

# Collaboration of Scientific Article Writing between Indonesian Educational Researchers and Other Countries

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**Abstract:** This article aims to describe the results of a study of researchers at public universities that focus on education, in Indonesia, collaborating with researchers writing scientific articles abroad. Currently, researchers around the world are required to conduct research publications in scientific journals. The most recognized research publications globally are indexed international publications, amongst the most recognized indexer is Scopus. By using a quantitative approach, through the survey process secondary to the Scopus database, from 10 universities of education in Indonesia in the period 2012 to 2017. The study found that the state university researcher who focuses on education resulted in the upward trend in the publication of scientific articles. None of the universities are collaborating more than half the foreign researchers, and there is no correlation between publication productivity with collaborative writing scientific articles between researchers in education Indonesia with foreign researchers.

## 1 INTRODUCTION

The development of science, technology and information globally today cannot be separated from the role of research in every field of science. College is one of the institutions that have a duty to conduct research. Productivity of research is produced by universities with the most productive research (Scopus, 2017). The results of the research will provide any ideas, especially in the aspect of knowledge, in the world of work practices. Research is an innovation in the world of knowledge, while practical work is the application of knowledge. Thus, research and practice in the world of work will depend on each other. However, the main characteristics of both are different (Ginsburg and Gorostiaga, 2001). From both, there is a gap (Lewis et al., 2012), and this gap exists in various contents of science (Belli, 2010; Han and Stenhouse 2015; Orr and Bennett, 2012; Ponti, 2008; Wofford and Troilo, 2013).

The practitioners face the challenge of solving practical problems that exist in the world of work. However, researchers are dedicated to conduct research and strengthen the professional knowledge, they prefer to publish their findings in scientific

journals, the most important knowledge platform for scientific communication (Chang, 2017).

Currently all researchers in the world are required to publish the results of research in scientific journals, including in Indonesia (Dikti, 2013). Publication of this research was conducted, so that the progress of science can be developed more rapidly (Martin and Irvine, 1983). Today, the most globally recognized research publication is in the form of internationally indexed scientific articles (Balhara, 2012), among the most recognized of these indexers is Scopus. Scopus is the largest scientific database in the world today because of its source from various publishers around the world. Scopus indexed scientific articles into evidence of scientific research products receive global recognition (Elsevier, 2017).

Research is one of the activities that must be done to support the development (Salamon, 1994). The research process is an application of the scientific approach in an assessment of the problem in obtaining useful information for development (Ary, 2010). Through research, valid data required in development can be generated (Somekh, 1995). As one of the countries in the world, Indonesia would have the interests of national development, but as part of the world, Indonesia should not ignore

the direction of global development. Collaborative work between countries is a step that must be done globally (Edward, 1999).

Collaboration between countries is not only done on the field, but in all areas, because it is through collaborative work will awaken harmonious relations between states. According to Abdulsyani (1994) collaboration is a form of social process, in which there are activities of mutual help and understanding each other's activities. Collaboration means working together to achieve common goals (Roucek and Warren, 1968). Collaboration can be used as a step taken to suppress the opposition between the interests of national-oriented with an internationally oriented (Engel and Siczek, 2017). One form of collaboration that can be done is through research in education conducted by researchers in Indonesia and abroad. Education is a fundamental knowledge and the processes that support the development, for which we were trying to analyze the collaboration undertaken in the field of education by Indonesia with foreign researchers.

In this study we try to identify the scientific article writing collaboration between researchers in education in Indonesia and abroad from 2012 to 2017 at the state university education. Following is the formulation of the issues discussed in this study:

- Productivity publications college education field of education;
- Publication of collaboration between researchers of state universities in the field of education in Indonesia with overseas researchers;
- Relationship productivity publications college education field, with the publication of their collaboration with overseas researchers.

Collaborative study used to determine the productivity and the number of authors and calculating the level of collaboration in terms of comparisons between institutions and between disciplines (Surtikanti 2004). The collaboration of Indonesian researchers with abroad is a strategy to facilitate mutual openness to both (Ponti, 2013; Vogel, 2010). Many advantages are gained by collaborating, among others, the creation of opportunities to share knowledge, expertise and certain techniques in a science (Katz and Martin 1997). Collaboration will create a correlation between Indonesian researchers with overseas researchers to float the science and have advantages between them such as the transfer of knowledge and expertise, exchange ideas, increase productivity, open intellectual friendship that all can support the

achievement of sustainable development goals (SDG's) globally.

## 2 METHODS

This research was conducted with quantitative approach with data collection technique using survey. This survey retrieved sample data of cooperation publications between Indonesian researchers and abroad from 2012 to 2017. The survey was conducted secondary to the object of all scientific articles indexed by the Scopus database recorded on the web page <https://www.scopus.com> from 10 state universities in education, including Indonesia University of Education, State University of Malang, Semarang State University, Yogyakarta State University, Makassar State University, Jakarta State University, Surabaya State University, Padang State University, Medan University and Gorontalo State University. Data collection instruments use analysis of how much a collaboration of researchers from Indonesia and abroad in writing articles. This analysis includes the productivity of scholarly researcher's scientific articles, collaboration between in-country researchers and the productivity and collaboration relationships. Analysis of data technique using descriptive statistics.

## 3 RESULTS AND DISCUSSION

As seen in Figure 1, most of the public universities that focus on education resulted in an increase in publications in the period from 2012 to 2017. From 2012 to 2015, the pattern of improvement tends to be stable from year to year; there is no significant increase in figures. However, in 2016 a trend towards a significant increase, and the increase continued in the same pattern next year.

Of the ten college education fields sampled in this study, the University of Education Indonesia is a college with the highest scientific publications, while the State University of Medan is the lowest among the other nine. Productivity Indonesia University of Education is correlative with the average percentage increase in its publications during 2012 to 2017, because together with the State University of Makassar, Indonesia Education University is a university with an average highest percentage increase, namely 38 percent. In addition, State University of Makassar is also listed as a

college with the highest annual increase by 58 percent, to be exact in 2015.

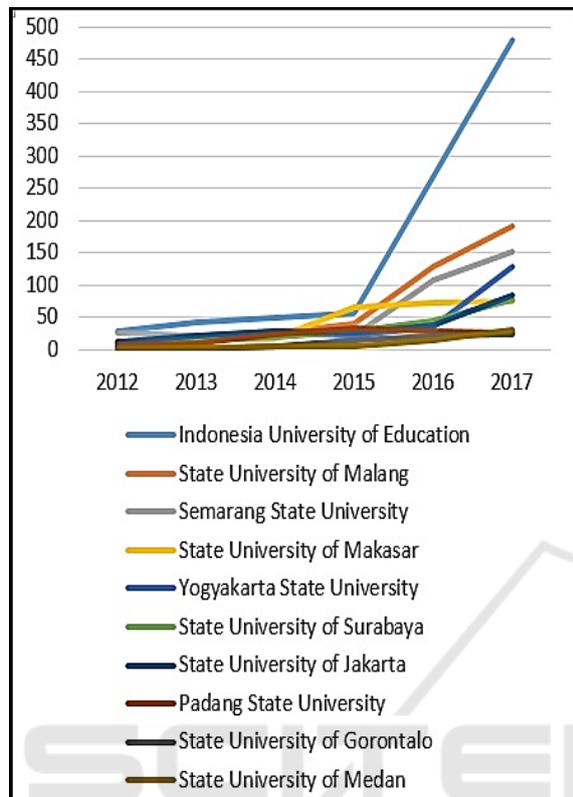


Figure 1: Productivity Publications of State Universities Education during the Year 2012-2017.

Table 1 shows the number of article collaborations in ten state universities in education. These results put the University of Education Indonesia at the highest order with the collaboration of 362 articles. Followed by the State University of Malang in the second with a number that is less than half of that owned by the University of Education Indonesia, which is 102. Then the lowest is the State University of Medan with 11 articles. If we look at the existing collaboration trends in educational research it is seen that none of the state universities in the education sector collaborate more than half of them with overseas researchers. This shows that researchers in state universities in education are more dominant in collaboration with domestic researchers than collaboration with abroad.

Based on the quantitative data of publication collaboration between Indonesian researchers in State Universities of Education with foreign researchers, we try to describe correlation with previous data, which is data productivity publications college education with theirs.

Table 1. Publication Research Cooperation between Indonesia with Foreign Affairs.

University	Total of article (a)	Collaboration article (b)	b/a
Indonesia University of Education	919	362	39%
State University of Malang	410	102	25%
Semarang State University	358	93	26%
State University of Makassar	252	51	20%
Yogyakarta State University	231	47	20%
State University of Surabaya	204	16	8%
State University of Jakarta	206	54	26%
Padang State University	125	52	42%
State University of Gorontalo	67	18	27%
State University of Medan	57	11	19%

The results of the research on the productivity relations of publications of State Universities of Education, with the collaboration of writing scientific articles between Indonesian education researchers and abroad, show that there is no correlation between both of them. Due to much lack of scientific productivity, it does not affect collaboration with abroad. Although Indonesia University of Education is the most productive university, but their publication data is not the highest, while the highest college of its scientific articles with abroad is Padang University.

#### 4 CONCLUSIONS

Research collaboration has been regarded as the best strategy to facilitate mutual understanding between national interests and international interests, which in turn bridges the gap in development practice. In contrast to 2011 and earlier, in 2012 there has been an increasing trend of publication of scientific articles in the field of education in Indonesia, especially since 2016, where there is a significant increase. The increase of this publication has not been accompanied by awareness to raise awareness for collaborative writing of scientific articles with researchers from other countries. Although this study uses collaborative analysis to measure collaborative productivity among Indonesian researchers in education with overseas researchers, the results of this study probably do not

comprehensively explain the research practice gaps in both. Thus, further research is needed, especially for more specific collaboration on some disciplines.

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