



- Preferred and Actual Opinions toward Inquiry-based Instruction of Primary Science Teachers in the Northeast of Thailand
Prasart Nuangchalerm, Veena Prachagool
- Simple and Low-Cost Chemical Experiment Kits to Observe the Concept of Gas Laws
Robby Zidny, Geby Ayu Fadhilah, Githa Eryani Melda, Izmi Izzatus Sholihah, Nabila Lailil Widiastuti, Nina Haerunnisa, R. Ahmad Zaky El Islami
- Contextual Learning: Implementation and Challenges for Science Teacher in Private Middle School
Risya Pramana Situmorang, Elia Suwi, Failasuf Aulia Nugroho
- Development of Laboratory Module of Isolation Trimyristin from Nutmeg (*Garcinia mangostana*) to Support Meaningful Learning in Natural Product Chemistry Course
Aliefman Hakim, Jamaluddin Jamaluddin, Abdul Wahab Jufri, I Nyoman Loka, Sukib Sukib, Saripatul Mahmudah
- Physics Learning through Active Learning Based Interactive Conceptual Instructions (ALBICI) to Improve Critical Thinking Ability
Rahma Diani, Irwandani Irwandani, Al-Hijrah Al-Hijrah, Yetri Yetri, Dwi Fujiani, Niken Sri Hartati, Rofiqul Umam
- Finding Learning Strategy in Improving Science Literacy
Yanti Herlanti, Yuke Mardiaty, Rahmawati Rahmawati, Annisaa Meyrizka Kusumo Putri, Nurlaelah Jamil, Miftahuzzakiyah Miftahuzzakiyah, Ahmad Sofyan, Zulfiani Zulfiani, Sugiarti Sugiarti
- The Use of Mobile Application as a Media in Physics Learning
Ade Yeti Nuryantini, Rully Agung Yudhiantara
- Feasibility of Human Excretory System Module in Biology Learning
Ruqiah Ganda Putri Panjaitan, Desti Puspita Sari, Eko Sri Wahyuni, Galih Albarra Shidiq, Galih Albarra Shidiq



**DEPARTMENT OF SCIENCE EDUCATION
FACULTY OF TEACHER TRAINING AND EDUCATION
UNIVERSITAS SULTAN AGENG TIRTAYASA 2019**

JURNAL PENELITIAN DAN PEMBELAJARAN IPA

Vol.5, No.1, p.1-93, May 2019

p-ISSN 2477-1422, e-ISSN 2477-2038

Person in Charge

Dean of Faculty of Teacher Training and Education

Editor in Chief

R. Ahmad Zaky El Islami, M.Pd., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia

Editorial Boards Regional America

1. Prof. Norman G. Lederman, Ph.D, Department of Mathematics and Science Education, Illinois Institute of Technology, Chicago, United States
2. Prof. Randy L. Bell, Ph.D, College of Education, Oregon State University, Corvallis, United States

Editorial Board Regional Europe

Prof. Dr. Bayram COSTU, Primary Science Education Division, Yildiz Technical University, Turkey

Editorial Board Regional Africa

Assoc. Prof. Lindelani E. Mnguni, Ph.D, Department of Science & Technology Education, University of South Africa, South Africa

Editorial Board Regional Australia and Oceania

Yulina Eva Riany, Ph.D, Parenting and Family Support Centre, The University of Queensland, Australia

Editorial Boards Regional Asia

1. Prof. Lilia Halim, Ph.D, Department of Education Policy and Leadership, Faculty of Education, The National University of Malaysia, Malaysia
2. Assoc. Prof. Dr. Prasart Nuangchalem, Department of Curriculum and Instruction, Faculty of Education, Mahasarakham University, Thailand
3. Prof. Antriman Vipinosa Orleans, Ph.D, College of Graduate Studies and Teacher Education Research, Philippine Normal University, Philippines
4. Assoc. Prof. Dr. Sjaifuddin Sjaifuddin, M.Si., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia
5. Assoc. Prof. Dr. Suroso Mukti Leksono, M.Si., Department of Science Education, Faculty of Teacher Training and Education, University of Sultan Ageng Tirtayasa, Indonesia
6. Assist. Prof. Dr. Lukman Nulhakim, M.Pd., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia
7. Liska Berlian, M.Si., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia

8. Prasetyaningsih Prasetyaningsih, M.Pd., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia

Graphic Design

Aditya Rakhmawan, M.Pd., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia, Indonesia

Secretariat

1. Mudmainah Vitasari, M.Pd., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia, Indonesia
2. Vica Dian Aprelia Resti, M. Pd., Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa, Indonesia, Indonesia

Peer-Reviewers

1. Prof. Dr. Hj. Anna Permanasari, M.Si., Department of Science Education, School of Postgraduates Studies, Universitas Pendidikan Indonesia, Indonesia
2. Prof. Dr. Sudarmin Sudarmin, M.Si., Department of Science Education, Faculty of Mathematics and Natural Science, Universitas Negeri Semarang, Indonesia
3. Ahmad Fudholi, Ph.D., Solar Energy Research Institute, Universiti Kebangsaan Malaysia, Malaysia
4. Assist. Prof. Dr. Aliefman Hakim, M.Si., Department of Chemistry Education, Faculty of Teacher Training and Education, Universitas Mataram, Indonesia
5. Assist. Prof. Dr. Fahyuddin Fahyuddin, M.Si, Department of Chemistry Education, Faculty of Teacher Training and Education, Universitas Halu Oleo, Indonesia
6. Assist. Prof. Dr. Yanti Herlanti, M.Pd., Biology Education Program, Faculty of Tarbiya and Teaching Sciences, UIN Syarif Hidayatullah Jakarta, Indonesia
7. Assoc. Prof. Dr. Sigit Saptono, M.Pd., Department of Biology Education, Faculty of Mathematics and Science, Universitas Negeri Semarang, Indonesia
8. Munasprianto Ramli, Ph.D, Chemistry Education Program, Faculty of Tarbiya and Teaching Sciences, UIN Syarif Hidayatullah Jakarta, Indonesia
9. Assoc. Prof. Dr. Ade Yeti Nuryantini, M.Si, Department of Physics Education, Faculty of Tarbiya and Teaching, UIN Sunan Gunung Djati, Indonesia
10. Dr. Ratna Farwati, M.Pd., Chemistry Education Program, Faculty of Teacher Training and Education, Universitas Sriwijaya, Indonesia

Publisher

Department of Science Education, Faculty of Teacher Training and Education, Universitas Sultan Ageng Tirtayasa in Cooperation with Perkumpulan Pendidik IPA Indonesia (PPII)/Indonesian Society for Science Educators

Email and Address

Jl. Ciwaru Raya No. 25 Cipocok Jaya Serang Banten 42117 Email: jppi@untirta.ac.id and jppiuntirta@gmail.com

p-ISSN: 2477-1422 e-ISSN: 2477-2038,

JURNAL PENELITIAN DAN PEMBELAJARAN IPA

Vol.5, No.1, p.1-93, May 2019

Jurnal Penelitian dan Pembelajaran IPA
is published twice a year, May and November
contains publications of research in the field of science learning including
chemistry learning, physics learning, biology learning and natural sciences learning

PUBLISHER

**DEPARTMENT OF SCIENCE EDUCATION
FACULTY OF TEACHER TRAINING AND EDUCATION
UNIVERSITAS SULTAN AGENG TIRTAYASA
IN COOPERATION WITH
PERKUMPULAN PENDIDIKAN IPA INDONESIA (PPII)/
INDONESIAN SOCIETY FOR SCIENCE EDUCATORS**

PREFACE

Praise to Allah SWT who has given all his gifts and favors so that publishers are able to publish the Jurnal Penelitian dan Pembelajaran IPA volume 5, number 1, May 2019. Shalawat and greetings may be poured into Prophet Muhammad SAW, to his family, His companions and his followers until the end of time. The publication of this journal can't be separated from the support of various parties, from university to degree level, researchers from within and outside Universitas Sultan Ageng Tirtayasa (UNTIRTA), other partners and stakeholders. Do not forget to thanks the Dean of Faculty of Teacher Training and Education (FKIP) and Head of Department of Science Education, who has provided support in the publication of this journal. We would also like to thanks both the moral and material support given by all parties who provided the way to the publication of this journal. Hopefully this journal can be used and useful for the publication of research in UNTIRTA or outside UNTIRTA.

In volume 5 (five) number 1 (one) consists of 8 articles. All articles are the result of a research study. The research methods used by the authors include descriptive, survey, quasi experiment, and research and development (R & D). The proportion of articles is 100% of articles from outside Universitas Sultan Ageng Tirtayasa

Finally the editorial board realizes that this journal is so far from perfect, constructive feedback and suggestions to publishers for future improvements so publishers hope that this journal can have better quality

Serang, May 2019

Editorial Board

TABLE OF CONTENTS

PREFACE	ii
TABLE OF CONTENTS	iii
Preferred and Actual Opinions toward Inquiry-based Instruction of Primary Science Teachers in the Northeast of Thailand	
Prasart Nuangchalerm, Veena Prachagool	1
Simple and Low-Cost Chemical Experiment Kits to Observe the Concept of Gas Laws	
Robby Zidny, Geby Ayu Fadhilah, Githa Eryani Melda, Izmi Izzatus Sholihah, Nabila Lailil Widiastuti, Nina Haerunnisa, R. Ahmad Zaky El Islami	16
Contextual Learning: Implementation and Challenges for Science Teacher in Private Middle School	
Risya Pramana Situmorang, Elia Suwi, Failasuf Aulia Nugroho	26
Development of Laboratory Module of Isolation Trimyristin from Nutmeg (Garcinia mangostana) to Support Meaningful Learning in Natural Product Chemistry Course	
Aliefman Hakim, Jamaluddin Jamaluddin, Abdul Wahab Jufri, I Nyoman Loka, Sukib Sukib, Saripatul Mahmudah	39
Physics Learning through Active Learning Based Interactive Conceptual Instructions (ALBICI) to Improve Critical Thinking Ability	
Rahma Diani, Irwandani Irwandani, Al-Hijrah Al-Hijrah, Yetri Yetri, Dwi Fujiani, Niken Sri Hartati, Rofiqul Umam	48
Finding Learning Strategy in Improving Science Literacy	
Yanti Herlanti, Yuke Mardiati, Rahmawati Rahmawati, Annisaa Meyrizka Kusumo Putri, Nurlaelah Jamil, Miftahuzzakiyah Miftahuzzakiyah, Ahmad Sofyan, Zulfiani Zulfiani	59
The Use of Mobile Application as a Media in Physics Learning	
Ade Yeti Nuryantini, Rully Agung Yudhiantara	72
Feasibility of Human Excretory System Module in Biology Learning	
Ruqiah Ganda Putri Panjaitan, Desti Puspita Sari, Eko Sri Wahyuni, Galih Albarra Shidiq	84