ANALYSIS OF STUDENTS’ SCIENTIFIC ARGUMENTATION SKILLS THROUGH PROBLEM-BASED LEARNING ON ENERGY RESOURCES TOPIC

RESEARCH PAPER

Submitted as Requirement to Obtain Degree of Sarjana Pendidikan in International Program on Science Education (IPSE) Study Program

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INTERNATIONAL PROGRAM ON SCIENCE EDUCATION
FACULTY OF MATHEMATICS AND SCIENCE EDUCATION
UNIVERSITAS PENDIDIKAN INDONESIA
2020
ANALISIS KETERAMPILAN ARGUMENTASI ILMIAH SISWA MELALUI PEMBELAJARAN BERBASIS MASALAH PADA TOPIK SUMBER DAYA ENERGI

Oleh:
Lina Christina

Skripsi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Sarjana Pendidikan pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam

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I do hereby declare with respect that every part of this research paper entitled “Analysis of Students’ Scientific Argumentation Skills through Problem-Based Learning on Energy Resources Topic” is purely the outcome of my own efforts and ideas, without plagiarizing any other studies. The findings or perspectives of experts gathered in this research paper have been cited or referred to in accordance with scientifically appropriate ethics. This statement was made with all sincerity and full awareness. If there is an infringement found in this study, or if there is a claim made by another party to the validity of this research, then I am willing to take responsibility and accept academic sanctions as necessary.

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ABSTRACT

This research aims to investigate the profile of students’ scientific argumentation skills. The method used in this research was non-experimental with descriptive correlational design. The sample was taken conveniently (n=14 students) with grade 7 at one of the International School in Bandung. Generally, scientific argumentation component determined based on Toulmin Argumentation Pattern. Based on the analysis result, it shows that the learning process of problem-based learning had directed students to recognize and provide arguments, and the results of the argumentation quality in both of written and oral were mostly distribute at level 2 with the most frequent components was claim and qualifier at the lowest. However, there is a vary level in written argumentation when student answer the question number 3. Moreover, the quality of oral argumentation tends to be better than written argumentation since 42.46 % of students already include the rebuttal component in oral argumentation. In addition, there are also vary results of the correlation between oral and written argumentation. The correlation of oral and written problem number 1 about the relationship of increasing population with energy demand showed no correlation, the correlation of oral and written problem number 3 about the potential of renewable energy sources as the alternative to meets the world’s energy showed no correlation, while oral and written problem number 2 demand about the use of fossil energy as a part of non-renewable energy sources showed a medium correlation with the correlation coefficient of 0.541.

Keyword: Scientific Argumentation, Problem-Based Learning, Energy Resources
ABSTRAK


Kata Kunci: Argumentasi Ilmiah, Pembelajaran Berbasis Masalah, Sumber Daya Energi
PREFACE

Praise and gratitude, the author devote to the presence of God because of His grace and bless the author can complete this research paper entitled "Analysis of Students' Scientific Argumentation Skills through Problem-Based Learning on Energy Resources Topic". This research paper is prepared to fulfill one of the requirements for completing study at the university level, to obtain a bachelor's degree in the International Program on Science Education (IPSE).

This research paper is also as the platform to examine the knowledge that the author have received for 4 years at the university. To finish this research paper, the authors first propose a research, conduct the research, and finally make a report on this research. The author realizes that this research may have weaknesses, therefore suggestions or comments related to this research are highly welcomed by the author, and as a closing, the authors hope that with this research many parties can get benefit.

Bandung, August 2020

Author

Lina Christina
ACKNOWLEDGEMENT

This research was not completed solely by the author's own efforts. During the process of compiling this research, the authors received a lot of help from many parties. Therefore, the author would like to give gratitude to all those who have contributed in completing this research, the author would like to express these sincere credits to all parts are listed:

1. Lord Jesus, who always poured out His blessings and protection during the process of this research paper from the beginning to the end.

2. To my own self who has tried and strengthened her heart to get to this stage, all the processes that have been passed that made her want give up but in the end she keep survive, thank you for being strong.

3. My parents, who have given me so much support, advice, encouragement. Thank you for the endless love that has been given to me.

4. Prof. Dr. Nuryani Y. Rustaman, M.Pd. as my first supervisor, who always give her valuable time to guide and direct me in the completion of this research paper. All her suggestions and guidance have really helped me to be able to learn how to compile the right research.

5. Mrs. Eliyawati S.Pd, M.Pd. as my second supervisor, who has been patiently guiding me, giving advice and direction, trying to make sure that I on the track that has been determined, and always give me motivation, so this research can be completed at the appropriate time.

6. Mr. Nanang Winarno, S.Pd, M.Pd as my academic advisor, who have given the spirit, motivation and warning to graduate on time

7. Dr. Eka Cahya Prima S.Pd ,. M.T. As the head of IPSE who always support his students to complete the study properly and on time.

8. All lecturers who have educated me since 2016 especially to Mrs. Lilit Rusyati, Mr. Ikmanda Nugraha, Mrs. Diana Rochintaniawati, Mrs. Rika Rafikah who has given new knowledge, extraordinary experiences, and a lot of values of life that are meaningful during my college life.

9. All IPSE 2016 squads Resti, Almira, Hurin, Regina, Nabila, Nadia, Hanifah,
Septika, Firdha, Rena, Maya, Liandha, Nurul, Ulvi, Anis, Salma, Hengky, Rahmi, Dyantie, Weni, Echa who have accompanied my four-year college life. They gave me so much cheer and laughter that not easy to forget, share the positive support and made me have a different view on the meaning of friendship.

10. Afrina and Relyn who always there when I need a place to pour out my feelings and my thoughts.

11. Geivana and Sarah as my senior high school friend who have prayed the best for me.

12. My high school friend which is Basuci Geng, consisting of Tia, Sofia, Alvira, Sheilla and Inggrid who have prayed and encouraged each other.

13. Mr. Ridho as a teacher at Pribadi Bilingual School, Kang Zimam as my senior and also as teacher at Highscope School, Kang Dzoel as my senior and a teacher from Ar’Rafi school as well as my senior Eksa Sunarya who helped me in getting samples to complete the instrument test.

14. Temasek Independent school, which has provided me with the opportunity to carry out teaching knowledge and also collect data for this research.

15. Beasiswa Unggulan, Kemendikbud. Thank you for financial support for my college tuition and cost living that really help the author to enthusiastically complete her study. By getting a scholarship, the author is eager to be someone who has a positive effect and also eager the author to share the knowledge after college in the field of education for Indonesia. Amen

Last but not least, to all of the people and contributors who listed above and some contributor I have not listed. I really respected all your kindness and your concern. May God reward you with endless blessings for all the good that the author has achieved. Hopefully this research paper is useful for the educational development.

Bandung, August 2020

Author
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