# Science

#### **Indonesian Society for Science Educators**

# Journal of Science Learning



journal homepage: ejournal.upi.edu/index.php/jslearning

#### Journal of Science Learning (JSL, J.Sci.Learn)

The Journal of Science Learning (JSL) is an open access and peer-reviewed journal published by Universitas Pendidikan Indonesia. The aim of Journal of Science Learning is to promote a principled approach to research on science learning by encouraging enquiry into relationship between theoretical and practical studies. The article offers ways to improve classroom science teaching and learning, and professional development. The Journal welcomes contributions in such areas of science learning, science learning in everyday life, science teacher education, science studies and science education. JSL is a triangual journal issued on March, July, and November. The journal was first published by Universitas Pendidikan Indonesia in 2017.

#### **Peer Review Policy**

Newly submitted manuscripts will first be screened by the main Editors. Manuscripts may be rejected at this stage if they are of insufficient quality, outside the scope of the journal or they are considered not original. Manuscripts that do meet the minimal requirements for publication are assigned to one of the main Editors, who sends the manuscript out for review. Reviewers are selected by the main Editors on the basis of their expertise, their availability, and such as to avoid possible conflicts of interest. A reviewer is asked to evaluate whether the manuscript is scientifically sound, original, relevant, clear, whether it correctly references previous work, and whether it falls within the scope of the journal.

All research articles in this journal have undergone rigorous peer review, based on initial editor screening and anonymized refereeing by at least two anonymous referees. The acceptance or rejection of articles will be decided by the editorial boards based on the review results supplied by the reviewers. There are no communications between authors and editors concerning the rejection decision. Authors whose papers are rejected will be informed with the reasons of the rejection.

All papers are fully peer-reviewed. We only publish articles that have been reviewed and approved by highly qualified researchers with expertise in a field appropriate for the article. We used single blind peer-reviewing process. To ensure the integrity of the blind peer-review for submission to this journal, every effort should be made to prevent the identities of the authors and reviewers from being known to each other.

i

#### **Editorial Team**

#### **Editors**

Ari Widodo, Universitas Pendidikan Indonesia, Indonesia Eka Cahya Prima, Universitas Pendidikan Indonesia, Indonesia

#### Editorial Board

Diana Rochintaniawati, Universitas Pendidikan Indonesia, Indonesia Zuhdan Kun Prasetyo, Universitas Negeri Yogyakarta, Indonesia Anna Permanasari, Universitas Pendidikan Indonesia, Indonesia Marissa Rollnick, University of Witwatersrand, South Africa Reinders Duit, University of Kiel, Germany Carl J. Wenning, Illinois State University, United States Peter John Aubusson, University of Technology Sydney, Australia



## Journal of Science Learning

Volume 1, Issue 1, November 2017, pp 1-43

### **Table of Contents**

Preface	i
Table of Content	ii
Applying Pre and Post Role-Plays supported by Stellarium Virtual Observatory to Improve Students' Unders	standing on
Learning Solar System	
Eka C Prima, Chika L Putri, Fransisca Sudargo	1-7
The Profile of Students' Critical Thinking Measured through Science Virtual Test on 9th Grade in The Them	e of Living
Things and Environmental Sustainability	
R. Auliya Ulul 'ilmi Fernandi, Harry Firman, Lilit Rusyati	8-16
The Development and Validation of Science Virtual Test to Assess 7th Grade Students' Critical Thinking on	Matter and
Heat Topic	
Yustika Syabandari, Harry Firman, Lilit Rusyati	17-27
Using Inquiry-based Laboratory Activities in Lights and Optics Topic to Improve Students' Understanding ab	out Nature
of Science (NOS)	
Tiara Budi Wardani, Ari Widodo, Nanang Winarno	28-35
Solar Cell as Learning Multimedia to Improve Students' Scientific Literacy on Science and Nanotechnology	
Eliyawati, Yayan Sunarya, Ahmad Mudzakir	36-43