

EFFECTIVENESS OF MIND MAPPING TO INCREASE STUDENT'S SCIENTIFIC LITERACY

Andi Kurniawan

Universitas Islam Syekh Yusuf, Indonesia
Correspondence author email: andri.kurniawan@unis.ac.id

Sofan Rizki

Universitas Sains Al-Quran (UNSIQ), Indonesia

Suharto

Universitas PGRI Nganjuk, Indonesia

Sayyida Khairotun Nisak

STIE Syariah Al-Mujaddid, Indonesia

Tomi Apra Santosa

Akademi Teknik Adikarya, Indonesia

Abstract

This study aims to determine the effectiveness of the mind maps model to improve students' science literacy. This type of research is a meta-analysis study. This study analyzed 14 effect sizes obtained from google scholar, DOAJ, ScienceDirect and ERIC databases. The inclusion criteria are publications published in 2019-2023, research comes from journals or proceedings indexed by SINTA, Scopus and WOS, Research has experimental classes with mind mapping models and conventional model control classes, research must be in Indonesian and English and data has sample size, standard deviation and mean value. Data analysis with the help of JASP applications. The results of the study concluded From the study it can be concluded that the results of the study concluded the value of summary effect size or mean effect size of $rE = 0.937$; $Z = 6.768$; $p < 0.001$. This finding explains that the mind mapping model is effective in increasing students' science literacy in learning with high categories.

Keywords: Mind mapping; Effect Size; Science Literacy, Meta-analysis

Introduction

Science literacy is a student's ability to solve a problem in the field of science (Noor, 2010; Rahman et al., 2023; Rita et al., 2021). Science literacy plays an important role in training students to cultivate scientific attitudes in learning (Muniati et al., 2023; Suwono, 2022). In addition, science literacy helps students be actively involved in understanding issues and ideas related to science (Adiwiguna et al., 2019). Alatas & Fauziah, (2020) science literacy is the main factor measured in the education curriculum system in Indonesia. Indonesia's science literacy is currently still relatively low (Aiman & Ahmad, 2020; chsan, 2023; Elfira et al., 2023).

Based on the results of the 2018 PISA survey conducted by the OECD, the literacy rate of Indonesian students obtained a score of 396, ranked 71 out of 78 countries