

ENHANCING STUDENTS' SCIENTIFIC LITERACY AND COMMUNICATION
SKILL BY CREATING INFOGRAPHICS USING GENIALLY IN LEARNING
CLIMATE CHANGE

RESEARCH PAPER

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



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FACULTY OF MATHEMATICS AND SCIENCE EDUCATION
UNIVERSITAS PENDIDIKAN INDONESIA

2020

**ENHANCING STUDENTS' SCIENTIFIC LITERACY AND COMMUNICATION SKILL
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CHANGE**

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

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DECLARATION

I do hereby declare that every respect which is written in this research paper entitled “Enhancing Students’ Scientific Literacy and Communication Skill by Creating Infographics Using Genially in Learning Climate Change” is genuinely pure result of my own original ideas, effort, research, work and not copied or plagiarized from other papers. The opinion or findings of others which contained in this research paper have been quoted or referenced based on scientific code of conduct and accordance with ethical science that applied in scholarly society. This declaration is created truthfully and consciously, when subsequently it is found an infringement towards scientific ethics, or if there is a claim of any others towards the authenticity of this research paper, hence I am willing to responsible and accept academical sanctions correspond to applicable rules.

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ABSTRACT

According to the assessment of Programme of International Student Assessment (PISA), Indonesia's ranking in scientific literacy is in the 62 out of 69 participating countries. In addition to that, Indonesia's average performance in science is also still low compared with those participating countries in PISA. This condition should encourage educators to accommodate students with appropriate learning process in order to prepare them in facing the 21st century with its rapid innovations. There are many skills to be acquired for becoming an empowered citizen in this era, one of them is communication skill which is the key to other capability and demanded competency for being a scientifically literate person. In this case, this study is conducted to facilitate students in increasing those two prominent skills by incorporating infographic in learning climate change topic as socio-scientific issue using Genially website. The research method used is pre-experimental to investigate the enhancement of students' ability before and after the experimental treatment. The research sample involved 50 students from one of secondary schools in Cimareme, West Bandung and the instruments being used are objective test, questionnaire and rubric. The result for scientific literacy is various and showing significance in explaining phenomena scientifically, the knowledge of global warming process, its impacts and to overcome it. Furthermore, students also show significant difference both in verbal and visual communication.

Keywords: scientific literacy, communication skill, infographic, climate change

MENINGKATKAN LITERASI SAINS DAN KEMAMPUAN KOMUNIKASI SISWA DENGAN PEMBUATAN INFOGRAFIK MENGGUNAKAN GENIALLY DALAM TOPIK PERUBAHAN IKLIM

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ABSTRAK

Berdasarkan hasil penilaian dari Programme of International Student Assessment (PISA), pencapaian siswa/i Indonesia dalam literasi sains masih sangat rendah. Indonesia berada di posisi ke-62 dari total 69 negara yang berpartisipasi dalam penilaian tersebut. Selain itu, nilai rata-rata pencapaian Indonesia di bidang sains juga masih sangat rendah. Hal ini seharusnya mendorong para guru untuk mengakomodasi kebutuhan siswa dengan proses pembelajaran yang sesuai dan tepat untuk mempersiapkan mereka menghadapi abad ke-21 yang ditandai dengan beragamnya inovasi. Terdapat banyak keterampilan yang perlu dikuasai untuk menjadi individu yang berdaya guna di era ini, salah satunya adalah keterampilan berkomunikasi yang menjadi kunci untuk menguasai keterampilan lainnya dan sebagai kompetensi yang diperlukan untuk menjadi individu yang ilmiah. Didasari oleh hal tersebut, penelitian ini dilakukan untuk meningkatkan keterampilan siswa dalam literasi sains dan berkomunikasi dengan penggunaan infografik melalui website Genially pada pembelajaran topik perubahan iklim sebagai salah satu isu sociosaintifik. Metodologi penelitian yang digunakan adalah pre-experimental untuk meneliti peningkatan keterampilan siswa sebelum dan sesudah diberikan perlakuan eksperimen. Penelitian ini melibatkan sampel 50 siswa dari salah satu sekolah menengah pertama di Cimareme, Bandung Barat. Instrumen penelitian yang digunakan adalah tes objektif, kuesioner, dan rubrik. Hasil penelitian ini menunjukkan adanya pencapaian signifikan literasi sains siswa dalam menjelaskan fenomena secara saintifik, pemahaman serta penguasaan proses pemanasan global, dampak serta penanggulangannya. Selain itu, siswa juga menunjukkan hasil yang signifikan dalam komunikasi verbal dan visual.

Kata kunci: literasi sains, keterampilan berkomunikasi, infografik, perubahan iklim

PREFACE

Bismillahirrahmanirrahim,

All praises and gratefulness are praised to Allah SWT for all His Mercy and grace that the author is able to finish the research paper to fulfill the requirement for Bachelor Degree of International Program on Science Education in Universitas Pendidikan Indonesia. This research paper's title is "Enhancing Students' Scientific Literacy and Communication Skill by Creating Infographics Using Genially in Learning Climate Change". Greetings may always be devoted to Prophet Muhammad SAW, his families, relatives and all the Muslims around the world.

This research was conducted to examine the enhancement of students' scientific literacy and communication skill by creating infographic. This research paper is the last requirement for all university students to submit in order to complete their study and receive Bachelor Degree. There are five chapters in this research paper including introduction, literature review, research methodology, result and discussion, and lastly conclusion and recommendation.

Perfection only belongs to Allah SWT, the author realizes and admits that this research paper contains a lot of weakness that may be improved in the future. Suggestions and critics are most welcomed in order to improve the quality of the paper. Hopefully the results presented in this research can be used to further progress in the field of science education.

Bandung, August 2020

The Author

ACKNOWLEDGEMENT

The completion of this research paper cannot be done without the help of one and only Merciful Allah SWT and various supports as well as cooperation from different parties. The author would like to express her immense gratitude and dedicate this appreciation towards the direct and indirect helps, especially to the following parties:

1. Prof. Dr. Hj. Nuryani Y. Rustaman, M.Pd as the first supervisor with her humility and extensive knowledge for helping the most in expanding the ideas and time to give constructive suggestions towards author's progress for becoming a better, thoughtful and responsible thinker. May Allah SWT return all of her supports and generosity.
2. Lilit Rusyati, M.Pd as the second supervisor who always strengthens the author during the process of finishing the research paper beginning from the very first step, motivates the author, and gives details information related to the research steps. Her experiences and full support have helped the author through hard and confusing times. May Allah SWT grants her health and happiness, always.
3. The author's beloved Ibu, Ayah and Uki for always fully rooting and supporting from day one. The people who become the first-hand in making sure there is progress being done by the author. The author will never be able to make it to this page without their genuine love and compassion. May Allah SWT gives them happiness eternally.
4. All IPSE lecturer who always inspired the author for becoming a good educator and being passionate in learning new beneficial knowledge. Especially Mr. Nanang as the academic supervisor of the author's batch for giving motivation and insight in learning science. Then Mrs. Eli, Mrs. Rika, Mr. Ikmanda and Mr. Eka who also gave their constant supports, learning experiences and time. There is nothing the author hope other than all the good and kind things in the world for the beloved lecturers, may Allah SWT return everything better.
5. IPSE HuHa squad who always become the core of positive vibes during the author's academic year in college. The author would like to express the most sincere gratitude

- for those always striving together in the pursue of good result at everything: Almira, Anis, Echa, Firdha, Hanifah, Hengky, Hurin, Liandha, Lina, Maya, Nurul, Nadel, Nadia, Rena, Resti, Regina, Rahmi, Salma, Septika, Ulvi, and Weni,
6. SHS sweethearts who strive together in finishing the research paper while in the effort for becoming more empowered people: Suci, Miftah, Pudar, and Nada. The author would like to thank them for being available to consult the difficulties in terms of academic or personal matters.
 7. Midnight playlist for always becoming a loyal company during the process of making this research paper. The composers, the lyrics, the melodies as well as the ambience. The author's long night would not be the same without them.
 8. SMP Al-Azhar Syifa Budi Parahyangan academics and beloved students from Al-Hasiib, Al-Mu'min, Al-Baasith and Al-Qawiyy. This research would not be completed without the cooperation from the school. The author would also thank the students for being cooperative, kind and entertaining during the implementation of experiments – they did not only work well but also bring lot of joy and pure happiness.

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