be recognized Either directly or indirectly. Thus, education is not always considered consumption or financing [1]. Education is an investment in the future, which is the basis of investment in human capital and contributes to the success of education and the labor market[2], [3]. In reviewing the problem of strengthening the impact of the education system on national economic development, it is crucial to examine the role of humans in the economic development of society. Because "that person is the main subject and object of the training system, consumers of services in the field of education and its implementers." In this sense, it applies to all sectors and industries of the national economy [4].

Research on the economics of education is certainly not new. There have been many studies on the economics of education, such as how education affects the education system, the role of socio-economics on the transformation of education and economic growth, and others [1], [4]–[6].

The development of research that occurs is an exciting thing to study, especially when the COVID-19 pandemic that hit the world in 2020 became a new challenge in the world of education, and the education economy was no exception. The pandemic takes place in the midst of uncertainty and not knowing what is happening and what to do.

Now that the pandemic has started to subside, the number of COVID-19 cases is decreasing. It is interesting to review the development of research in the scope of education economics. With a lot of research that has been done and with all aspects related to the economics of education, researchers are interested in making a bibliometric analysis of publications on the economics of education in the last ten years, from 2012 to 2022, by using bibliometric analysis. Bibliometrics is library and information science research that studies bibliographic materials using quantitative methods [7], [8]. With so many publications, systematic analysis of journals can provide an overview of significant trends and themes in research, and the field dealing with this systematic analysis is called bibliometrics [9]. Bibliometrics plays an important role in classifying and analyzing general trends of a particular problem, such as a journal, research area, or country [10]

A glimpse at one of the benefits of bibliometrics which can create map research from a topic, the researcher hopes that this research can provide an overview related to the topic of what has been researched related to the economics of education and how the topic will be in the future.

METHODOLOGY

This research used bibliometric analysis. The global literature about Educational Economics published between 2012 to 2022 were scanned in the Google Scholar database. The search terms applied to identify the closest matching. The publication included "Educational Economics," which was used as the keyword in the title area. Economics has a crucial role in education. A fairly large amount of research papers were written and published in various cases.

The data sources analyzed in this study were obtained from the Google Scholar database because of free access and a large database of publications. The research was conducted using Publish or Perish 8 (PoP 8) using the keywords "Educational Economic." All data were downloaded and imported into VOSviewer v.1.6.11 (Centre for Science and Technology Studies, Leiden University, Leiden, The Netherlands), which is commonly used to analyze and visualize relationships among authors, countries, co-citations, and the terms used in articles [11]–[13]. The information for the documents that meet the requirements contained title, author, year of publication, document type, abstract, and counts of citations which were exported into CSV format. The year of publication of the article is limited to 2012-2022.

FINDING AND DISCUSSION

A. *Bibliometric analysis of publication output*

From the data that has been obtained, there are 483 articles conducted google scholar database from 2012 to 2022. The citation metric (Fig. 1) showed that publication about educational economics has 130.10 citations/year, 2.64 citations/paper, and a total of 1301 citations. For more information, you can see Figure 1 and Table 1, which show some examples of published articles that have been used in VOS viewer analysis.

Figure 1 Citation Metrics

Figure 2. Shown total publication each year from 2012 to 2022 in the field of Educational Economics published in Google Scholar. Furthermore, Figure 2 shows the publication development of Educational Economics over the past ten years, and figure 2 shows that publication is going fluctuant. Publications on the Economics of Education increased from 2012-2014, decreased from 2014-2016, and fluctuated until 2019. then from 2019-2022, it continued to decline until it touched the lowest total number of publications in 2021, with a total of 26 publications (2022 is not counted because it is still the current year, and this data was taken in October 2022).
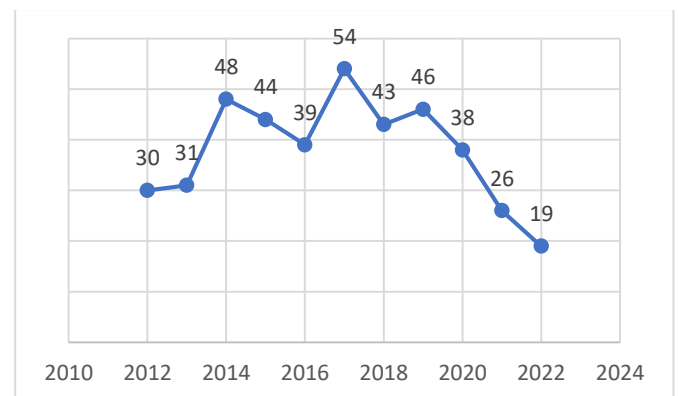

Figure 2 Total Publication Each Year (2012-2022)

B. *Cluster Analysis*

the results of the mapping using VOS viewer show the distribution of items from each keyword related to the economics of education. Each object found related to the topic in data mapping was divided into 7 clusters, namely:

1) Red Cluster: Application, approach, economics, educational achievement, educational administration, educational administration, educational technology, effect, evaluation, evidence, example, etc

2) Green Cluster: Analysis, case study, college, concept, educational economics, educator, educational unit, effectiveness, efficiency, knowledge, performance, etc

3) Navy Cluster: Content, discipline, educational establishment, educational program, electronic educational methodical complex, higher education, international economics, organization, relationship, strategy, trade policy

4) Yellow Cluster: 21st-century skill, Change, Country, Curriculum, Development, educational policy, educational system, globalization, globalization, impact, technology, science, technology

5) Purple Cluster: business, education, educational decision, educational innovation, educational institution, educational investment, educational investment, educational investment, implementation, information, institution, model

6) Pink Cluster: administration, commerce, department, educational attainment

7) Orange Cluster: Opportunity

The cluster Shows the relationship between each element. Labels are assigned to each term with colored circles. The size of the circle for each cluster varies depending on the frequency of occurrence of the cluster. The more often the term is encountered, the larger the label size.

C. *Publication Visualization Using Vosviewer*

In VOSviewer, there are three visualizations that can be used, namely network visualization, Overlay Visualization, and destiny visualization. Each visualization has its own uniqueness, which shows the various types of data that are ready to be presented.

Figure 3 shows network visualization from data that has been processed through VOSviewer. The picture shows that the bigger the circle in the image means, the more research on the topic written in the circle, and because the keywords used in this study are educational economics, the biggest circle is the topic of economics followed by education, students, and universities.
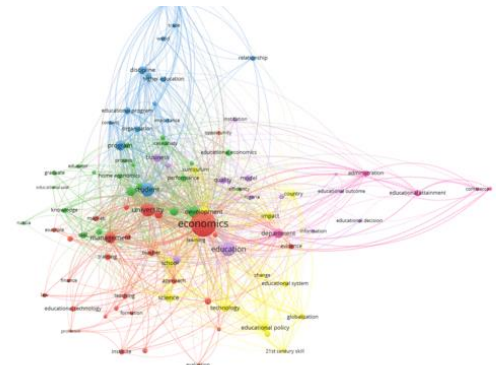

Figure 3 Network Visualization

The following visualization obtained is Overlay Visualization, as shown in Figure 4. Overlay visualization shows the publication year of the research themes visualized. The darker the color of the circle, the more past the topic in the circle. On the contrary, the lighter the circle, the newer the subject in the circle.
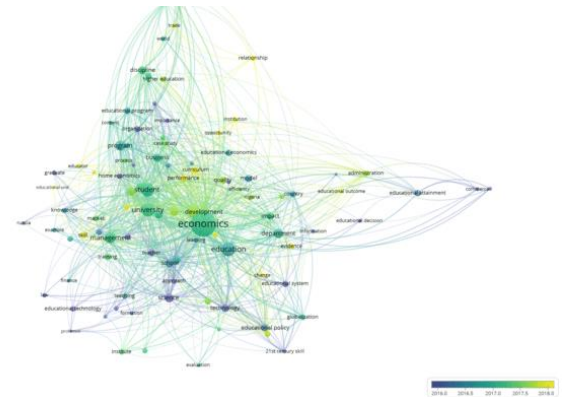

Figure 4 Overlay Visualization

Research themes related to education economics, such as 21st-century skills, educational systems, commerce, law, organization, and home economics, have existed since 2016. New themes that emerged in 2018 were educational outcomes, skills, curriculum, performance, Opportunity, evidence, and other themes are represented by a circle of circles as shown in Figure 4

The following visualization is overlay visualization, and this visualization shows a wide range of research topics carried out. As you can see in figure 5, The brighter the color, the more research the case has been, then the dimmer the color, the less research on the topic. Besides that, this visualization overlay also shows that the closer one issue is to another, the more intense the case is. On the other hand, the farther away, the less frequently the topic is discussed together.
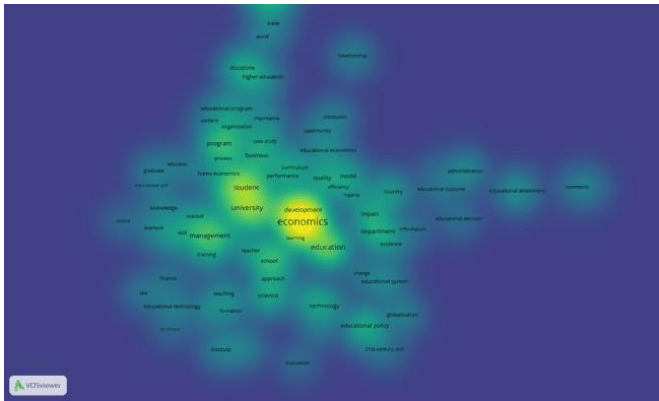
Figure 5 Density Visualization

Based on figure 5, we can see that the most researched topic according to this research is economics, then the most frequently researched topics with economics are development, learning, education, student, and university.
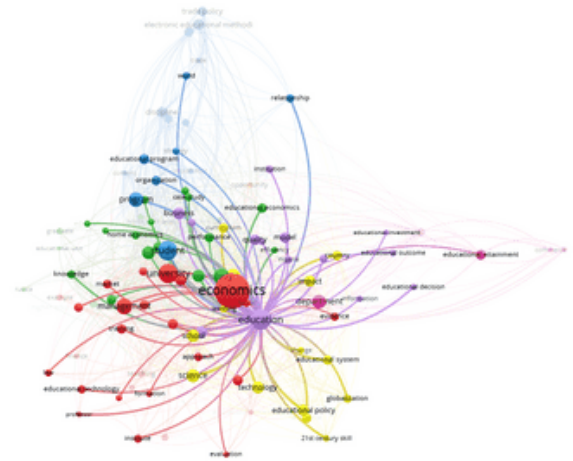

Figure 6 Economic Research

Figure 7 Education Research

CONCLUSION AND RECOMMENDATION

As Research on the economics of education is not the subject of research in the field of education. The results of this bibliometric analysis show that publications on the topic of educational economics in the last ten years have fluctuated and experienced a peak in publications in 2017, then the lowest year was in 2021 and again declined in 2022 (as of October 2022). From the data, we can see that there has been a decline in publicity with the theme of education economics in 2020-2022 and as we all know that there was a pandemic that had a massive impact on education.

Interestingly, from the results of this research, there is no theme about the covid-19 pandemic, even though we know that together with the pandemic, it will not only have an impact on teaching and learning activities but also on the economics of education itself. My suggestion for further research is to conduct research on how Covid affects the economy. Education, how the policies are taken, and the solutions provided are like what is seen from the economic education perspective

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