Instructional Design Studies Between 1975 and 2019: A Bibliometric Analysis

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Instructional Design Studies Between 1975 and 2019:
A Bibliometric Analysis

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ABSTRACT

This study aimed to examine the bibliometric results (co-authorship, citation, co-occurrence, bibliographic coupling, and co-citation) of publications in the field of instructional design. The study includes the publications in the database of the Web of Science in the period between 1975 and 2019. It was found through co-authorship analysis that 9,344 authors who had written in the field of instructional design functioned as co-authors and had links. There were studies on an instructional design from 103 different countries. It was also found that keywords such as e-learning and online learning were frequently used and that the studies published in recent years prioritized the keywords of the massive open online courses, mobile learning, flipped classroom, gamification, and augmented reality. While the most published authors were F. Paas and J. van Merrienboer in the field, the author who was the most cited was J. Sweller.

KEYWORDS

Bibliometric Analysis, Bibliometric Mapping, Citation Analysis, Educational Technology, Instructional Design, MOOC

INTRODUCTION

Countries' ability to grow economically is dependent on their transforming scientific data into technological development. Developments in the field of information technologies influence every domain of society, and the influences come into prominence especially in the area of education. Educational systems, curricula, theories, learning needs, content, methods, and techniques also change with the effects of information technologies. These changes also necessitate transformations in the educational-instructional processes. Analyzing various types of educational-instructional content

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existing up to the present as a whole will significantly contribute to developments and changes. Information technologies make it possible to collect and analyze varied and abundant data on learning and teaching processes (Vieira et al., 2018). Analyses of this type are needed more especially after the 20th century when an information explosion occurred. This is because studies performing such analyses provide considerable information on what has been done about the subject under analysis and about what progress has been made (Zawacki-Richter & Latchem, 2018). Studies performed in the bibliometric method enable researchers to analyze relevant literature statistically. Bibliometric is a quantitative analysis presenting the bibliographic properties of the growing literature which is growing more (Ellegaard & Wallin, 2015).

The general state of a field and the data about the publications in the field can be revealed through bibliometric analysis by using mathematical and statistical methods (Martinez et al., 2015). Rice et al. (1988) claim that citations from publications are an important indicator and thus they focus on scientific communication models. The information structure and development of the fields of research can be investigated quantitatively based on the analysis of relevant publications thanks to bibliometric analysis (Jing et al., 2015). In this way, not only the publication performance of institutions but also the conceptual structure of a certain discipline can be described through bibliometric analysis (Martinez et al., 2015). Imray et al. (2015) state that the analysis and evaluation of published articles are also very important for researchers who wish to specialize in research tendencies and to pursue the latest findings. This study, on the other hand, performs various bibliometric analyses on scientific publications concerning the instructional design, which occupies a considerable place in the educational-instructional process.

A review of the literature on instructional design shows that studies of compilation, content analysis, and meta-analysis aiming to adopt a holistic viewpoint are available in the literature. The meta-analysis study examining the effects of instructional design models on academic achievement and on attitudes (Kanadli, 2016) and the content analysis study examining the good applications and investigations in instructional design (Sugar & Luterbach, 2016) are some of such studies. In a similar vein, Goksu et al. (2017) emphasize in a study of content analysis that instructional design models are more successful in the learning-teaching process and they concentrate on which research models are used. Yet, even though studies of content analysis provide richer content, they cause difficulties in terms of time and labor (Hung, 2012).

The number of studies on instructional design conducted in the bibliometric method is quite limited. In one study, Anglin and Towers (1992), conducted a citation analysis of studies published in the *Journal of Instructional Development* and the Journal of *Educational Technology Research and Development(ETR&D)* and found that the top 10 influential authors in the field of the instructional design were C. M. Reigeluth, R. M. Gagne, L. J. Briggs, D. H. Jonassen, M. J. Hannafin, Merill, J. M. Keller, W. Dick, R. D. Tennyson, and B. Bratton. Studies conducted by Keser and Ozcan (2011) and Kirby et al. (2006) found that the great majority of the studies on instructional design were conducted in co-authorship collaboration. Ozcinar (2009) reviewed the Web of Science (WoS) database to do citation analysis and examined 758 studies. In another study which was restricted to the DOAJ database, Yaman and Ozcinar (2020) analyzed 158 studies on instructional design and tried to do bibliometric analysis on the field. However, only a small number of studies considering the instructional design studies in a broad framework according to journals and years were found in the field.

This study aims to analyze high-quality scientific studies that are guiding and influential in the field of instructional design- an important field to maintain the educational and instructional process more successfully and more systematically. Thus, the study aims to determine the most effective, central, and active links by using the data on authors, publications, citations, subjects, institutions, and countries and to reveal the relations between prolificacy, effectiveness, co-authorship, co-citation network, concepts subjects, and the tendencies.

In this context, the study seeks to answer the following questions:

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