Studies in Mathematics Education in an SSCI Indexed Journal: Suggestions for the UK based on the Turkey Example

Mehmet Kasım Koyuncu

Istanbul Sabahattin Zaim University

As of 2022 in Turkey, there are eight SSCI-indexed academic journals, only one of which aims at publication within the scope of educational research. Since the researcher's field of study is mathematics education, examining the articles on mathematics education in this journal motivated him to conduct this study. Therefore, this study aims to explore the mathematics education studies published in an SSCI-indexed journal in Turkey. Through this means, I intend to inform all my colleagues about mathematics education studies in Turkey's most prestigious academic journal, which adopts the principle of publishing educational research. According to the findings, it is possible to say that it is the only journal with the SSCI index in the field of education in Turkey and that 8% of the research between 2007-2022 in this journal is related to mathematics education.

Keywords: Turkey; United Kingdom; mathematics education; ssci index

Introduction

Today, in the context of Education, the publication of a scientific article in an SSCI-indexed journal means that the study has been published in a reputable journal (Russ-Eft, 2008), which usually suggests technical quality of the publication. As of January 29, 2023, there are 3563 SSCI-indexed journals in the web of science master journal list, 349 of which are published with the aim and scope of educational research. There are eight SSCI-indexed journals in Turkey, and only one of them, *Education and Science Journal*, which publishes in Turkish and English, includes educational research. Besides the studies on mathematics education, studies in the context of education, such as science education, social studies education, educational administration, psychology education, foreign language education, etc., are published in the related journal. Mathematics education is one of them. Since the researcher's field of study is Mathematics Education, being interested in the mathematics education studies of this journal and contributing to the literature by providing descriptive information about these studies to his colleagues motivated him to undertake this study. Therefore, answers to the following questions were sought in this study: In all the issues between 2007-2022 of an SSCI-indexed journal publishing with the purpose and scope of educational research in Turkey,

a) What is the distribution of studies on mathematics education?
b) What is the distribution of studies in terms of sampling, data collection tools, and research methods?

Method

Various documents can be examined in qualitative document analysis, including books, academic journal articles, and corporate reports (Morgan, 2022). Any text-based document can serve as a source for qualitative analysis (Patton, 2002). For this reason, in order to obtain data, the researcher designed a publication classification form, selected the articles with the purposeful sampling method, and used the document analysis method, one of the qualitative research techniques, throughout the research. Data obtained from the articles were interpreted according to their frequencies and shown using graphics and tables. While researching the studies to be examined in this study, "Mathematics Education," "Pre-Service Mathematics Teacher," "Mathematics Course," "Mathematics," "Mathematics Teacher," and "Mathematics Curriculum" keywords are used.

Findings

The finding from the first research question is given in Figure 1. According to the finding, the least number of articles were published in the journal in 2007 (32 articles). The journal included four mathematics education studies in the same year. By 2014, the journal had published five times more articles compared to 2007,

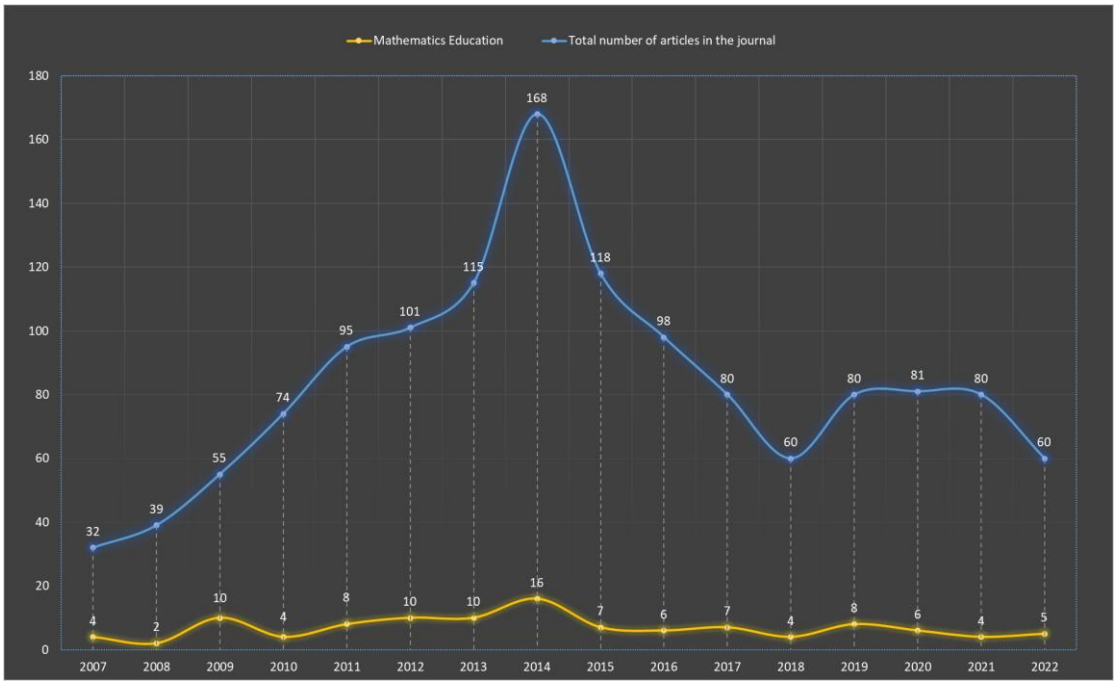

Figure 1. Distribution of mathematics education studies

reaching the highest number of articles between 2007-2022 (168 articles). However, the increase in the number of studies on mathematics education -including the period of 2007-2022- was not at the same rate, but only sixteen. Another finding from Figure 1 is that the graph indicating the change in the number of mathematics education studies functions almost like a constant function graph. A total of 1336 articles, including mathematics education articles, were published between 2007 and 2022 in the reviewed journal. A total of 1336 articles were published between 2007 and 2022 in the reviewed journal. 111 of these articles are related to mathematics education. Accordingly, between 2007-2022, 8% of the studies in this journal were concerned with mathematics education.

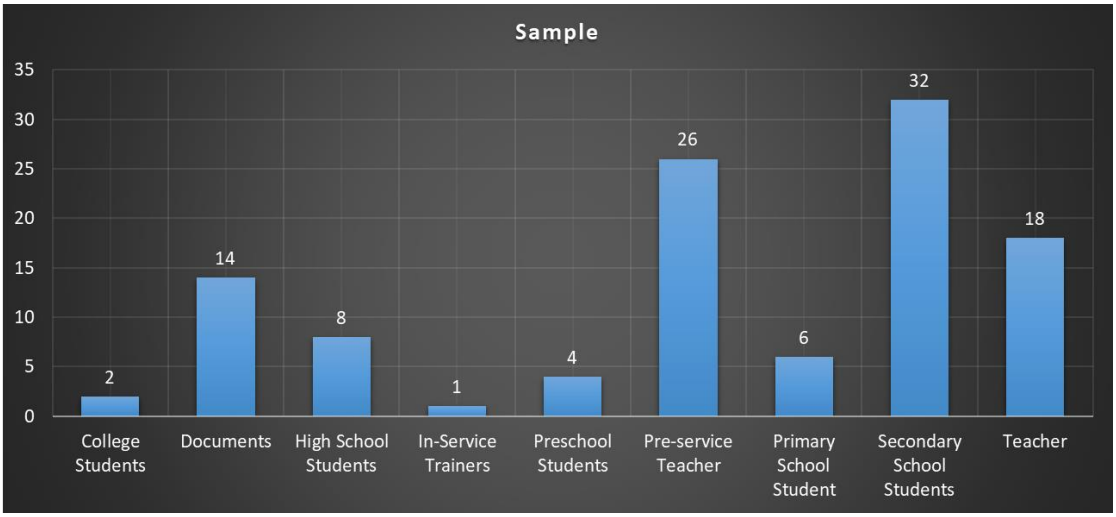

Figure 2. Distribution of the Sampling Types

Findings from the second research question are exhibited in Figure 2, Figure 3, and Table 1. These findings pertain to sample distribution, data collection tools and research methods. When Figure 2 is examined, it is seen that secondary school students (9-13 aged) are used as samples in most mathematics education studies (32 articles). The least number of studies were conducted with in-service trainers (1 article).

Figure 3 shows the findings regarding the data collection tools used in the mathematics education studies. Accordingly, only the likert type scale was used in most of the studies (26 articles). The least preferred ones were the studies carried out with tests, interviews, documents, open-ended questions, observation, worksheets, video and their different double or triple combinations.

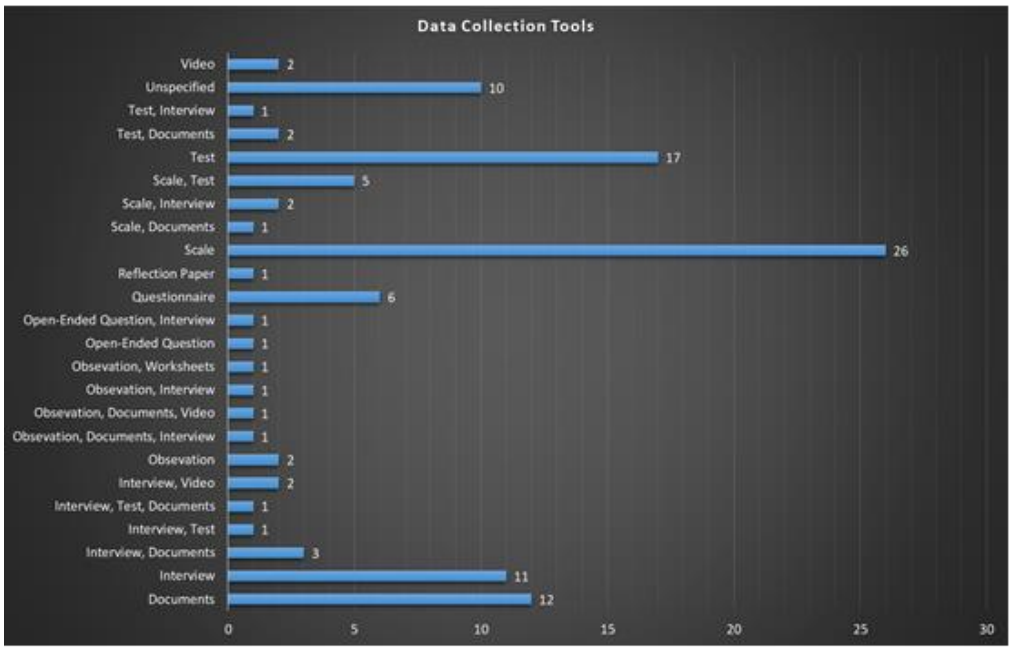

Figure **3**. Distribution of data collection tool

The findings regarding the methods preferred in the studies are presented in Table 1. According to the findings obtained from Table 1, it is evident that quantitative research methods are preferred the most, whereas survey methods are opted for the least in mathematics education studies. The designs/patterns adopted in the methods used and the percentage distributions of the methods are given in the same table in detail. Another remarkable finding in this section is that most studies explicitly mention the method, but the pattern is not expressed clearly. In summary, 20% of the studies on mathematics education were conducted using mixed, 32% quantitative, 41% qualitative and 7% survey methods.

Table 1. Distributions of Methods and Designs/Patterns

Method	Design/Pattern	f	F	%
Mixed	Case Study	2	22	20
	Correlational	1		
	Descriptive	2		
	Experimental	2		
	Experimental, Phenomenology	1		
	Unspecified	14		
Quantitative	Case Study	2	36	32
	Causal Comparison	1		
	Correlational Survey	1		
	Cross-Sectional Survey	1		
	Descriptive	5		
	Descriptive, Correlational	1		
	Experimental	5		
	Quasi-Experimental	1		
	Unspecified	17		
Qualitative	Case Study	11	45	41
	Descriptive	4		
	Experimental	2		
	Grounded Theory	1		
	Phenomenology	1		
	Relational Survey	1		
	Unspecified	25		
Survey	Correlational Survey	3	8	7
	Cross-Sectional Survey	2		
	Descriptive	1		
	Unspecified	2		

Suggestion

According to 2022 official figures, there are 19 million 155 thousand 571 students and 1 million 139 thousand 673 teachers in Turkey -excluding university students- (MEB, 2023). One of the most striking results of this research is that only one SSCI-indexed journal focuses on educational research in such a country with almost a student army. Another result is the significance ascribed to mathematics education studies in this journal. In other saying, it is noteworthy that papers on mathematics education are relatively few. We somehow understand and interpret nature. But do we understand correctly? As Galileo said, we apprehend whether this knowledge is accurate thanks

to mathematics. Therefore, the number of studies in mathematics education can be increased. Since little is known about the place attributed to mathematics education in SSCI-indexed education journals in other countries, inevitably, the information to be provided with the comparative adequacy of the studies on mathematics education in the SSCI-indexed education journal in Turkey remains an intuitive dimension. In this respect, I suggest an analysis of the studies on mathematics education in SSCI-indexed education journals of other countries such as the UK be made. In this manner, the opportunity for comparative research on quality mathematics education studies of different countries can be obtained. In an SSCI-indexed education journal, the reasons for the high-quality mathematics education studies to be included in country A more than in country B and less than in country C can be investigated. In this case, are the socio-economic conditions of the relevant country, expectations from education, or education policies can be counted among the parameters affecting this situation? For example; In this study, articles were encountered in which in-service trainers were used as a sample in a small number, scales were used mostly as a data collection tool, and the survey method was used the least as a method. So, the most used method, data collection tool, or sample in quality studies on mathematics education in any country - for instance, the UK- can be explored. Then, by combining these studies, implications about the status of qualified studies on mathematics education worldwide can be made.

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