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E-Module Research Trends in Learning Physics: Bibliometric Studies in 2017-2021 Range (Before and During the COVID-19 Pandemic)

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ABSTRACT

The COVID-19 pandemic that has hit the world for the past two years has created a new trend in the world of education, one of which is through the use of e-modules. The purpose of this research is to identify and describe trends in e-module research in physics learning. The method used in this research is through bibliometric studies. The research was conducted by searching online through the Scopus database in July 2022 with the keyword "e-module" in the 2017-2021 range. The search results are then sorted and saved in CSV format which is then analyzed using VOSviewer software. Through this bibliometric approach, we can obtain an overview of research trends, patterns of interrelationships, and the potential to find novelty from these trends so as to assist further research in the future. The results of data analysis show that there are countries and the most productive authors who conduct research on e-modules. In addition, bibliometric visualization shows that research on e-modules continues to grow in various topics. So that research on e-modules in the future continues to develop according to needs.

INTRODUCTION

Supporting factors in the teaching and learning process include media and teaching materials. Teaching materials or often referred to as subject matter is the most important part in the learning process, subject matter is the core of learning activities. There are many forms of teaching materials used in the learning process, one of which is the module. Conventional module is a series of material about something written systematically with a certain grammar, equipped with pictures or illustrations and guided training to distinguish it from other written works (Sofyan et al., 2019). Print modules are commonly used in various fields such as education, courses, and industry. Thanks to advances in technology, information, and communication, the module is slowly but surely transforming into an electronic form called an electronic module or e-module (Febro et al., 2020; Komikesari et al., 2020). The e-module itself consists of various popular extension formats such as .docx, .pdf, .epub, .html. E-modules can contain content containing photos, videos, animations, and audio; some can be accessed offline, and some require an internet connection (McDonald et al., 2018; Nurjayadi et al., 2021; Sari et al., 2020).

The use of e-modules has become more in demand in recent years because it is easier to carry, do not take up space, are easily accessible, and are easy to distribute (Komikesari et al., 2020; Sari et al., 2020). The use has increased rapidly since the world experienced the COVID-19 pandemic, which began in 2020 (Hermawan, 2021). COVID-19 has forced the government to implement several policies to tackle and break

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