International Journal of Current Educational Research
Homepage: https://www.journal.iel-education.org/index.php/ijocer
Email: ijocer@iel-education.org
p-ISSN: 2961-8517; e-ISSN: 2961-8509

IJOCER, Vol. 1, No. 2, December 2022

Page 121-134

Implementation of the Argument-Driven Inquiry (ADI) Model in Physics Learning of 2012-2021: Bibliometric Analysis

Setyo Admoko[1], Kafi Pramitha Anggraini Indhira Artanti[2], Eko Hariyono[3], Madlazim[4]
[1,2,3,4] State University of Surabaya, Surabaya, Indonesia

DOI : https://doi.org/10.53621/ijocer.v1i2.183

Sections Info
Article history:
Submitted: November 26, 2022
Final Revised: December 14, 2022
Accepted: December 20, 2022
Published: December 31, 2022
Keywords:
Argument-Driven Inquiry
Argumentation skills
Bibliometric analysis
Physics learning
Research trends

ABSTRACT
Argumentation is a core practice of scientific discourse. One of the problems in learning science is the low level of argumentation skills of students. Efforts to improve argumentation skills include implementing the Argument-Driven Inquiry (ADI) learning model. This study aims to identify the contribution and find out the trend of applying ADI in physics learning in 2012-2021. The method used in this research is a bibliometric analysis based on Scopus data with the help of MS Excel and VOSviewer to visualize the metadata obtained. The results of this study obtained 100 documents. The development of ADI every year does not have a significant increase in the number of publications produced. Research visualization using VOSviewer produces 14 clusters and 7 closely related to argumentative learning, guided inquiry, and so on. Based on the results of this study, it can be concluded that the ADI has several contributions to science learning, mostly done in Chemistry, and it is still rare in Physics, so it can be an opportunity for further research. It is hoped that further research can discuss more deeply the ADI learning model, which is applied to physics learning to improve students' argumentation skills.

INTRODUCTION

The root of the problem in learning science, especially physics, is the weak argumentative ability of students. Most students today still lack skills in writing scientific arguments and less effective learning methods (Muslim, & Suhandi, 2012). Most teachers still dominate in explaining science material in several schools, so this has an impact on the weakening of argumentation skills by students. The argumentative ability of students is becoming weaker. Because of that, the student's ability to understand the material is decreasing. The weakness of students in arguing is caused by the lack of students' ability to prove evidence and support their arguments. A good argument can be judged by how students understand the material, express opinions that are understood, and are able to convince the interlocutor to accept what is conveyed by him (Sarira et al., 2019). Therefore, the importance of teachers in teaching students to argue in the current century. According to Muhali (2019), the view of education in the 21st century is different from the previous century, which is characterized by developing literacy and collaborating with data, technology, and information.

The advancement of information technology in the 21st century has led to a learning model called the 4c model: critical thinking, collaborative, creative and innovative, and communicative (Sunardi & Doringin, 2020). According to (Gunawan et al., 2017), the 2013 curriculum emphasizes more on several aspects, namely creative, active, innovative, effective, and fun. Skills in conveying arguments, creative thinking, and skilled in Communicating these four aspects must be possessed by students to live life in the 21st century easily (Andrian & Rusman, 2019). Learning with the Argument-Driven Inquiry (ADI) model has some special emphasis on implementing it. The Argument-Driven

3._183-Setyo_Admoko_et_al_121-134.docx

ORIGINALITY REPORT

24%	18%	18%	3%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	repository.lppm.unila.ac.id Internet Source	4%
2	Binar Kurnia Prahani, Iqbal Ainur Rizki, Budi Jatmiko, Nadi Suprapto, Amelia Tan. "Artificial Intelligence in Education Research During The Last Ten Years: A Review and Bibliometric Study", International Journal of Emerging Technologies in Learning (iJET), 2022 Publication	4%
3	pubs.rsc.org Internet Source	3%
4	www.journal.iel-education.org Internet Source	1%
5	ejournal.radenintan.ac.id Internet Source	1%
6	onlinelibrary.wiley.com Internet Source	1%
7	jppipa.unram.ac.id Internet Source	1%