

Submission

Authors	Mithen Lullulangi, Onesimus Sampebua', Anas Arfandi 
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POPULATION AND ENVIRONMENTAL EDUCATION LEARNING INTEGRATED WITH SCIENCE SUBJECTS IN MAMASA REGENCY, INDONESIA

Mithen Lullulangi*) Onesimus Sampebua) Anas Arfandi**)**

**) Department of Environment Education Universitas Negeri Makassar*

****) Department of Civil Engineering Education Universitas Negeri Makassar*

Email: mithen@unm.ac.id; onesimus.sampebua@unm.ac.id anas.arfandi@unm.ac.id

Abstract: The aim of this research is to determine the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K-13 Revision) in Junior High School at Mamasa Regency. The research population was 106 junior high schools in Mamasa Regency, with an average of one science teacher for each school. Sampling was taken randomly, amounting to 20% of the population, which equals 21 teachers. This research uses a single variable which is the ability of science teachers to integrate PKLH materials with science learning in junior high schools. Furthermore, it was then translated into 5 sub-variables including: 1) teaching preparation, 2) knowledge of K13 Revision, 3) the ability to identify PKLH materials from K 13 Revision in the field of scientific study, 4) knowledge of PKLH material, and 5) ability to plan, implement and evaluate PKLH learning in an integrated manner with science subjects. The research data was the result of structured interviews with respondents, and the data analysis technique was carried out in a qualitative descriptive manner. The results showed that the ability of Junior High School Science Teachers in Mamasa Regency in Integrating Population and Environmental Education (PKLH) with Science subjects was not good and weak in terms of 1) the ability to identify PKLH material in K 13 Revision on junior high school Science subjects; 2) the ability to plan PKLH learning integrated with science subjects, and 3) the ability to evaluate PKLH learning integrated with science subjects. The contribution of these results was to evaluate PKLH learning in an integrated manner in Mamasa, which can also be carried out in several areas as a comparison to measure the success of its learning in each region. Therefore, its success in Indonesia can increase, and there can also be a comparison of PKLH learning in several countries.

Keywords: Skill, Teacher, Teaching, integrated, PKLH and Science materials

Comment [U1]: Max is 250 words.
Containing background, methods, results
and discussion, and conclusion.

INTRODUCTION

The world's attention to the environment was initiated since the United Nations Conference on the Environment in Stockholm, Sweden in June 1972. This conference declared an Environmentally Sustainable Development by making a decision to carry out economic and developmental activities, and guarantee that the environment and natural resources remain sustainable and worthy of being passed on to future generations.

The concept of environmental and population education also emerged from this conference. Furthermore, UN agencies are being asked to organize "formal" and "mass" environmental education programs at the global level. International efforts to conserve the environment, especially through education, were subsequently initiated by UNESCO with the aim to formulate joint steps to overcome population and environmental problems.

The effort to preserve the environment has been seen in Indonesia through the Population and Environmental Education Program (PKLH) which has been initiated since 1975 based on the Minister of Education and Culture Decree No. 068 / U / 1974. Furthermore, it was centrally implemented by the PKLH project of the Directorate General of Primary and Secondary Education in 1976, which was called the "National Population Program Project" in collaboration with the BKKBN. The Population Education and Training Program was being implemented in schools in 1978 [1].

Integrated learning is an approach based on the idea that a subject can be integrated into other appropriate subjects, and can be pursued by 1) building units or series of lesson materials prepared to be integrated with certain subjects, 2) with core programming, starting from a core program in a particular subject [1]. The advantage of this system is that there is no need to add more teachers because most of them are already involved. However, it is also inseparable from weaknesses, such as the need for teachers to be prepared in advance, change the syllabus and the allocation of learning hours, the possibility of using materials integrated with core subjects, difficulty experienced when evaluating because two objectives must be achieved in one learning program, and other difficulties that may arise such as technical educational difficulties in integrating PKLH materials into other subjects. The learning material consists of Physics and Biology, which are mixed in an integrated science model, taught by science teachers who are considered competent in their field of study.

Since the implementation of 2013 (K13) and K13 revised curriculum, the basic competencies (KD) that must be achieved in learning science includes: 1) Living life with a positive, honest and open attitude with critical creativity, collaboration and innovative thinking based on the essence of natural science, 2) Understanding the natural phenomena based on the results of learning science in an integrated manner through specific fields, including Physics, Chemistry and Biology, 3) Evaluating the products of thought in a society that is based on the principles of natural science and ethics, 4) Solving problems and making decisions in life based on scientific and ethical principles, 5) Recognize and play a role in solving human problems, such as food unavailability, health, energy crises and the environment, and 6) Understanding the impact of natural science development in an integrated manner on the improvement of technology and human life in the past, present and potential future impacts on the environment [2].

The time allocation prepared for VII grade includes 5 hours/week with details of 7 subjects and 52 sub-subjects, and PKLH which equals 33 sub-subjects or 63.5% of all science subject in VII grade. This specifically means that for science subjects, PKLH learning materials in VII grade are more numerous than others. For VIII grade, there were 57 sub-subjects with a fixed time allocation of 5 hours/week, but none of them were PKLH materials, although there was a connection. Furthermore, for IX grade, there were 50 PKLH sub-subjects and materials, with the same time allocation of 5 hours/week. Therefore, based

Comment [U2]: INTRODUCTION should:

- contain urgency (importance) to research
 - contain a carrying capacity in the form of supporting data and facts
 - contain a preliminary study as a basis for the importance of the research conducted
 - contain a GAP ANALYSIS Departing from the preliminary study, analysis of published articles formulated in the Gap analysis
- GAP ANALYSIS refers to articles published in various internationally reputable journals to emphasize the novelty of research.
- clear limitation of research objectives

on the allocation of time, curriculum (revised K13) and the number of sub-subjects for science lessons in junior high schools the total number of science materials for grades VII, VIII, and IX was 159 sub-subjects. In addition, PKLH materials equals 26% of the total number of science sub-subjects in junior high schools [2].

The big dictionary of Indonesian [3] explained that "*mampu* (able)" can be interpreted as power (able, capable) to do something. Furthermore, when its prefix "ke" and the suffix "an" are joined together it becomes "*kemampuan* (ability)" which means having the ability to do something [3]. The equivalent of the word *kemampuan* in English is an ability which means the quality, physical, mental, or legal power to do or it can also mean competence in doing something [4].

Integrated comes from the basic word integration which means assimilation, coalescing, or joining to become one unified whole. Furthermore, it has a meaning in the verb class and can be expressed as an action, existence, experience, or other dynamic meaning. [3].

Based on the definition above, the ability to integrate means to mix or combine something into one useful unit. If this context is related to the teacher's task in teaching, it can be interpreted that the teacher has the ability to integrate or combine something into one unified whole. Furthermore, if it is connected with science learning and PKLH materials, it means that the teacher has the ability or skill to combine both science and PKLH materials in learning processes carried out at school.

The ability, capacity, or proficiency of teachers, with educational terms, is known as competence. Etymologically, it comes from the basic word compete which means competing or competition, and the noun competence which means ability, proficiency, or authority can be made from it. Competence can also be interpreted as knowledge, skills, and abilities that can be mastered in order to possess cognitive, affective, and psychomotor behaviors [5]. Meanwhile, according to Finch & Crunkilton (1999) competence is the mastery of a task, skills, attitudes, and appreciation needed to support success.

Gordon [7] gave details of several aspects of the realm that exist in the competence concept and they include; 1) knowledge as awareness in the cognitive field. 2) understanding: the depth of cognitive and affective behaviors possessed by individuals. 3) ability (skill): the proficiency to carry out a task or job. 4) value: a standard of behavior that has been psychologically integrated within a person. 5) attitudes, feelings, or reactions to stimuli that comes from outside. 6) interest: a tendency to do something.

RESEARCH METHODS

The aim of this research is to determine the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K 13 Revision) in Junior High School at Mamasa Regency. The population was 106 junior high schools in Mamasa Regency with an average of one science teacher for each school, although there were schools that had more than one science teacher while some didn't. Sampling was carried out randomly, amounting to 20% of the population which is equal to 21 teachers [8]. This research used a single variable, though with the ability of science teachers to integrate PKLH material with science learning in junior high schools, it was then translated into 5 sub-variables and they include: 1) Teaching preparation, 2) knowledge of K13 Revision, 3) ability to identify PKLH material from K 13 Revision of the field of science studies, 4) knowledge of PKLH material, and 5) the ability to plan, implement, and evaluate PKLH learning in an integrated manner with science subjects. The data in this research were the results of structured interviews with respondents, and the data analysis technique was carried out in a qualitative descriptive manner.

Comment [U3]: METHODS should

- contain detailed research stages
- Each stage is explained and analyzed by what method
- Data analysis must be with clear references
- The research instruments used were elaborated to the data analysis technique
- It is hoped that there will be a modification in the stages of research from sources referred by the researcher

RESULTS AND DISCUSSION

Research result

Teaching Preparation

This is the creation of learning tools following the K13 Revision. Therefore, teachers should make a Lesson Plan (RPP) before implementing learning activities. Regarding this issue, the results can be described in the table below

Table 1. Teacher preparation for carrying out learning process

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	5	24
2	62,51 – 81,25	Good	11	52,5
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	2	9,5
Total			21	100

Source: Processed Research Data

Before learning was carried out, 24% of respondents made learning tools very well. Furthermore, there were 52.5% of respondents with good criteria, namely compiling lesson plans, preparing learning media, and others as implied in the implementation of the K 13 Revision. However, there were still 14% who were categorized as less good, and 9.5% bad in carrying out learning without any preparation. It can be concluded that the preparation of science teachers at the research location before carrying out the learning process was categorized as being good.

Understanding of the Revised K13 Curriculum

The understanding of the revised K13 is the respondents method in implementing K13 in learning processes at school. Several question items were asked, such as the number of subjects and sub-subjects for each grade level, as well as the competency standards related to basic competencies and others in the field of study. The results on understanding the Revised K13 curriculum are presented in the table below.

Table 2. Respondents' Understanding of the Revised K13

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	13	62
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's understanding of the Revised K13 consists of 62%, 24% and 14% and were categorized as very good, good and less good. This means that the understanding of science teachers in Mamasa Regency on the Revised K 13 can be categorized as very good.

Comment [U4]: RESULTS AND DISCUSSION

- Tables or graphs (one selected) must represent different results
 - The results of data analysis must be strong in answering the analysis gap
 - Display of results other than those narrated in table-graph-image-modeling
 - The research novelty has not been clear enough
 - It is recommended not to repeat the references in the introduction, using previous research findings.
 - References used should be taken from reputable journals.
- It is necessary to explain the specifications of the findings in this study that show

Comment [U5]: Adjust with JPII guidance in writing table.

Comment [U6]: Adjust with JPII guidance in writing table.

Understanding PKLH Material in K13 Revision Curriculum of science subject in junior high school

This relates to the teacher's ability to identify or recognize PKLH material in the Revised K13 curriculum, starting from VII to IX grade. The results regarding this indicator, can be seen in the table below.

Table 3. The ability of respondents to identify PKLH material in the Revised K13 for Junior High School level in Mamasa Regency

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	3	14
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

Comment [U7]: Adjust with JPPII guidance in writing table.

The ability of respondents to identify PKLH material in science subjects consist of 62%, 24% and 14% and were categorized as less good, good, and very good. The results indicate that the ability of respondents to identify PKLH material in the K 13 revision of science subjects in junior high school can be categorized as less good. This means that science teachers in the research area cannot distinguish which natural science and PKLH materials were substituted and taught in an integrated manner.

Knowledge of PKLH materials

Knowledge of PKLH material is grouped into three areas and they include: environmental knowledge, demography knowledge, and population and environmental management knowledge.

a). Environmental Knowledge

The results on respondents knowledge of the environment can be seen in the table below..

Table 4. Respondents' knowledge of the environment

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	10	48
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

Comment [U8]: Adjust with JPPII guidance in writing table.

The respondents knowledge of the environment consists of 52% and 48% and were categorized as good and less good respectively. Furthermore, the results indicates that 52% of science teachers in the Mamasa Regency have good environmental knowledge, and 48% with less good knowledge.

b) Population knowledge

The research results on respondents' knowledge of population can be seen in the table below.

Table 5. Respondents' knowledge of population

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	13	62
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents knowledge of the population consist of 62% and 38% and were categorized as good and less good. The results indicate that 62% of science teachers in the Mamasa Regency have good demographic knowledge and 38% with less good knowledge.

c) Knowledge of population and environmental management

The results on respondents' knowledge of the population and environmental management can be seen in the table below.

Table 6. Respondents' knowledge of population and environmental management

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's knowledge of the population and environmental management consists of 10%, 52% and 38% respectively, and were categorized as very good, good and less good. The results indicate that science teachers in Mamasa regency have good knowledge of population management.

Integrated Teaching Planning Capabilities

The ability to plan integrated learning is divided into 3 groups and they, include: planning integrated learning, implementing and evaluating the teaching and integrated learning processes.

a) Ability to plan integrated learning

Comment [U9]: Adjust with JPII guidance in writing table.

Comment [U10]: Adjust with JPII guidance in writing table.

The research results on the ability to plan integrated learning can be seen in the table below.

Table 7. Respondents' ability in planning integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38
3	43,76 – 62,50	Less Good	11	52
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

Comment [U11]: Adjust with JPII guidance in writing table.

The respondents ability in planning integrated learning consists of 10%, 38% and 52% respectively, and were categorized as very good, good and less good. According to the results, the ability of science teachers in the Mamasa Regency to plan PKLH lessons integrated with science subjects can be categorized as less good, and this is because their ability to sort PKLH materials with science materials is not efficient.

b) The ability to carry out integrated learning

The results on the ability to carry out integrated learning can be seen in the table below

Table 8. The ability of respondents to carry out integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	15	71
3	43,76 – 62,50	Less Good	6	29
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

Comment [U12]: Adjust with JPII guidance in writing table.

The respondents ability to carry out integrated learning consists of 71% and 29% being categorized as good and less good. According to the results obtained, the ability of science teachers in the Mamasa Regency to implement integrated PKLH learning with science subjects can be categorized as being good. This is influenced by their ability to carry out learning in general. Furthermore, in the K 13 Revision, PKLH materials were integrated with that of science and was widely taught by the teachers.

c) The ability to evaluate integrated learning

The results on the ability to evaluate integrated learning can be seen below

Table 9. Respondents' ability to evaluate integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38

Comment [U13]: Adjust with JPII guidance in writing table.

3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's ability to evaluate integrated learning consists of 62%, 38% and 10% respectively, and were categorized as less good, good, and very good. According to the results obtained, the ability of science teachers in the Mamasa Regency to carry out an integrated evaluation of PKLH learning with science subjects was categorized as less good. This is due to their inadequate ability to sort PKLH and science materials. Furthermore, it was also revealed that some teachers actually knew about this, but didn't have enough time and opportunity to sort it out. Therefore, the learning evaluation was carried out without any separation of material.

Discussion

Based on the results presented above, it was revealed that the single variable discussed in this study was the ability of junior high school science teachers in the Mamasa Regency to integrate Population and Environmental Education (PKLH) with science subjects. Furthermore, it was developed into 5 sub-variables and was supported by 21 indicators (research instruments). From the data analysis results, there are 3 sub-variables which show prominent weakness, and they include 1) The ability of respondents to identify PKLH material in K13 Revision of Junior High School Science subjects; 2) The ability to plan PKLH learning in an integrated manner with science subjects; 3) The ability to evaluate PKLH learning in an integrated manner with science subjects.

Although the results showed that the respondents knowledge of the three sub-variables was good. It also showed that the respondents were not good at identifying PKLH materials contained in the K 13 Revision of Science subjects in junior high schools. This is similar to the experience teachers have with the science subjects in the curriculum. One of the major things to remember is that PKLH learning is in line with Bloom's Taxonomy theory [9] which states that the success of learning, especially PKLH must be measured from three domains, namely: cognitive, affective, and psychomotor. Therefore, when planning, for example, making learning tools, lesson plans and others according to the demands of the K 13 Revision, it should be noted that PKLH teaching materials are not planned specifically but remain integrated with science materials. Subsequently, when teachers are faced with questions related to the identification of PKLH learning through this research instrument, and are not ready, the results obtained would being categorized as less good. When faced with questions related to the integrated PKLH learning evaluation, respondents generally answered that there was no separation in the learning evaluation carried out therefore the specific evaluation for PKLH materials was also not visible. From interviews with respondents, it was revealed that the things being evaluated were the cognitive and affective domains, while few were related to the students psychomotor domains. PKLH evaluation is also described in the PKLH teaching handbook compiled by the Ministry of Education and Culture [10] and it was stated that the psychomotor domain concerning motor skills was very important regarding perception, readiness to do something (setting), mechanism, guided response, proficiency (complex overt response), adaptation and creation (originalization). Points that support psychomotor are expected to be created when the cognitive and affective aspects are good. However, they need to be well planned in order for the results to appear when evaluating learning.

Another important thing is that PKLH learning success will appear when the psychomotor domain of students is visible and can be implemented in their everyday life. It

will be seen and measured from the students behavior in dealing with social, biotic and abiotic environments respectively.

The failure of PKLH learning integrated with other subjects is because teachers were not able to give special emphasis to PKLH materials including its evaluation when planning integrated PKLH learning. Therefore the PKLH materials obtained by students are only good at the cognitive and affective domain level but failed in the psychomotor domain. Though in Indonesia, PKLH has been taught since 1976 at all levels of education in an integrated manner for 44 years, and the community behavior that reflects an environmentally conscious society is still far from expectations [11]

This research implies that the government is expected to re-evaluate the PKLH learning model in an integrated manner with other subjects, such as religion, social science, science, and other subjects [2]. However, the reality in their everyday life shows that the psychomotor domain of students in the field of PKLH is not visible. Subsequently, this is similar to the behavior of the general public, who are also alumni of the school and have studied PKLH in an integrated manner, but their environmental cleanliness awareness is not visible. This means that PKLH learning in Indonesia which is taught in an integrated manner was unsuccessful. The largest producer of plastic waste in the world is China, which accounts for 8.8 million tons annually, Indonesia ranks second, contributing 3.8 million tons annually, and 87% of 3, 8 million tones floating in the sea. Furthermore, this means every resident of Indonesia's coast is responsible for 17.2 kilograms of plastic waste floating around and poisoning marine animals [12], [13]. Another evidence of the failure of PKLH learning in Indonesia is the results obtained by the Ministry of Health which shows that only 20% of the total Indonesian citizens care about hygiene and health. This means that out of the 262 million population in Indonesia, only around 52 million care about the cleanliness of the surrounding environment [14]. Based on these facts, it is time for the Government of Indonesia to review the integrated PKLH method of learning because for 44 years of its implementation it has not produced significant results.

CONCLUSION

Based on the results and discussion above, it can be concluded that the ability of Junior High School Science Teachers in Mamasa Regency in Integrating Population and Environmental Education (PKLH) with Natural Science subjects is not good and weak in terms of 1) the ability to identify PKLH material in K13 Revision of junior high school science lessons, 2) the ability to plan PKLH learning integrated with science subjects, and 3) the ability to evaluate PKLH learning integrated with science subjects.

ACKNOWLEDGEMENT

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REFERENCES

Comment [U14]: 1. Please provide at least **30 references** which 80% of them are taken from **the last 10 years (>2011)** articles of no-predatory journals, written in accordance with the APA Standard. You may go to Google Scholar and find the right format for APA Style provided.

2. For books, please refer to the original/primary book reference no matter the date.

3. All of the listed references must be cited in the body of the article, and vice versa.

- [1] A. Surbakti, "Pendidikan Kependudukan dan Lingkungan Hidup," *Yogyakarta Graha Ilmu*, 2015.
- [2] D. W. B. Kuncara, "ANALISIS ISI BUKU PANDUAN GURU ILMU PENGETAHUAN ALAM KELAS VII KURIKULUM 2013." Universitas Negeri Semarang, 2016.
- [3] T. P. K. B. B. Indonesia, "Kamus besar bahasa Indonesia," *Jakarta: Balai Pustaka*, 2008.
- [4] S. Rush, "The noun phrase in advertising English," *J. Pragmat.*, vol. 29, no. 2, pp. 155–171, 1998.
- [5] H. H. McAshan, *Competency-based education and behavioral objectives*. Educational Technology, 1979.
- [6] C. R. Finch and J. R. Crunkilton, *Curriculum development in vocational and technical education. planning, content, and implementation*. ERIC, 1999.
- [7] S. P. Gordon, "Developmental supervision: An exploratory study of a promising model," *J. Curric. Superv.*, vol. 5, no. 4, pp. 293–307, 1990.
- [8] K. D. O’Gorman and R. MacIntosh, *Research methods for business and management*. Goodfellow Publishers Limited, 2014.
- [9] L. W. Anderson and L. A. Sosniak, *Bloom’s taxonomy*. Univ. Chicago Press Chicago, IL, 1994.
- [10] E. Kastama, "Pendidikan Kependudukan dan Lingkungan Hidup di IKIP dan FKIP," *Jakarta: Dirjen Dikti*, 1988.
- [11] M. Lullulangi, "Analisis Pembelajaran PKLH Secara Terintegrasi Dengan Pelajaran Lain Di SMP," *UNM Environ. Journals*, vol. 1, no. 2, pp. 45–52, 2018.
- [12] N. PUTRI, "Sikap China Menolak Resolusi PBB UNEP/EA. 3/RES. 7 Tentang Pencemaran Sampah Plastik Di Wilayah Laut."
- [13] R. M. A. Ilyasa, "Analisis Pertanggungjawaban Negara Yang Menimbulkan Dampak Kerugian Dalam Kasus Pembuangan Sampah Plastik di Samudra Pasifik Dalam Perspektif Hukum Internasional," *Padjadjaran Law Rev.*, vol. 8, no. 1, pp. 40–55, 2020.
- [14] C. N. N. Indonesia, "Kesadaran Masyarakat Indonesia akan Kebersihan Masih Rendah," *Retrieved Sept.*, vol. 17, p. 2018, 2018.

Paper title:

**POPULATION AND ENVIRONMENTAL EDUCATION LEARNING
INTEGRATED WITH SCIENCE SUBJECTS IN MAMASA REGENCY,
INDONESIA**

Parts of review	Guidelines	Yes	Partly	No	Reviewer's note for improvement	Author's responds (highlight of revision)
Title	• Does the subject matter fit within the scope of journal?	√				
	• Does the title clearly and sufficiently reflect its contents?	√				
Abstract	• Does the abstract contain informative, including Background, Methods, Results and Conclusion?	√				
Back-ground	• Is the background informative and sufficient (include the background problem and objectives)?	√				
	• Is research question of the study clear and understandable?	√				
	• Does the rationale of the study clearly explained using relevant literature?	√				
	• Is the "aim" of the manuscript clear and understandable?	√				
Methods	• Is the methodology chosen suitable to the nature of the topic studied?	√				
	• Is the methodology of the research described clearly?(including study design, location, subjects, data collection, data analysis)	√				
	• Is there adequate information about the data collection tools used? (only for empirical studies)	√				
	• Are the validity and reliability of data collection tools established? (only for empirical studies)	√				
	• Are the data collection tools suitable for the methodology of the study? (only for empirical studies)	√				
Results & Discussion	• Are the tables, graphs and pictures understandable, well presented and numbered consecutively?		√			
	• Do the data analysis and the interpretation appropriate to the problem and answer the objectives?		√		The discussion has not been analysed sharply.	
	• Does the "discussion" section of the manuscript adequately relate to the current and relevant literature?		√			
	• Are the findings discussed adequately considering the research question(s), sub-question(s) or hypothesis?		√		Partly	
Conclusion	• Is the conclusion clear and in the form of a narration instead of pointers?			√		
	• Isn't the conclusion a summary and consistent between problems, objectives and conclusion?		√			

References	• Do the references and citations match?	√				
	• Are the writing of references correct?			√	Add the references and use APA style.	
Quality Criteria	• Do the title, problem, objectives, methods and conclusion are in line? Is it well organized?		√			
	• The quality of the language is satisfactory		√			
	• The work relevant and novel		√			
	• Are there strong consistencies among the parts of the manuscript? (introduction, methods, results and discussion, and conclusion)		√			

MITHEN LULLULANGI UNM

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POPULATION AND ENVIRONMENTAL EDUCATION | LEARNING INTEGRATED WITH SCIENCE SUBJECTS IN MAMASA REGENCY, INDONESIA

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ABSTRACT

The aim of this research is to determine the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K13 Revision) in Junior High School at Mamasa Regency. The research population was 106 junior high schools in Mamasa Regency. with an average of one science teacher for each school. Sampling was taken randomly, amounting to 20% of the population, which equals 21 teachers. This research uses a single variable which is the ability of science teachers to integrate PKLH materials with science learning in junior high schools. Furthermore, it was then translated into 5 sub-variables including: 1) teaching preparation, 2) knowledge of K13 Revision, 3) the ability to identify PKLH materials from K13 Revision in the field of scientific study, 4) knowledge of PKLH material, and 5) ability to plan, implement and evaluate PKLH learning in an integrated manner with science subjects. The research data was the result of structured interviews with respondents, and the data analysis technique was carried out in a qualitative descriptive manner. The results showed that the ability of Junior High School Science Teachers in Mamasa Regency in Integrating PKLH with Science subjects was not good and weak in terms of 1) the ability to identify PKLH material in K 13 Revision on junior high school Science subjects; 2) the ability to plan PKLH learning integrated with science subjects, and 3) the ability to evaluate PKLH learning integrated with science subjects.

Keywords: Ability, Teacher, Teaching, integrated, PKLH and Science materials.

INTRODUCTION

The importance of environmental education is for sustainable living, so that environmental education must be implemented in society from an early age. Every school must invite and introduce and understand the current natural conditions and problems. The goal is to increase the awareness of students to be more sensitive to natural conditions (Ichwan, 2018).

Today the world is facing serious environmental problems. There are nine major environmental problems, such as global climate change, waste management, scarcity of clean water, population explosion,

Comment [A15]: I do not understand this term. Could you explain what is mean by population and environmental education?

Population and environmental education which is abbreviated as PKLH is a population program to foster students to have understanding, awareness, attitudes and behavior that are rational and responsible about the mutual influence between the population and the environment

Comment [A16]: The abstract must contain the purpose, methods, results, and conclusion. This abstract is good. However, the method is not clear. Check again your grammar.

Abstract has been corrected and contains objectives, methods, results, and conclusions (according to the Reviewers' instructions)

depletion of natural resources, extinction of plants and animals, destruction of natural habitats, increased pollution and poverty (Hermasyah, 2016). Environmental preservation activities can be carried out through environmental education. Knowledge of the condition of Indonesia's natural environment needs to be known by all Indonesian people, especially students in the school environment. (Saliman, 2018). The purpose of environmental education is to make students participate in protecting the environment and make the environment not only as something to be exploited but as an asset that must be preserved and protected. (Ramadhan et al, 2019).

Based on the opinions above, it is explained that the current environmental conditions are concerning, because from time to time there is environmental degradation, due to human activities who do not have any reason to preserve the environment, in addition to increasing population growth which requires natural resources for its survival. .

Comment [A17]: Which opinion? Better for you to delete this one.

Starting from this problem, it is hoped that Population and Environmental Education (PKLH) can be a solution so that people's awareness can increase to protect the environment. However, the implementation of PKLH learning in formal schools at this time is considered ineffective so it is necessary to find the cause, and one of the efforts to do that is through research, so the researcher thinks that this research is urgent to do.

Comment [A18]: Which problem?

The implementation of the PKLH program in educational units (SD, SLTP, SLTA) was implicitly introduced through the 1984 curriculum. After about 28 years of being introduced to schools, the results have not been encouraging. The daily reality shows that almost all education unit graduates have not yet performed "environmentally friendly" performance (Kadir, 2013). The implementation of PKLH in Indonesia has been officially implemented at all levels of school since 1976 and is taught in an integrated manner in almost all subjects, especially at the junior high school level. (Hammado, 2011).

Comment [A19]: Explain more about this educational unit. Maybe reader from foreign country, do not understand these terms.

Based on the data from the research conducted on the experts above, it is a fact that the implementation of PKLH learning which has been carried out in an integrated manner has not been effective so that the results of these studies support this research.

Comment [A20]: One paragraph is not the same with one sentence. Expand your paragraph.

The preliminary study that the researcher conducted was conducting research in one school or education unit in 2017, namely at SMP Negeri 1 Balla to see the three psychological aspects or domains related to learning outcomes related to integrated PKLH learning, namely 1) Domain thinking process (cognitive domain), 2) domain of value or attitude (affective domain) and 3) domain of skills (psychomotor domain). (Benjamin S. Bloom, 1956). The results of this study indicate that the integrated PKLH learning out come, the cognitive domain is in the low category, then the affective and psychomotor domains are in the medium category. (Lullulangi M, 2017).

Comment [A21]: Check grammar.

The world's attention to the environment was initiated since the United Nations Conference on the Environment in Stockholm, Sweden in June 1972. This conference declared an Environmentally Sustainable Development by making a decision to carry out economic and developmental activities, and guarantee that the

environment and natural resources remain sustainable and worthy of being passed on to future generations. The concept of environmental and population education also emerged from this conference. Furthermore, UN agencies are being asked to organize "formal" and "mass" environmental education programs at the global level. International efforts to conserve the environment, especially through education, were subsequently initiated by UNESCO with the aim to formulate joint steps to overcome population and environmental problems.

The effort to preserve the environment has been seen in Indonesia through the Population and Environmental Education Program (PKLH) which has been initiated since 1975 based on the Minister of Education and Culture Decree No. 068 / U / 1974. Furthermore, it was centrally implemented by the PKLH project of the Directorate General of Primary and Secondary Education in 1976, which was called the "National Population Program Project" in collaboration with the BKKBN. The Population Education and Training Program was being implemented in schools in 1978. (Surbakti, A. 2015).

Integrated learning is an approach based on the idea that a subject can be integrated into other appropriate subjects, and can be pursued by 1) building units or series of lesson materials prepared to be integrated with certain subjects, 2) with core programming, starting from a core program in a particular subject (Surbakti, A. 2015).. The advantage of this system is that there is no need to add more teachers because most of them are already involved. However, it is also inseparable from weaknesses, such as the need for teachers to be prepared in advance, change the syllabus and the allocation of learning hours, the possibility of using materials integrated with core subjects, difficulty experienced when evaluating because two objectives must be achieved in one learning program, and other difficulties that may arise such as technical educational difficulties in integrating PKLH materials into other subjects. The learning material consists of Physics and Biology, which are mixed in an integrated science model, taught by science teachers who are considered competent in their field of study.

Since the implementation of 2013 (K13) and K13 revised curriculum, the basic competencies (KD) that must be achieved in learning science includes: 1) Living life with a positive, honest and open attitude with critical creativity, collaboration and innovative thinking based on the essence of natural science, 2) Understanding the natural phenomena based on the results of learning science in an integrated manner through specific fields, including Physics, Chemistry and Biology, 3) Evaluating the products of thought in a society that is based on the principles of natural science and ethics, 4) Solving problems and making decisions in life based on scientific and ethical principles, 5) Recognize and play a role in solving human problems, such as food unavailability, health, energy crises and the environment, and 6) Understanding the impact of natural science development in an integrated manner on the improvement of technology and human life in the past, present and potential future impacts on the environment (D. W. B. Kuncara, 2016).

The time allocation prepared for VII grade includes 5 hours/week with details of 7 subjects and 52 sub-subjects, and PKLH which equals 33 sub-subjects or 63.5% of all science subject in VII grade. This specifically means that for science subjects, PKLH learning materials in VII grade are more numerous than others. For VIII

grade, there were 57 sub-subjects with a fixed time allocation of 5 hours/week, but none of them were PKLH materials, although there was a connection. Furthermore, for IX grade, there were 50 PKLH sub-subjects and materials, with the same time allocation of 5 hours/week. Therefore, based on the allocation of time, curriculum (revised K13) and the number of sub-subjects for science lessons in junior high schools the total number of science materials for grades VII, VIII, and IX was 159 sub-subjects. In addition, PKLH materials equals 26% of the total number of science sub-subjects in junior high schools (D. W. B. Kuncara, 2016)..

The big dictionary of Indonesian explained that "*mampu* (able)" can be interpreted as power (able, capable) to do something. Furthermore, when its prefix "ke" and the suffix "an" are joined together it becomes "*kemampuan* (ability)" which means having the ability to do something (T. P. K. B. B. Indonesia, 2008). The equivalent of the word *kemampuan* in English is an ability which means the quality, physical, mental, or legal power to do or it can also mean competence in doing something (S. Rush, 1998).

Integrated comes from the basic word integration which means assimilation, coalescing, or joining to become one unified whole. Furthermore, it has a meaning in the verb class and can be expressed as an action, existence, experience, or other dynamic meaning (T. P. K. B. B. Indonesia, 2008).

Based on the definition above, the ability to integrate means to mix or combine something into one useful unit. If this context is related to the teacher's task in teaching, it can be interpreted that the teacher has the ability to integrate or combine something into one unified whole. Furthermore, if it is connected with science learning and PKLH materials, it means that the teacher has the ability or skill to combine both science and PKLH materials in learning processes carried out at school.

The ability, capacity, or proficiency of teachers, with educational terms, is known as competence. Etymologically, it comes from the basic word compete which means competing or competition, and the noun competence which means ability, proficiency, or authority can be made from it. Competence can also be interpreted as knowledge, skills, and abilities that can be mastered in order to possess cognitive, affective, and psychomotor behaviors (H. H. McAshan, 1979) Meanwhile, according to Finch & Crunkilton (1992) competence is the mastery of a task, skills, attitudes, and appreciation needed to support success. The competence of teachers is assessed by various groups as a picture of whether or not educators are professional (Janawi, 2012).

Details of several aspects of the realm that exist in the competence concept and they include; 1) knowledge as awareness in the cognitive field. 2) understanding: the depth of cognitive and affective behaviors possessed by individuals. 3) ability (skill): the proficiency to carry out a task or job. 4) value: a standard of behavior that has been psychologically integrated within a person. 5) attitudes, feelings, or reactions to stimuli that comes from outside. 6) interest: a tendency to do something. (S. P. Gordon, 1990).

RESEARCH METHODS

Comment [A22]: The introduction must cover research novelty supported by the data of previous research. I cannot find the novelty of this study. Could you add the research novelty in the introduction? Furthermore, the introduction to broad. Just focusing on why did you choose the research title?

The aim of this research is to determine the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K 13 Revision) in Junior High School at Mamasa Regency.

Participants of the Study

Population is a group of people, animals, plants, or objects that have certain characteristics to be studied. The population will be the area for generalizing the conclusions of the research results (Mulyatiningsih, 2011). Population is a collection of subjects, variables, concepts, or phenomena. We can examine each member of the population to find out the nature of the population concerned, (Morissan, 2012). The population of this study were all 106 junior high schools in Mamasa Regency, assuming an average of one science teacher for each school, despite the fact that in the field there are schools that have more than one science teacher, but in some schools don't have a science teacher.

The sample is a group of members who are part of the population so that they also have the same characteristics as the population. To determine the sample size according to (Suharsimi Arikunto, 2013) if the subject is less than 100, it's better to take all of them until the research becomes a type of population study. Because the number of state junior high schools is more than 100, the random sampling is set at 20% of the population = 21 teachers (Gay, 1992).

Research Instruments

The research instrument used in this research is a list of questions used in structured interviews, which begins by asking about preparation, knowledge of the revised K13 curriculum, material and teacher knowledge of PKLH materials, the ability to plan integrated learning, management of the teaching and learning process, management class, use of media, learning evaluation abilities, and learning completeness. The entire list of questions is given a column to give weight according to the respondent's ability to answer.

Data Collection

The data in this study were obtained in the field by conducting in-depth structured interviews with respondents, namely all teachers who taught science subjects in an integrated manner with PKLH material in 21 teachers as sample.

Data Analysis

Data analysis techniques are methods / techniques used to analyze data tailored to the problematic form and type of data (Arikunto 1988). The data will be analyzed in a descriptive qualitative manner to select the tendency of each respondent's answer, grouped, reduced, presented, analyzed, then draw conclusions.

The data analysis steps are as follows:

1. The data from the interview are in the form of qualitative data, so that the data can be analyzed it must be converted into quantitative data (Arikunto 2013). Quantify the answers to the questions by giving the levels of

scores for each answer as follows: (a) the answer to very good choice is given a score of 4; (b) good choice answers are given a score of 3; (c) less good choice answers are given a score of 2; and (d) bad choice answers are given a score of 1

2. Calculating the frequency for each answer category in each variable or sub variable

3. From the calculation of the formula, a number will be generated in the form of a percentage. The formula used for percentage descriptive analysis (DP)

$$DP = \frac{\text{Real score} \times 100}{\text{Ideal Score}}$$

4. Analysis of research data is adjusted to the research objectives so that percentage analysis is used. The results of the analysis are presented in qualitative sentences. The calculation steps are as follows:

a) Set the highest percentage

$$\text{Formula: } \frac{\sum \text{item} \times \sum \text{respondent} \times \text{highest value score} \times 100\%}{\sum \text{item} \times \sum \text{respondent} \times \text{score highest value}}$$

b) Set the lowest percentage

$$\text{Formula: } \frac{\sum \text{item} \times \sum \text{respondent} \times \text{lowest value score} \times 100\%}{\sum \text{item} \times \sum \text{respondent} \times \text{score highest value}}$$

c) Set class Interval:

$$\text{The formula: } \frac{\text{highest\%} - \text{lowest\%}}{\text{The desired class}}$$

d) Determining the level of criteria

In this study, the levels of criteria were determined, namely: Very good, good, less good, and bad.

The criteria above, then a descriptive table of percentages is made as follows:

Table 1. Descriptive percentage

INTERVAL%	DESCRIPTION
81.26 - 100	Very good
62.51 - 81.25	good
43,76 - 62,50	less good
25 - 43.75	bad

Source: Arikunto 2002

Comment [A23]: ??

Comment [A24]: This section is well-written. However, it would be better if you do not make it into several sub-sections. Instead, make it in comprehensive paragraphs. Also, please add more references to support your methods.

RESULTS AND DISCUSSION

Research result

Teaching Preparation

This is the creation of learning tools following the K13 Revision. Therefore, teachers should make a Lesson Plan (RPP) before implementing learning activities. Regarding this issue, the results can be described in the table below

Table 2. Teacher preparation for carrying out learning process

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	5	24

2	62,51 – 81,25	Good	11	52,5
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	2	9,5
Total			21	100

Source: Processed Research Data

Before learning was carried out, 24% of respondents made learning tools very well. Furthermore, there were 52.5% of respondents with good criteria, namely compiling lesson plans, preparing learning media, and others as implied in the implementation of the K 13 Revision. However, there were still 14% who were categorized as less good, and 9.5% bad in carrying out learning without any preparation. It can be concluded that the preparation of science teachers at the research location before carrying out the learning process was categorized as being good.

Understanding of the Revised K13 Curriculum

The understanding of the revised K13 is the respondents method in implementing K13 in learning processes at school. Several question items were asked, such as the number of subjects and sub-subjects for each grade level, as well as the competency standards related to basic competencies and others in the field of study. The results on understanding the Revised K13 curriculum are presented in the table below.

Table 3. Respondets Understanding of the Revised K13

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	13	62
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's understanding of the Revised K13 consists of 62%, 24% and 14% and were categorized as very good, good and less good. This means that the understanding of science teachers in Mamasa Regency on the Revised K 13 can be categorized as very good.

Understanding PKLH Material in K13 Revision Curriculum of science subject in junior high school

This relates to the teacher's ability to identify or recognize PKLH material in the Revised K13 curriculum, starting from VII to IX grade. The results regarding this indicator, can be seen in the table below.

Table 4. The ability of respondents to identify PKLH material in the Revised K13 for Junior High School level in Mamasa Regency

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	3	14
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The ability of respondents to identify PKLH material in science subjects consist of 62%, 24% and 14% and were categorized as less good, good, and very good. The results indicate that the ability of respondents to

identify PKLH material in the K 13 revision of science subjects in junior high school can be categorized as less good. This means that science teachers in the research area cannot distinguish which natural science and PKLH materials were substituted and taught in an integrated manner.

Knowledge of PKLH materials

Knowledge of PKLH material is grouped into three areas and they include: environmental knowledge, demography knowledge, and population and environmental management knowledge.

a). Environmental Knowledge

The results on respondents knowledge of the environment can be seen in the table below.

Table 5. Respondents' knowledge of the environment

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	10	48
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents knowledge of the environment consists of 52% and 48% and were categorized as good and less good respectively. Furthermore, the results indicates that 52% of science teachers in the Mamasa Regency have good environmental knowledge, and 48% with less good knowledge.

b) Population knowledge

The research results on respondents' knowledge of population can be seen in the table below.

Table 6. Respondents' knowledge of population

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	13	62
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents knowledge of the population consist of 62% and 38% and were categorized as good and less good. The results indicate that 62% of science teachers in the Mamasa Regency have good demographic knowledge and 38% with less good knowledge.

c) Knowledge of population and environmental management

The results on respondents' knowledge of the population and environmental management can be seen in the table below.

Table 7. Respondents' knowledge of population and environmental management

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's knowledge of the population and environmental management consists of 10%, 52% and 38% respectively, and were categorized as very good, good and less good. The results indicate that science teachers in Mamasa regency have good knowledge of population management.

Integrated Teaching Planning Capabilities

The ability to plan integrated learning is divided into 3 groups and they, include: planning integrated learning, implementing and evaluating the teaching and integrated learning processes.

d) Ability to plan integrated learning

The research results on the ability to plan integrated learning can be seen in the table below.

Table 8. Respondents' ability in planning integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38
3	43,76 – 62,50	Less Good	11	52
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents ability in planning integrated learning consists of 10%, 38% and 52% respectively, and were categorized as very good, good and less good. According to the results, the ability of science teachers in the Mamasa Regency to plan PKLH lessons integrated with science subjects can be categorized as less good, and this is because their ability to sort PKLH materials with science materials is not efficient.

e) The ability to carry out integrated learning

The results on the ability to carry out integrated learning can be seen in the table below

Table 9. The ability of respondents to carry out integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	15	71
3	43,76 – 62,50	Less Good	6	29
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents ability to carry out integrated learning consists of 71% and 29% being categorized as good and less good. According to the results obtained, the ability of science teachers in the Mamasa Regency to implement integrated PKLH learning with science subjects can be categorized as being good. This is influenced by their ability to carry out learning in general. Furthermore, in the K 13 Revision, PKLH materials were integrated with that of science and was widely taught by the teachers.

f) The ability to evaluate integrated learning

The results on the ability to evaluate integrated learning can be seen below

Table 9. Respondents' ability to evaluate integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38
3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's ability to evaluate integrated learning consists of 62%, 38% and 10% respectively, and were categorized as less good, good, and very good. According to the results obtained, the ability of science teachers in the Mamasa Regency to carry out an integrated evaluation of PKLH learning with science subjects was categorized as less good. This is due to their inadequate ability to sort PKLH and science materials. Furthermore, it was also revealed that some teachers actually knew about this, but didn't have enough time and opportunity to sort it out. Therefore, the learning evaluation was carried out without any separation of material.

Discussion

Based on the results presented above, it was revealed that the single variable discussed in this study was the ability of junior high school science teachers in the Mamasa Regency to integrate Population and Environmental Education (PKLH) with science subjects. Furthermore, it was developed into 5 sub-variables and was supported by 21 indicators (research instruments). From the data analysis results, there are 3 sub-variables which show prominent weakness, and they include 1) The ability of respondents to identify PKLH material in K13 Revision of Junior High School Science subjects; 2) The ability to plan PKLH learning in an integrated manner with science subjects; 3) The ability to evaluate PKLH learning in an integrated manner with science subjects.

Although the results showed that the respondents knowledge of the three sub-variables was good. It also showed that the respondents were not good at identifying PKLH materials contained in the K 13 Revision of Science subjects in junior high schools. This is similar to the experience teachers have with the science subjects in the curriculum. One of the major things to remember is that PKLH learning is in line with Bloom's Taxonomy theory which states that the success of learning, especially PKLH must be measured from three domains, namely: cognitive, affective, and psychomotor (L. W. Anderson and L. A. Sosniak, 1994). Therefore, when planning, for example, making learning tools, lesson plans and others according to the demands of the K 13 Revision, it should be noted that PKLH teaching materials are not planned specifically but remain integrated with science materials. Subsequently, when teachers are faced with questions related to the identification of PKLH learning through this research instrument, and are not ready, the results obtained would be categorized as less good. When faced with questions related to the integrated PKLH learning evaluation, respondents generally answered that there was no separation in the learning evaluation carried out therefore the specific evaluation for PKLH materials was also not visible. From interviews with respondents, it was revealed that the things being

evaluated were the cognitive and affective domains, while few were related to the students psychomotor domains. PKLH evaluation is also described in the PKLH teaching handbook compiled by the Ministry of Education and Culture and it was stated that the psychomotor domain concerning motor skills was very important regarding perception, readiness to do something (setting), mechanism, guided response, proficiency (complex overt response), adaptation and creation (originalization), (E. Kastama, 1988). Points that support psychomotor are expected to be created when the cognitive and affective aspects are good. However, they need to be well planned in order for the results to appear when evaluating learning.

Another important thing is that PKLH learning success will appear when the psychomotor domain of students is visible and can be implemented in their everyday life. It will be seen and measured from the students behavior in dealing with social, biotic and abiotic environments respectively.

The failure of PKLH learning integrated with other subjects is because teachers were not able to give special emphasis to PKLH materials including its evaluation when planning integrated PKLH learning. Therefore the PKLH materials obtained by students are only good at the cognitive and affective domain level but failed in the psychomotor domain. Though in Indonesia, PKLH has been taught since 1976 at all levels of education in an integrated manner for 44 years, and the community behavior that reflects an environmentally conscious society is still far from expectations, (M. Lullulangi, 2018).

This research implies that the government is expected to re-evaluate the PKLH learning model in an integrated manner with other subjects, such as religion, social science, and other subjects (D. W. B. Kuncara, 2016). However, the reality in their everyday life shows that the psychomotor domain of students in the field of PKLH is not visible. Subsequently, this is similar to the behavior of the general public, who are also alumni of the school and have studied PKLH in an integrated manner, but their environmental cleanliness awareness is not visible. This means that PKLH learning in Indonesia which is taught in an integrated manner was unsuccessful. The largest producer of plastic waste in the world is China, which accounts for 8.8 million tons annually, Indonesia ranks second, contributing 3.8 million tons annually, and 87% of 3, 8 million tones floating in the sea. Furthermore, this means every resident of Indonesia's coast is responsible for 17.2 kilograms of plastic waste floating around and poisoning marine animals (N. Putri, 2019) and (R. M. A. Ilyasa, 2020). Another evidence of the failure of PKLH learning in Indonesia is the results obtained by the Ministry of Health which shows that only 20% of the total Indonesian citizens care about hygiene and health. This means that out of the 262 million population in Indonesia, only around 52 million care about the cleanliness of the surrounding environment (C. N. N. Indonesia, 2018). Based on these facts, it is time for the Government of Indonesia to review the integrated PKLH method of learning because for 44 years of its implementation it has not produced significant results.

The contribution of these results was to evaluate PKLH learning in an integrated manner in Mamasa, which can also be carried out in several areas as a comparison to measure the success of its learning in each

region. Therefore, its success in Indonesia can increase, and there can also be a comparison of PKLH learning in several countries.

The novelty of this research, is an evaluation of PKLH learning in an integrated manner with other subjects, especially the field of Natural Science taught in Junior High Schools, and provides an overview of the weaknesses experienced by teachers who teach these subjects, so that the results of this study It is hoped that it can be used as an evaluation material to determine policies, especially in basic education, so that integrated PKLH learning in the future will be better.

CONCLUSION

Based on the results and discussion above, it can be concluded that the ability of Junior High School Science Teachers in Mamasa Regency in Integrating Population and Environmental Education (PKLH) with Natural Science subjects is not good and weak in terms of 1) the ability to identify PKLH material in K13 Revision of junior high school science lessons, 2) the ability to plan PKLH learning integrated with science subjects, and 3) the ability to evaluate PKLH learning integrated with science subjects.

ACKNOWLEDGEMENT

The authors are grateful to the Rector of Makassar State University, who has succeeded in leading this institution, and allowing lecturers to carry out research every year with adequate PNPB funding allocations. Furthermore, to the chairman of the Institute for Research and Community Service (LP2M) Makassar State University, along with his staff who facilitated this research, starting from the preparation of proposals to the completion of report writing. The Mamasa Government has permitted this research on its working area. Principals of junior high schools both public and private respectively, who allowed their science teachers to become respondents in this study helped a lot. To the science teachers in the sample schools who out of their busy schedule were willing to become respondents, and all those who participated, may your help be worth worship and charity.

REFERENCES

Arikunto, Suharsimi. (1988). *Pengelolaan Kelas Dan Siswa*. Jakarta : CV Rajawali.

Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.

Bloom's, Benjamin. 1956. *Taksonomi Bloombloom's taxonomy - learning domains*. ([www.businessballs.com](http://www.businessballs.com/human-resources) > [human resources](http://www.businessballs.com/human-resources), (Diakses 15 Januari 2021).

C. N. N. Indonesia. (2018). Kesadaran Masyarakat Indonesia akan Kebersihan Masih Rendah," *Retrieved Sept.*, vol. 17, p. 2018.

C. R. Finch and J. R. Crunkilton. (1999). *Curriculum development in vocational and technical education. planning, content, and implementation*. ERIC.

D. W. B. Kuncara. (2016). *Analisis Isi Buku Panduan Guru Ilmu Pengetahuan Alam Kelas VII Kurikulum 2013*. Semarang : Universitas Negeri Semarang.

Comment [A25]: Adjust results and discussion with the purpose of the study and also research method. Thus, very important to make inline among research title, abstract, methods, results, discussion and conclusion.

Comment [A26]: Adjust the conclusion with the purpose of this research.

It has been improved and adapted to the research objectives

Comment [A27]: Make more simple

Comment [A28]: Please provide **at least** 30 references in which 80% of them are from the last 10 years articles of no-predatory journals, written in accordance with the APA Standard.

In terms of books, please refer to the **primary book** reference **no matter the date**.

Untuk buku, harap mengacu pada referensi buku utama kapan pun tanggalnya.

All of the listed references **must** be cited in the body of the article, and vice versa.

Comment [A29]: Check again the style of the references. Adjust with the APA references style.

- E. Kastama. (1988). *Pendidikan Kependudukan dan Lingkungan Hidup di IKIP dan FKIP*. Jakarta: Dirjen Dikti.
- Finch, & Crunkilton. (1992). *Curriculum development in vocational and technical education. Planning, content and implementation*. Fourth edition. Virginia: Polytechnic Institute and State University.
- Gay, L.R. (1992). *Education Research Competencies for Analysis and Application*: London: Charles E. Milton Keynes Philadelphia Company.
- Hammado.(2011). *Hand Out Perkuliahan Filsafat PKLH*. PPS-UNM
- Handayani Trikinasih, Wuryadi, and Zamroni. (2015). Pembudayaan Nilai Kebangsaan Siswa Pada Pendidikan Lingkungan Hidup Sekolah Dasar Adiwiyata Mandiri. *Jurnal Pembangunan Pendidikan: Fondasi dan Aplikasi*, Vol.3 No. 1 Juni 2015, pp. 95-105
- Hermasyah, Atikah. (2016). *Kenapa Harus Belajar PKLH?*. Kompasiana, 17 April 2016.
- H. H. McAshan. (1979). *Competency-based education and behavioral objectives*. Educational Technology.
- Ichwan, Muhammad. (2018). *Pentingnya Kenalkan Pendidikan Lingkungan Ke Siswa*. JP. Pendidikan. Radar Tulungagung.2021. Jawa Pos.com
- Janawi, (2012). *Kompetensi Guru Citra Guru Profesional*. Bandung: Alfabeta
- Kadir, Abdul. (2013). Signifikansi Strategi Pembelajaran Pendidikan Lingkungan Hidup Dalam Membentuk Prilaku Siswa Berwawasan Lingkungan. *Jurnal Al-Ta'dib Vol.6 No.2* Desember 2013, pp.1-18.
- K. D. O'Gorman and R. MacIntosh. (2014). *Research methods for business and management*. Goodfellow Publishers Limited.
- Kontur, Rony. (2007). *Metode Penelitian Untuk Penulisan Skripsi dan Tesis*. Jakarta : Buana Printing.
- Lullulangi, M dan Pujantara, Ruly. (2017). *Analisis Pembelajaran PKLH Secara Terintegrasi Dengan Pelajaran Lain di SMP Negeri 1 Balla Kecamatan Balla Kabupaten Mamasa*. Laporan Penelitian PNPB. Makassar : Lembaga Penelitian UNM.
- L. W. Anderson and L. A. Sosniak. (1994). *Bloom's taxonomy*. Chicago : Univ. Chicago Press IL.
- M. Lullulangi. (2018). Analisis Pembelajaran PKLH Secara Terintegrasi Dengan Pelajaran Lain Di SMP. *UNM Environ. Journals*, vol. 1, no. 2, pp. 45–52.
- Morissan, (2012). *Metode Penelitian Survey*. Jakarta: Kencana Prenada Media Group
- Mulyatiningsih, E. (2011). *Metode Penelitian Terapan Bidang Pendidikan*. Yogyakarta: Alfabeta.
- N. Putri, (2019). Sikap China Menolak Resolusi PBB UNEP/EA. 3/RES. 7 Tentang Pencemaran Sampah Plastik Di Wilayah Laut."
- Ramadhan, S., Sukma, E., & Indriyani, V. (2019). *Environmental education and disaster mitigation trough language learning*. IOP Conference Series: Earth and Environmental Science, 314.
- R. M. A. Ilyasa. (2020). Analisis Pertanggungjawaban Negara Yang Menimbulkan Dampak Kerugian Dalam Kasus Pembuangan Sampah Plastik di Samudra Pasifik Dalam Perspektif Hukum Internasional. *Jurnal Padjadjaran Law Rev.*, vol. 8, no. 1, pp. 40–55.
- Saliman, Fauzi Setyabudi (2018). Pendidikan Lingkungan Hidup di SMP Negeri 3 Kebumen Jawa Tengah. *Jipsindo Vol. 5 No.1* Maret 2018 pp. 1 - 20.
- S. P. Gordon. (1990). Developmental supervision: An exploratory study of a promising model," *J. Curric. Superv.*, vol. 5, no. 4, pp. 293–307.
- S. Rush. (1998). The noun phrase in advertising English. *J. Pragmat.*, vol. 29, no. 2, pp. 155–171.
- Surbakti, A. (2015). *Pendidikan Kependudukan dan Lingkungan Hidup*. Yogyakarta: Graha Ilmu.
- T. P. K. B. B. Indonesia. (2008). *Kamus Besar bahasa Indonesia*. Jakarta: Balai Pustaka.

Paper title:

**POPULATION AND ENVIRONMENTAL EDUCATION LEARNING INTEGRATED
WITH SCIENCE SUBJECTS IN MAMASA REGENCY, INDONESIA**

Parts of review	Guidelines	Yes	Partly	No	Reviewer's note for improvement	Author's responds (highlight of revision)
Title	• Does the subject matter fit within the scope of journal?	√				
	• Does the title clearly and sufficiently reflect its contents?	√				
Abstract	• Does the abstract contain informative, including Background, Methods, Results and Conclusion?	√				Already revised the remaining 247 words
Back-ground	• Is the background informative and sufficient (include the background problem and objectives)?	√				
	• Is research question of the study clear and understandable?	√				
	• Does the rationale of the study clearly explained using relevant literature?	√				
Methods	• Is the "aim" of the manuscript clear and understandable?	√				
	• Is the methodology chosen suitable to the nature of the topic studied?	√				
	• Is the methodology of the research described clearly?(including study design, location, subjects, data collection, data analysis)	√				
	• Is there adequate information about the data collection tools used? (only for empirical studies)	√				
Results & Discussion	• Are the validity and reliability of data collection tools established? (only for empirical studies)	√				
	• Are the data collection tools suitable for the methodology of the study? (only for empirical studies)	√				
	• Are the tables, graphs and pictures understandable, well presented and numbered consecutively?		√			
Results & Discussion	• Do the data analysis and the interpretation appropriate to the problem and answer the objectives?		√		The discussion has not been analysed	Already revised

					sharply.	
	<ul style="list-style-type: none"> Does the "discussion" section of the manuscript adequately relate to the current and relevant literature? 		√			
	<ul style="list-style-type: none"> Are the findings discussed adequately considering the research question(s), sub-question(s) or hypothesis? 		√		Partly	
Conclusion	<ul style="list-style-type: none"> Is the conclusion clear and in the form of a narration instead of pointers? 			√		
	<ul style="list-style-type: none"> Isn't the conclusion a summary and consistent between problems, objectives and conclusion? 		√			
References	<ul style="list-style-type: none"> Do the references and citations match? 	√				
	<ul style="list-style-type: none"> Are the writing of references correct? 			√	Add the references and use APA style.	Already revised and use APA style
Quality Criteria	<ul style="list-style-type: none"> Do the title, problem, objectives, methods and conclusion are in line? Is it well organized? 		√			
	<ul style="list-style-type: none"> The quality of the language is satisfactory 		√			
	<ul style="list-style-type: none"> The work relevant and novel 		√			
	<ul style="list-style-type: none"> Are there strong consistencies among the parts of the manuscript? (introduction, methods, results and discussion, and conclusion) 		√			

MITHEN LULLULANGI UNM

20.09 (0 menit yang lalu)

Dear: JPPII Team
 Jurnal Pendidikan IPA Indonesia

Thank you for the email, as well as the second correction from the Reviewers. Based on these corrections, I have embarrassed the revision and sent it back via the Journal link. Hopefully this revised result has met all the requirements for immediate publication in JPPII.

Greetings,

Mithen Lullulangi

Dear Authors,
 We are pleased to inform you that the reviewer has uploaded the review results of your article.
 Please check your OJS account for the newest review results.
 We are looking forward to your revision **not later** than February 24, 2021.
 Thank you.
 Best regards,
 JPPII Team

Jurnal Pendidikan IPA Indonesia

Paper title: Population and Environmental Education Learning Integrated with Science Subjects in Mamasa, Indonesia

Parts of review	Guidelines	Yes	Partly	No	Reviewer's note for improvement	Author's responds (highlight of revision)
Title	• Does the subject matter fit within the scope of journal?	√				
	• Does the title clearly and sufficiently reflect its contents?		√		Based on research content, the title is not quite right. Should: Students' Science Teachers Abilities in Integrating Population and Environmental Education with Science Subjects of Junior High School in Mamasa Regency, Indonesia	
Abstract	• Does the abstract contain informative, including Background, Methods, Results and Conclusion?		√		Partly does not informative. There is no difference between the results (by data) and the conclusion (in general).	
Back-ground	• Is the background informative and sufficient (include the background problem and objectives)?		√		Not available data how was previous data of the science teachers' abilities in integrating Population and Environmental Education with Science Subjects of Junior High School in Mamasa Regency in detail especially into 5 sub-variables.	

	<ul style="list-style-type: none"> Is research question of the study clear and understandable? 		√		The research question is clear, but has not been stated explicitly as a formulation of the research problem	
	<ul style="list-style-type: none"> Does the rationale of the study clearly explained using relevant literature? 		√		Partly the literature is not complete, especially its related with learning theory.	
	<ul style="list-style-type: none"> Is the "aim" of the manuscript clear and understandable? 	√				
Methods	<ul style="list-style-type: none"> Is the methodology chosen suitable to the nature of the topic studied? 	√				
	<ul style="list-style-type: none"> Is the methodology of the research described clearly?(including study design, location, subjects, data collection, data analysis) 		√		The aims of the research is not explain clearly into 5 sub variables as stated in abstracts.	
	<ul style="list-style-type: none"> Is there adequate information about the data collection tools used? (only for empirical studies) 	√				
	<ul style="list-style-type: none"> Are the validity and reliability of data collection tools established? (only for empirical studies) 		√		No explanation validation about data collection tools (instruments) by experts judgments.	
	<ul style="list-style-type: none"> Are the data collection tools suitable for the methodology of the study? (only for empirical studies) 	√				
Results & Discussion	<ul style="list-style-type: none"> Are the tables, graphs and pictures understandable, well presented and numbered consecutively? 	√				
	<ul style="list-style-type: none"> Do the data analysis and the interpretation appropriate to the problem and answer the objectives? 		√			
	<ul style="list-style-type: none"> Does the "discussion" section of the manuscript adequately relate to the current and relevant literature? 		√		The discussion has not been linked to relevant learning theories as a feature educational research.	
	<ul style="list-style-type: none"> Are the findings discussed adequately considering the research question(s), sub-question(s) or hypothesis? 		√			
Conclusion	<ul style="list-style-type: none"> Is the conclusion clear and in the form of a narration instead of pointers? 		√		The conclusion have not yet described the answers to the research question that includes 5 sub-variables of research.	
	<ul style="list-style-type: none"> Isn't the conclusion a summary and consistent between problems, objectives and conclusion? 		√		Not yet matched between problems-objectives-conclusion.	
References	<ul style="list-style-type: none"> Do the references and citations match? 		√		Relevant journals are inadequate	

	• Are the writing of references correct?		√		Please add reference from abroad research journal.	
Quality Criteria	• Do the title, problem, objectives, methods and conclusion are in line? Is it well organized?		√		Do not well organized	
	• The quality of the language is satisfactory		√		It needs proofreading	
	• The work relevant and novel		√			
	• Are there strong consistencies among the parts of the manuscript? (introduction, methods, results and discussion, and conclusion)		√			

POPULATION AND ENVIRONMENTAL EDUCATION LEARNING INTEGRATED WITH SCIENCE SUBJECTS IN MAMASA REGENCY, INDONESIA

Comment [A30]: Check for the other comments in the table above.

DOI: 10.15294/.....

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ABSTRACT

The purpose of this study was to find the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K13 Revision) in State Junior High Schools in Mamasa Regency. The study population was 106 junior high schools in Mamasa district. with an average of one science teacher per school. Sampling was done randomly, amounting to 20% of the population of 21 teachers. This study used a single variable, namely the ability of science teachers to integrate PKLH material with science learning in junior high schools. Furthermore, it is translated into 5 sub-variables including: 1) readiness to teach, 2) knowledge of K13 Revision, 3) ability to find PKLH Revised K13 material in the field of scientific studies, 4) knowledge of PKLH material, and 5) ability to plan, carry out and test PKLH learning integrated with science subjects. The research data is the result of structured interviews with respondents, and the data analysis technique was carried out in a descriptive qualitative way. The results showed that junior high school science teachers in Mamasa Regency in terms of teaching readiness, understanding of the 2013 revised curriculum, and knowledge of PKLH materials were already good, but the ability to integrate PKLH with science subjects was not good in terms of: 1) the ability to find PKLH material in the subject Revised K13 IPA, 2) the ability to plan PKLH learning integrated with science subjects, and 3) the ability to test PKLH learning integrated with science subjects.

Keywords: Ability, Teacher, Teaching, integrated, PKLH and Science materials.

INTRODUCTION

The preliminary study that the researcher conducted was conducting research in one school or education unit in 2017, namely at SMP Negeri 1 Balla to see the three psychological aspects or domains related to learning outcomes related to integrated PKLH learning, namely 1) Domain thinking process (cognitive domain), 2) domain of value or attitude (affective domain) and 3) domain of skills (psychomotor domain). (Benjamin S. Bloom, 1956). The results of this study show that the integrated PKLH learning out come, the cognitive domain is in the low group, then the affective and psychomotor domains are in the medium class. (Lullulangi M, 2017).

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Starting from this preliminary research, encouraging researchers to carry out further broader research, covering the entire Mamasa District, which consists of 106 junior high schools, with a focus on science courses based on the K 13 Revision, given that the relationship between science subjects with PKLH very closely, seen from the same study materials such as biotic and abiotic environments and other study materials related to humans and the universe. In addition, researchers think that humans are the actors who decide whether nature becomes damaged or sustainable, as a result of their behavior in managing nature and the environment. Therefore, the role of education is very large to give understanding so that humans realize how important it is to keep nature and the environment as a habitat and not humans themselves. It is hoped that IPA and PKLH lessons can both give that understanding, and the Indonesian Government takes a policy to teach these two fields in an integrated way. The question is, is integrated learning effective? Many researchers consider that integrated learning is less effective. Then the researcher wants to see where it is ineffective, by examining the ability of teachers to carry out integrated learning, and the results of this study will explain the weaknesses of teachers in science and PKLH learning, in an integrated way, and at the same time a novelty in this study, because previous researchers did not exist. who examined this matter, especially in integrated science and PKLH learning.

To support the researcher's argument above, Rezka (2017) says: In habituation, environmental care can be formed through character strengthening that involves education trip centers, namely class-based, school-based, and community-based. This opinion sees that education plays an important role in shaping the character of society to care for the environment. In addition, Jufri, et.al (2018) said, human awareness and concern for the environment cannot just grow naturally but must be strived for continuous formation from an early age, through real activities that are carried out every day. To instill awareness and concern for the environment, the most strategic step is to educate about the importance of caring for the environment. To achieve educational goals, including in shaping the character of students towards caring for the environment, the role of teachers is very important. As stated by Kesuma Putri, (2017) that achieving good quality education is strongly influenced

Comment [A33]: Jufri et al. (2018)

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by the performance of teachers in carrying out their duties so that teacher performance is an important need for achieving educational success.

The importance of environmental education is for sustainable living, so that environmental education must be implemented in society from an early age. Every school must invite and introduce and understand the current natural conditions and problems. The goal is to increase the awareness of students to be more sensitive to natural conditions (Ichwan, 2018).

Today the world is facing serious environmental problems. There are nine major environmental problems, such as global climate change, waste management, scarcity of clean water, population explosion, depletion of natural resources, extinction of plants and animals, destruction of natural habitats, increased pollution and poverty (Hermasyah, 2016). Environmental preservation activities can be carried out through environmental education. Knowledge of the condition of Indonesia's natural environment needs to be known by all Indonesian people, especially students in the school environment. (Saliman, 2018). The purpose of environmental education is to make students participate in protecting the environment and make the environment not only as something to be exploited but as an asset that must be preserved and protected. (Ramadhan et al, 2019).

Comment [A35]: (Ramadhna et al., 2019)

Current environmental conditions are about, because from time to time there is environmental damage, caused by humans who have no reason to keep the environment, in addition to increasing population growth that requires natural resources for their survival. Departing from this problem, it is hoped that Population and Environmental Education (PKLH) can be a solution so that public awareness can increase to protect the environment. However, the implementation of PKLH learning in formal schools is now considered ineffective, so it is necessary to find the cause, and one of the efforts to do this is through research, so according to researchers this research is urgent to do.

The implementation of the PKLH program in educational units, starting from elementary school (SD) junior high school (SLTP) and senior high school (SLTA) was implicitly introduced through the 1984 curriculum. After about 28 years of being introduced to schools, the results have not been encouraging. The daily reality shows that almost all education unit graduates have not shown an "environmentally friendly" performance (Kadir, 2013). The implementation of PKLH in Indonesia has been officially implemented at all levels of school since 1976 and is taught in an integrated way in almost all subjects, especially at the junior high school level (Hammado, 2011).

Based on research data conducted by experts who have explained in some of the above paragraphs about integrated PKLH learning from elementary to high school, it turns out that the implementation of PKLH learning which is carried out in an integrated way has not been effective so that the results of the research of these experts support the results. this research.

The world's attention to the environment was initiated since the United Nations Conference on the Environment in Stockholm, Sweden in June 1972. This conference declared an Environmentally Sustainable Development by making a decision to carry out economic and developmental activities, and guarantee that the environment and natural resources remain sustainable and worthy of being passed on to future generations. The concept of environmental and population education also emerged from this conference. Furthermore, UN agencies are being asked to organize "formal" and "mass" environmental education programs at the global level. International efforts to conserve the environment, especially through education, were subsequently initiated by UNESCO with the aim to formulate joint steps to overcome population and environmental problems.

The effort to preserve the environment has been seen in Indonesia through the Population and Environmental Education Program (PKLH) which has been initiated since 1975 based on the Minister of Education and Culture Decree No. 068 / U / 1974. Furthermore, it was centrally implemented by the PKLH project of the Directorate General of Primary and Secondary Education in 1976, which was called the "National Population Program Project" in collaboration with the BKKBN. The Population Education and Training Program was being implemented in schools in 1978. (Surbakti, A. 2015).

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Integrated learning is an approach based on the idea that a subject can be integrated into other appropriate subjects, and can be pursued by 1) building units or series of lesson materials prepared to be integrated with certain subjects, 2) with core programming, starting from a core program in a particular subject (Surbakti, A. 2015). The advantage of this system is that there is no need to add more teachers because most of them are already involved. However, it is also inseparable from weaknesses, such as the need for teachers to be prepared in advance, change the syllabus and the allocation of learning hours, the possibility of using materials integrated with core subjects, difficulty experienced when evaluating because two objectives must be achieved in one learning program, and other difficulties that may arise such as technical educational difficulties in integrating PKLH materials into other subjects. The learning material consists of Physics and Biology, which are mixed in an integrated science model, taught by science teachers who are considered competent in their field of study.

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Since the implementation of 2013 (K13) and K13 revised curriculum, the basic competencies (KD) that must be achieved in learning science includes: 1) Living life with a positive, honest and open attitude with critical creativity, collaboration and innovative thinking based on the essence of natural science, 2) Understanding the natural phenomena based on the results of learning science in an integrated manner through specific fields, including Physics, Chemistry and Biology, 3) Evaluating the products of thought in a society that is based on the principles of natural science and ethics, 4) Solving problems and making decisions in life based on scientific and ethical principles, 5) Recognize and play a role in solving human problems, such as food unavailability, health, energy crises and the environment, and 6) Understanding the impact of natural science development in an integrated manner on the improvement of technology and human life in the past, present and potential future impacts on the environment (D. W. B. Kuncara, 2016).

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The time allocation prepared for VII grade includes 5 hours/week with details of 7 subjects and 52 sub-subjects, and PKLH which equals 33 sub-subjects or 63.5% of all science subject in VII grade. This specifically means that for science subjects, PKLH learning materials in VII grade are more numerous than others. For VIII grade, there were 57 sub-subjects with a fixed time allocation of 5 hours/week, but none of them were PKLH materials, although there was a connection. Furthermore, for IX grade, there were 50 PKLH sub-subjects and materials, with the same time allocation of 5 hours/week. Therefore, based on the allocation of time, curriculum (revised K13) and the number of sub-subjects for science lessons in junior high schools the total number of science materials for grades VII, VIII, and IX was 159 sub-subjects. In addition, PKLH materials equals 26% of the total number of science sub-subjects in junior high schools (D. W. B. Kuncara, 2016).

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The big dictionary of Indonesian explained that "*mampu* (able)" can be interpreted as power (able, capable) to do something. Furthermore, when its prefix "ke" and the suffix "an" are joined together it becomes "*kemampuan* (ability)" which means having the ability to do something (T. P. K. B. B. Indonesia, 2008). The equivalent of the word *kemampuan* in English is an ability which means the quality, physical, mental, or legal power to do or it can also mean competence in doing something (S. Rush, 1998). **Integrated comes from the basic word integration which means assimilation, coalescing, or joining to become one unified whole.** Furthermore, it has a meaning in the verb class and can be expressed as an action, existence, experience, or other dynamic meaning (T. P. K. B. B. Indonesia, 2008).

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Based on the definition above, the ability to integrate means to mix or combine something into one useful unit. If this context is related to the teacher's task in teaching, it can be interpreted that the teacher has the ability to integrate or combine something into one unified whole. Furthermore, if it is connected with science learning and PKLH materials, it means that the teacher has the ability or skill to combine both science and PKLH materials in learning processes carried out at school.

The ability, capacity, or proficiency of teachers, with educational terms, is known as competence. Etymologically, it comes from the basic word *compete* which means competing or competition, and the noun *competence* which means ability, proficiency, or authority can be made from it. Competence can also be interpreted as knowledge, skills, and abilities that can be mastered in order to possess cognitive, affective, and psychomotor behaviors (H. H. McAshan, 1979). The competence of teachers is assessed by various groups as a picture of whether or not educators are professional (Janawi, 2012).

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Details of several aspects of the realm that exist in the competence concept and they include; 1) knowledge as awareness in the cognitive field. 2) understanding: the depth of cognitive and affective behaviors possessed by individuals. 3) ability (skill): the proficiency to carry out a task or job. 4) value: a standard of behavior that has been psychologically integrated within a person. 5) attitudes, feelings, or

reactions to stimuli that comes from outside. 6) interest: a tendency to do something. (S. P. Gordon, 1990).

RESEARCH METHODS

The aim of this research is to determine the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K 13 Revision) in Junior High School at Mamasa Regency.

Participants of the Study

Population is a group of people, animals, plants, or objects that have certain characteristics to be studied. The population will be the area for generalizing the conclusions of the research results (Mulyatiningsih, 2011). Population is a collection of subjects, variables, concepts, or phenomena. We can examine each member of the population to find out the nature of the population concerned, (Morissan, 2012). The population of this study were all 106 junior high schools in Mamasa Regency, assuming an average of one science teacher for each school, despite the fact that in the field there are schools that have more than one science teacher, but in some schools don't have a science teacher.

The sample is a group of members who are part of the population so that they also have the same characteristics as the population. To determine the sample size according to (Suharsimi Arikunto, 2013) if the subject is less than 100, it's better to take all of them until the research becomes a type of population study. Because the number of state junior high schools is more than 100, the random sampling is set at 20% of the population = 21 teachers (Gay, 1992).

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Research Instruments

The research instrument used in this research is a list of questions used in structured interviews, which begins by asking about preparation, knowledge of the revised K13 curriculum, material and teacher knowledge of PKLH materials, the ability to plan integrated learning, management of the teaching and learning process, management class, use of media, learning evaluation abilities, and learning completeness. The entire list of questions is given a column to give weight according to the respondent's ability to answer.

Data Collection

The data in this study were obtained in the field by conducting in-depth structured interviews with respondents, namely all teachers who taught science subjects in an integrated manner with PKLH material in 21 teachers as sample.

Data Analysis

Data analysis techniques are methods / techniques used to analyze data tailored to the problematic form and type of data (Arikunto 1913). The data will be analyzed in a descriptive qualitative manner to select the tendency of each respondent's answer, grouped, reduced, presented, analyzed, then draw conclusions.

The data analysis steps are as follows:

1. The data from the interview are in the form of qualitative data, so that the data can be analyzed it must be converted into quantitative data (Arikunto 2013). Quantify the answers to the questions by giving the levels of scores for each answer as follows: (a) the answer to very good choice is given a score of 4; (b) good choice answers are given a score of 3; (c) less good choice answers are given a score of 2; and (d) bad choice answers are given a score of 1
2. Calculating the frequency for each answer category in each variable or sub variable
3. From the calculation of the formula, a number will be generated in the form of a percentage. The formula used for percentage descriptive analysis (DP)

$$DP = \frac{\text{Real score} \times 100}{\text{Ideal Score}}$$

4. Analysis of research data is adjusted to the research objectives so that percentage analysis is used. The results of the analysis are presented in qualitative sentences. The calculation steps are as follows:

a) Set the highest percentage

$$\text{Formula: } \frac{\sum \text{item} \times \sum \text{respondent} \times \text{highest value score} \times 100\%}{\sum \text{item} \times \sum \text{respondent} \times \text{score highest value}}$$

b) Set the lowest percentage

$$\text{Formula: } \frac{\sum \text{item} \times \sum \text{respondent} \times \text{lowest value score} \times 100\%}{\sum \text{item} \times \sum \text{respondent} \times \text{score highest value}}$$

c) Set class Interval:

$$\text{The formula: } \frac{\text{highest\%} - \text{lowest\%}}{\text{The desired class}}$$

d) Determining the level of criteria

In this study, the level of criteria used to assess the results of the study was determined: the value of 81.26 - 100 criteria Very good, the value of 62.51 - 81.25 good criteria, the value of 43.76 - 62.50 criteria is not good, and the value of 25 - 43.75 bad criteria.

The criteria above, then a descriptive table of percentages is made as follows:

Table 1. Descriptive percentage

INTERVAL %	DESCRIPTION
81.26 - 100	Very good
62.51 - 81.25	good
43,76 - 62,50	less good
25 - 43.75	bad

Source: Arikunto 2013

RESULTS AND DISCUSSION

Research result

Teaching Preparation

This is the creation of learning tools following the K13 Revision. Therefore, teachers should make a Lesson Plan (RPP) before implementing learning activities. Regarding this issue, the results can be described in the table below

Table 2. Teacher preparation for carrying out learning process

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	5	24
2	62,51 – 81,25	Good	11	52,5
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	2	9,5
Total			21	100

Source: Processed Research Data

Before learning was carried out, 24% of respondents made learning tools very well. Furthermore, there were 52.5% of respondents with good criteria, namely compiling lesson plans, preparing learning media, and others as implied in the implementation of the K 13 Revision. However, there were still 14% who were categorized as less good, and 9.5% bad in carrying out learning without any preparation. It can be concluded that the preparation of science teachers at the research location before carrying out the learning process was categorized as being good.

Understanding of the Revised K13 Curriculum

The understanding of the revised K13 is the respondents method in implementing K13 in learning processes at school. Several question items were asked, such as the number of subjects and sub-subjects for each grade level, as well as the competency standards related to basic competencies and others in the field of study. The results on understanding the Revised K13 curriculum are presented in the table below.

Table 3. Respondets Understanding of the Revised K13

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	13	62
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's understanding of the Revised K13 consists of 62%, 24% and 14% and were categorized as very good, good and less good. This means that the understanding of science teachers in Mamasa Regency on the Revised K 13 can be categorized as very good.

Understanding PKLH Material in K13 Revision Curriculum of science subject in junior high school

This relates to the teacher's ability to identify or recognize PKLH material in the Revised K13 curriculum, starting from VII to IX grade. The results regarding this indicator, can be seen in the table below.

Table 4. The ability of respondents to identify PKLH material in the Revised K13 for Junior High School level in Mamasa Regency

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	3	14
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The ability of respondents to identify PKLH material in science subjects consist of 62%, 24% and 14% and were categorized as less good, good, and very good. The results indicate that the ability of respondents to identify PKLH material in the K 13 revision of science subjects in junior high school can be categorized as less good. This means that science teachers in the research area cannot distinguish which natural science and PKLH materials were substituted and taught in an integrated manner.

Knowledge of PKLH materials

Knowledge of PKLH material is grouped into three areas and they include: environmental knowledge, demography knowledge, and population and environmental management knowledge.

a). Environmental Knowledge

The results on respondents knowledge of the environment can be seen in the table below.

Table 5. Respondents' knowledge of the environment

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	10	48
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents knowledge of the environment consists of 52% and 48% and were categorized as good and less good respectively. Furthermore, the results indicates that 52% of science teachers in the Mamasa Regency have good environmental knowledge, and 48% with less good knowledge.

b) Population knowledge

The research results on respondents' knowledge of population can be seen in the table below.

Table 6. Respondents' knowledge of population

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	13	62
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents knowledge of the population consist of 62% and 38% and were categorized as good and less good. The results indicate that 62% of science teachers in the Mamasa Regency have good demographic knowledge and 38% with less good knowledge.

c) Knowledge of population and environmental management

The results on respondents' knowledge of the population and environmental management can be seen in the table below.

Table 7. Respondents' knowledge of population and environmental management

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's knowledge of the population and environmental management consists of 10%, 52% and 38% respectively, and were categorized as very good, good and less good. The results indicate that science teachers in Mamasa regency have good knowledge of population management.

Integrated Teaching Planning Capabilities

The ability to plan integrated learning is divided into 3 groups and they, include: planning integrated learning, implementing and evaluating the teaching and integrated learning processes.

g) Ability to plan integrated learning

The research results on the ability to plan integrated learning can be seen in the table below.

Table 8. Respondents' ability in planning integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38
3	43,76 – 62,50	Less Good	11	52
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents ability in planning integrated learning consists of 10%, 38% and 52% respectively, and were categorized as very good, good and less good. According to the results, the ability of science teachers in the Mamasa Regency to plan PKLH lessons integrated with science subjects can be categorized as less good, and this is because their ability to sort PKLH materials with science materials is not efficient.

h) The ability to carry out integrated learning

The results on the ability to carry out integrated learning can be seen in the table below

Table 9. The ability of respondents to carry out integrated learning

No.	Interval	Criteria	Frequency	%
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1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	15	71
3	43,76 – 62,50	Less Good	6	29
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents ability to carry out integrated learning consists of 71% and 29% being categorized as good and less good. According to the results obtained, the ability of science teachers in the Mamasa Regency to implement integrated PKLH learning with science subjects can be categorized as being good. This is influenced by their ability to carry out learning in general. Furthermore, in the K 13 Revision, PKLH materials were integrated with that of science and was widely taught by the teachers.

i) The ability to evaluate integrated learning

The results on the ability to evaluate integrated learning can be seen below

Table 9. Respondents' ability to evaluate integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38
3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's ability to evaluate integrated learning consists of 62%, 38% and 10% respectively, and were categorized as less good, good, and very good. According to the results obtained, the ability of science teachers in the Mamasa Regency to carry out an integrated evaluation of PKLH learning with science subjects was categorized as less good. This is due to their inadequate ability to sort PKLH and science materials. Furthermore, it was also revealed that some teachers actually knew about this, but didn't have enough time and opportunity to sort it out. Therefore, the learning evaluation was carried out without any separation of material.

Discussion

Based on the results presented above, it was revealed that the single variable discussed in this study was the ability of junior high school science teachers in the Mamasa Regency to integrate Population and Environmental Education (PKLH) with science subjects. Furthermore, it was developed into 5 sub-variables and was supported by 21 indicators (research instruments). From the data analysis results, there are 3 sub-variables which show prominent weakness, and they include 1) The ability of respondents to identify PKLH material in K13 Revision of Junior High School Science subjects; 2) The ability to plan PKLH learning in an integrated manner with science subjects; 3) The ability to evaluate PKLH learning in an integrated manner with science subjects.

Although the results showed that the respondents knowledge of the three sub-variables was good. It also showed that the respondents were not good at identifying PKLH materials contained in the K 13 Revision of

Comment [A45]: Delete this subchapter.

Science subjects in junior high schools. This is similar to the experience teachers have with the science subjects in the curriculum. One of the major things to remember is that PKLH learning is in line with Bloom's Taxonomy theory which states that the success of learning, especially PKLH must be measured from three domains, namely: cognitive, affective, and psychomotor (L. W. Anderson and L. A. Sosniak, 1994). Therefore, when planning, for example, making learning tools, lesson plans and others according to the demands of the K 13 Revision, it should be noted that PKLH teaching materials are not planned specifically but remain integrated with science materials. Subsequently, when teachers are faced with questions related to the identification of PKLH learning through this research instrument, and are not ready, the results obtained would be categorized as less good. When faced with questions related to the integrated PKLH learning evaluation, respondents generally answered that there was no separation in the learning evaluation carried out therefore the specific evaluation for PKLH materials was also not visible. From interviews with respondents, it was revealed that the things being evaluated were the cognitive and affective domains, while few were related to the students psychomotor domains. PKLH evaluation is also described in the PKLH teaching handbook compiled by the Ministry of Education and Culture and it was stated that the psychomotor domain concerning motor skills was very important regarding perception, readiness to do something (setting), mechanism, guided response, proficiency (complex overt response), adaptation and creation (originalization), (E. Kastama, 1988). Points that support psychomotor are expected to be created when the cognitive and affective aspects are good. However, they need to be well planned in order for the results to appear when evaluating learning.

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Another important thing is that PKLH learning success will appear when the psychomotor domain of students is visible and can be implemented in their everyday life. It will be seen and measured from the students behavior in dealing with social, biotic and abiotic environments respectively.

Comment [A47]: originality?

Comment [A48]: Use last name only.

The failure of PKLH learning integrated with other subjects is because teachers were not able to give special emphasis to PKLH materials including its evaluation when planning integrated PKLH learning. Therefore the PKLH materials obtained by students are only good at the cognitive and affective domain level but failed in the psychomotor domain. Though in Indonesia, PKLH has been taught since 1976 at all levels of education in an integrated manner for 44 years, and the community behavior that reflects an environmentally conscious society is still far from expectations, (M. Lullulangi, 2018).

Comment [A49]: Use last name only.

This research implies that the government is expected to re-evaluate the PKLH learning model in an integrated manner with other subjects, such as religion, social science, and other subjects (D. W. B. Kuncara, 2016). However, the reality in their everyday life shows that the psychomotor domain of students in the field of PKLH is not visible. Subsequently, this is similar to the behavior of the general public, who are also alumni of the school and have studied PKLH in an integrated manner, but their environmental cleanliness awareness is not visible. This means that PKLH learning in Indonesia which is taught in an integrated manner was unsuccessful. The largest producer of plastic waste in the world is China, which accounts for 8.8 million tons annually,

Indonesia ranks second, contributing 3.8 million tons annually, and 87% of 3, 8 million tones floating in the sea. Furthermore, this means every resident of Indonesia's coast is responsible for 17.2 kilograms of plastic waste floating around and poisoning marine animals (N. Putri, 2019) and (R. M. A. Ilyasa, 2020). Another evidence of the failure of PKLH learning in Indonesia is the results obtained by the Ministry of Health which shows that only 20% of the total Indonesian citizens care about hygiene and health. This means that out of the 262 million population in Indonesia, only around 52 million care about the cleanliness of the surrounding environment (C. N. N. Indonesia, 2018). Based on these facts, it is time for the Government of Indonesia to review the integrated PKLH method of learning because for 44 years of its implementation it has not produced significant results.

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Comment [A51]: Use last name only.

The contribution of these results was to evaluate PKLH learning in an integrated manner in Mamasa, which can also be carried out in several areas as a comparison to measure the success of its learning in each region. Therefore, its success in Indonesia can increase, and there can also be a comparison of PKLH learning in several countries.

The novelty of this research, is an evaluation of PKLH learning in an integrated manner with other subjects, especially the field of Natural Science taught in Junior High Schools, and provides an overview of the weaknesses experienced by teachers who teach these subjects, so that the results of this study It is hoped that it can be used as an evaluation material to determine policies, especially in basic education, so that integrated PKLH learning in the future will be better.

CONCLUSION

Comment [A52]: Check for the comments in the table above.

Based on the results and discussion above it can be concluded that junior high school science teachers in Mamasa Regency in terms of teaching readiness, understanding of the 2013 revised curriculum, and knowledge of PKLH materials are good, but the ability to integrate PKLH with science subjects is not good in terms of: 1) the ability to identify PKLH material on Revised K13 IPA subjects, 2) the ability to plan PKLH learning integrated with science subjects, and 3) the ability to evaluate PKLH learning integrated with science subjects.

ACKNOWLEDGEMENT

The author would like to thank the Rector of Universitas Negeri Makassar, through the Chairperson of the Institute for Research and Community Service (LP2M) Universitas Negeri Makassar who has provided PNPB funds for the cost of this research. The Mamasa government has permitted this research in its working area. The school principals and science teachers were respondents in the sample schools, as well as all those who helped in this research. I hope your help will be rewarded by God.

Comment [A53]: You may go check in Google Scholar to check the indexed books or article and click “, choose the APA style.

REFERENCES

Comment [A54]: References (Min 30) should be written according to the APA style. This journal requires 80% of the reference cited from the national and international journals.

Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.

Bloom's, Benjamin. 1956. *Taksonomi Bloombloom's taxonomy - learning domains*. ([www.businessballs.com > human resources](http://www.businessballs.com/human-resources), (Diakses 15 Januari 2021).

C. N. N. Indonesia. (2018). Kesadaran Masyarakat Indonesia akan Kebersihan Masih Rendah," *Retrieved Sept.*, vol. 17, p. 2018.

C. R. Finch and J. R. Crunkilton. (1999). *Curriculum development in vocational and technical education. planning, content, and implementation*. ERIC.

D. W. B. Kuncara. (2016). *Analisis Isi Buku Panduan Guru Ilmu Pengetahuan Alam Kelas VII Kurikulum 2013*. Semarang : Universitas Negeri Semarang.

E. Kastama. (1988). *Pendidikan Kependudukan dan Lingkungan Hidup di IKIP dan FKIP*. Jakarta: Dirjen Dikti.

Gay, L.R. (1992). *Education Research Competencies for Analysis and Application*: London: Charles E. Milton Keynes Philadelphia Company.

Hammado.(2011). *Hand Out Perkuliahan Filsafat PKLH*. PPS-UNM

Handayani Trikinasih, Wuryadi, and Zamroni. (2015). Pembudayaan Nilai Kebangsaan Siswa Pada Pendidikan Lingkungan Hidup Sekolah Dasar Adiwiyata Mandiri. *Jurnal Pembangunan Pendidikan: Fondasi dan Aplikasi*, Vol.3 No. 1 Juni 2015, pp. 95-105

Hermasyah, Atikah. (2016). *Kenapa Harus Belajar PKLH?*. Kompasiana, 17 April 2016.

H. H. McAshan. (1979). *Competency-based education and behavioral objectives*. Educational Technology.

Ichwan, Muhammad. (2018). *Pentingnya Kenalkan Pendidikan Lingkungan Ke Siswa*. JP. Pendidikan. Radar Tulungagung.2021. Jawa Pos.com

Janawi, (2012). *Kompetensi Guru Citra Guru Profesional*. Bandung: Alfabeta

Jufri, La Fual, Jumarddin, dan Nurlita, Ratna Umi. (2018). Pendidikan Lingkungan di Sekolah Dasar Negeri 1 Baruga Kota Kendari. *Jurnal Al-Ta'dib* Vol.11 No.2 Desember 2018. pp. 164-181

Kadir, Abdul. (2013). Signifikansi Strategi Pembelajaran Pendidikan Lingkungan Hidup Dalam Membentuk Prilaku Siswa Berwawasan Lingkungan. *Jurnal Al-Ta'dib* Vol.6 No.2 Desember 2013, pp.1-18.

Kesuma Putri, Dwi Ayu and Imaniyati, Nani. (2017). Pengembangan Profesi Guru Dalam Meningkatkan Kinerja Guru (Professional Development of Teachers in Improving the Performance of Teacher). *Jurnal Pendidikan Manajemen Perkantoran* Vol. 2 No. 2, Juli 2017. pp.202-211.

K. D. O'Gorman and R. MacIntosh. (2014). *Research methods for business and management*. Goodfellow Publishers Limited.

Kontur, Rony. (2007). *Metode Penelitian Untuk Pnulisan Skripsi dan Tesis*. Jakarta : Buana Printing.

Lullulangi, M dan Pujantara, Ruly. (2017). *Analisis Pembelajaran PKLH Secara Terintegrasi Dengan Pelajaran Lain di SMP Negeri 1 Balla Kecamatan Balla Kabupaten Mamasa*. Laporan Penelitian PNBP. Makassar : Lembaga Penelitian UNM.

L. W. Anderson and L. A. Sosniak. (1994). *Bloom's taxonomy*. Chicago : Univ. Chicago Press IL.

M. Lullulangi. (2018). Analisis Pembelajaran PKLH Secara Terintegrasi Dengan Pelajaran Lain Di SMP. *UNM Environ. Journals*, vol. 1, no. 2, pp. 45-52.

Morissan, (2012). *Metode Penelitian Survey*. Jakarta: Kencana Prenada Media Group

Mulyatiningsih, E. (2011). *Metode Penelitian Terapan Bidang Pendidikan*. Yogyakarta: Alfabeta.

N. Putri, (2019). Sikap China Menolak Resolusi PBB UNEP/EA. 3/RES. 7 Tentang Pencemaran Sampah Plastik Di Wilayah Laut."

Ramadhan, S., Sukma, E., & Indriyani, V. (2019). *Enviromental education and disaster mitigation trough language learning*. IOP Conference Series: Earth and Enviromental Science, 314.

Rezkita, Shanta and Wardani, Kristi. (2017). Pengintegrasian Pendidikan Lingkungan Hidup Membentuk Karakter

Comment [A55]: Please use sources from reputable journals.

Comment [A56]: Finch, C. R., & Crunkilton, J. R. (1999). *Curriculum development in vocational and technical education. planning, content, and implementation*. Allyn and Bacon, 160 Gould Street, Needham Heights, MA 02494.

Last name first. Please check the APA style.

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Comment [A58]: Please use sources or supporting articles from reputable journals.

Comment [A59]: McAshan, H. H. (1979). *Competency-based education and behavioral objectives*. Educational Technology.

Comment [A60]: Jufri, J., La Fua, J., & Nurlila, R. U. (2019). Pendidikan Lingkungan Di Sekolah Dasar Negeri 1 Baruga Kota Kendari. *Al-TA'DIB: Jurnal Kajian Ilmu Kependidikan*, 164-181.

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Comment [A64]: abbreviated

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Peduli Lingkungan di Sekolah Dasar. *Jurnal Pendidikan Ke-SD-an* Vol.4 No.2 Januari 2018, pp.327-331

R. M. A. Ilyasa. (2020). Analisis Pertanggungjawaban Negara Yang Menimbulkan Dampak Kerugian Dalam Kasus Pembuangan Sampah Plastik di Samudra Pasifik Dalam Perspektif Hukum Internasional. *Jurnal Padjadjaran Law Rev.*, vol. 8, no. 1, pp. 40–55.

Saliman, Fauzi Setyabudi (2018). Pendidikan Lingkungan Hidup di SMP Negeri 3 Kebumen Jawa Tengah. *Jipsindo Vol. 5 No.1* Maret 2018 pp. 1 - 20.

S. P. Gordon. (1990). Developmental supervision: An exploratory study of a promising model," *J. Curric. Superv.*, vol. 5, no. 4, pp. 293–307.

S. Rush. (1998). The noun phrase in advertising English. *J. Pragmat.*, vol. 29, no. 2, pp. 155–171.

Comment [A67]: Please check again.

Surbakti, A. (2015). *Pendidikan Kependudukan dan Lingkungan Hidup*. Yogyakarta: Graha Ilmu.

T. P. K. B. B. Indonesia. (2008). *Kamus Besar bahasa Indonesia*. Jakarta: Balai Pustaka.

Comment [A68]: Please check again.

Paper title:

POPULATION AND ENVIRONMENTAL EDUCATION LEARNING INTEGRATED WITH SCIENCE SUBJECTS IN MAMASA REGENCY, INDONESIA

Parts of review	Guidelines	Yes	Partly	No	Reviewer's note for improvement	Author's responds (highlight of revision)
Title	• Does the subject matter fit within the scope of journal?	√				Explanation of the Title: Population and environmental education which is abbreviated as PKLH is a population program to foster students to have understanding, awareness, attitudes and behavior that are rational and responsible about the mutual influence between the population and the environment
	• Does the title clearly and sufficiently reflect its contents?	√				

Abstract	<ul style="list-style-type: none"> Does the abstract contain informative, including Background, Methods, Results and Conclusion? 	√				<p>Already revised the remaining 210 words</p> <p>Abstract has been corrected and contains objectives, methods, results, and conclusions (according to the Reviewers' instructions)</p>
Back-ground	<ul style="list-style-type: none"> Is the background informative and sufficient (include the background problem and objectives)? 	√				<p>The introduction has been revised according to the reviewers' instructions, and includes the novelty of the research supported by previous research, as well as an explanation of why choosing the title of this study.</p>
	<ul style="list-style-type: none"> Is research question of the study clear and understandable? 	√				
	<ul style="list-style-type: none"> Does the rationale of the study clearly explained using relevant literature? 	√				
	<ul style="list-style-type: none"> Is the "aim" of the manuscript clear and understandable? 	√				
Methods	<ul style="list-style-type: none"> Is the methodology chosen suitable to the nature of the topic studied? 	√				<p>Research methods have also been improved according to instructions</p>
	<ul style="list-style-type: none"> Is the methodology of the research described clearly?(including study design, location, subjects, data collection, data analysis) 	√				
	<ul style="list-style-type: none"> Is there adequate information about the data collection tools used? (only for empirical studies) 	√				
	<ul style="list-style-type: none"> Are the validity and reliability of data collection tools established? (only for empirical studies) 	√				
	<ul style="list-style-type: none"> Are the data collection tools suitable for the methodology of the study? (only for empirical studies) 	√				
Results & Discussion	<ul style="list-style-type: none"> Are the tables, graphs and pictures understandable, well presented and numbered consecutively? 		√			
	<ul style="list-style-type: none"> Do the data analysis and the interpretation appropriate to the problem and answer the objectives? 		√		The discussion has not been analysed sharply.	<p>Already revised according to instructions</p>
	<ul style="list-style-type: none"> Does the "discussion" section of the manuscript adequately relate to the current and relevant literature? 		√			
	<ul style="list-style-type: none"> Are the findings discussed adequately considering the research question(s), sub- 		√		Partly	

	question(s) or hypothesis?					
Conclusion	• Is the conclusion clear and in the form of a narration instead of pointers?			√		
	• Isn't the conclusion a summary and consistent between problems, objectives and conclusion?		√			It has been improved and adapted to the research objectives
References	• Do the references and citations match?	√				
	• Are the writing of references correct?			√	Add the references and use APA style.	Already revised and use APA style and from 31 references, 22 pieces or 79.968% are rounded to 80% references for the last 10 years and only 9 pieces or approximately 20% old references.
Quality Criteria	• Do the title, problem, objectives, methods and conclusion are in line? Is it well organized?		√			
	• The quality of the language is satisfactory		√			
	• The work relevant and novel		√			
	• Are there strong consistencies among the parts of the manuscript? (introduction, methods, results and discussion, and conclusion)		√			

MITHEN LULLULANGI UNM

Dear: JPPII Team
Jurnal Pendidikan IPA Indonesia

The third revision is based on the Reviewers' instructions, I have done it and I have sent the revised file back via my OJS account in the Jurnal Pendidikan IPA Indonesia, with the hope that it can meet the requirements for publication. Thank you.

Greetings,

Mithen Lullulangi

Paper title: Population and Environmental Education Learning Integrated with Science Subjects in Mamasa, Indonesia

Parts of review	Guidelines	Yes	Partly	No	Reviewer's note for improvement	Author's responds (highlight of revision)
Title	<ul style="list-style-type: none"> Does the subject matter fit within the scope of journal? 	√				
	<ul style="list-style-type: none"> Does the title clearly and sufficiently reflect its contents? 		√		Based on research content, the title is not quite right. Should: Students' Science Teachers Abilities in Integrating Population and Environmental Education with Science Subjects of Junior High School in Mamasa Regency, Indonesia	The title is fixed, thank you for the suggestion to improve the title of this article
Abstract	<ul style="list-style-type: none"> Does the abstract contain informative, including Background, Methods, Results and Conclusion? 		√		Partly does not informative. There is no difference between the results (by data) and the conclusion (in general).	It has been corrected, and adjusted to the research conclusions.
Back-ground	<ul style="list-style-type: none"> Is the background informative and sufficient (include the background problem and objectives)? 		√		Not available data how was previous data of the science teachers' abilities in integrating Population and Environmental Education with Science Subjects of Junior High School in Mamasa Regency in detail especially into 5 sub-variables.	It is true that there is no previous data on the ability of science teachers to integrate PKLH with junior high school science subjects in Mamasa Regency, especially the 5 sub-variables in this study, because there is no previous research. So far, no researchers have conducted research in this area, so it is natural that there is no supporting data on this matter. The only research that has been conducted by Lullulangi, (2017) is to determine the cognitive, affective, and psychomotor domanin of students at SMPN 1 Balla related to PKLH.
	<ul style="list-style-type: none"> Is research question of the study clear and understandable? 		√		The research question is clear, but has not been stated explicitly as a formulation of the research problem	It has been fixed by adding research questions as problem research..
	<ul style="list-style-type: none"> Does the rationale of the study clearly explained using relevant literature? 		√		Partly the literature is not complete, especially its related with learning theory.	It has been added some literature related to learning theory

	<ul style="list-style-type: none"> Is the "aim" of the manuscript clear and understandable? 	√				
Methods	<ul style="list-style-type: none"> Is the methodology chosen suitable to the nature of the topic studied? 	√				
	<ul style="list-style-type: none"> Is the methodology of the research described clearly?(including study design, location, subjects, data collection, data analysis) 		√		The aims of the research is not explain clearly into 5 sub variables as stated in abstracts.	Research objectives have been described according to Reviewers instructions
	<ul style="list-style-type: none"> Is there adequate information about the data collection tools used? (only for empirical studies) 	√				
	<ul style="list-style-type: none"> Are the validity and reliability of data collection tools established? (only for empirical studies) 		√		No explanation validation about data collection tools (instruments) by experts judgments.	Validation Data collection instruments used, before implementation, discussed with Researchers, attended by a Senior (a professor) in the form of FGD
	<ul style="list-style-type: none"> Are the data collection tools suitable for the methodology of the study? (only for empirical studies) 	√				
Results & Discussion	<ul style="list-style-type: none"> Are the tables, graphs and pictures understandable, well presented and numbered consecutively? 	√				
	<ul style="list-style-type: none"> Do the data analysis and the interpretation appropriate to the problem and answer the objectives? 		√			
	<ul style="list-style-type: none"> Does the "discussion" section of the manuscript adequately relate to the current and relevant literature? 		√		The discussion has not been linked to relevant learning theories as a feature educational research.	The discussion has been linked to learning theory, namely Bloom's Taxonomy Theory and Behaviorism Theory according to Reviewers' expectations.
	<ul style="list-style-type: none"> Are the findings discussed adequately considering the research question(s), sub-question(s) or hypothesis? 		√			
Conclusion	<ul style="list-style-type: none"> Is the conclusion clear and in the form of a narration instead of pointers? 		√		The conclusion have not yet described the answers to the research question that includes 5 sub-variables of research.	It has been corrected and adjusted to the research question covering 5 sub variables.
	<ul style="list-style-type: none"> Isn't the conclusion a summary and consistent between problems, 		√		Not yet matched between problems-objectives-	With some improvements made, it is hoped that the

	objectives and conclusion?				conclusion	problem, objectives, and conclusions are compatible.
References	• Do the references and citations match?		√		Relevant journals are inadequate	Several relevant Journals have been added according to the Reviewers' Instructions.
	• Are the writing of references correct?		√		Please add reference from abroad research journal.	Several foreign research journals have been added
Quality Criteria	• Do the title, problem, objectives, methods and conclusion are in line? Is it well organized?		√		Do not well organized	The author has tried to fix it.
	• The quality of the language is satisfactory		√		It needs proofreading	Regarding the quality of the language, this article has gone through the proofreading process but because of the many corrections, it is possible that the quality of the language is lacking, even though the author has tried to improve every correction through the Grammarly program.
	• The work relevant and novel		√			
	• Are there strong consistencies among the parts of the manuscript? (introduction, methods, results and discussion, and conclusion)		√			

SCIENCE TEACHERS ABILITIES IN INTEGRATING POPULATION AND ENVIRONMENTAL EDUCATION WITH SCIENCE SUBJECTS OF JUNIOR HIGH SCHOOL IN MAMASA REGENCY, INDONESIA

Mithen L^{*1}) Onesimus S²) Anas A³) Raeny T⁴) Rahmansah⁵)

^{1,2,3,4,5} *Department of Civil Engineering Education Universitas Negeri Makassar*

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ABSTRACT

The purpose of this study was to find the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K13 Revision) in State Junior High Schools in Mamasa Regency. The study population was 106 junior high schools in Mamasa district. with an average of one science teacher per school. Sampling was done randomly, amounting to 20% of the population of 21 teachers. This study used a single variable, namely the ability of science teachers to integrate PKLH material with science learning in junior high schools. Furthermore, it is translated into 5 sub-variables including: 1) teaching readiness, 2) knowledge of K 13 Revision, 3) ability to find PKLH material in Science subjects SMP based on K 13 Revision, 4) knowledge of PKLH material, and 5) ability to plan, carry out, and evaluate PKLH learning in an integrated way with junior high school science subjects. The research data is the result of structured interviews with respondents, and the data analysis technique was carried out in a descriptive qualitative way. The results showed that junior high school science teachers in Mamasa Regency in terms of teaching readiness, understanding of the 2013 revised curriculum, and knowledge of PKLH materials were already good, but the ability to integrate PKLH with science subjects was not good or weak in terms of: 1) the ability to find PKLH material in SMP Science subjects based on K 13 Revision, and 2) the ability to plan, carry out, and evaluate PKLH learning in an integrated way with science subjects of Junior High School.

Keywords: Ability, Teacher, Teaching, integrated, PKLH and Science materials.

INTRODUCTION

The preliminary study that the researcher conducted was conducting research in one school or education unit in 2017, namely at SMP Negeri 1 Balla to see the three psychological aspects or domains related to learning outcomes related to integrated PKLH learning, namely 1) Domain thinking process (cognitive domain), 2) domain of value or attitude (affective domain) and 3) domain of skills (psychomotor domain). (Anderson et al.,1994). The results of this study show that the integrated PKLH learning out come, the cognitive domain is in the low group, then the affective and psychomotor domains are in the medium class. (Lullulangi, 2017).

Starting from this preliminary research, encouraging researchers to carry out further broader research, covering the entire Mamasa District, which consists of 106 junior high schools, with a focus on science courses based on the K 13 Revision, given that the relationship between science subjects with PKLH very closely, seen from the same study materials such as biotic and abiotic environments and other study materials related to humans and the universe. In addition, researchers think that humans are the actors who decide whether nature becomes damaged or sustainable, as a result of their behavior in managing nature and the environment. Therefore, the role of education is very large to give understanding so that humans realize how important it is to keep nature and the environment as a habitat and not humans themselves. It is hoped that IPA and PKLH lessons can both give that understanding, and the Indonesian Government takes a policy to teach these two fields in an integrated way. The question is, is integrated learning effective? Many researchers consider that integrated learning is less effective. Then the researcher wants to see where it is ineffective, by examining the ability of teachers to carry out integrated learning, and the results of this study will explain the weaknesses of teachers in science and PKLH learning, in an integrated way, and at the same time a novelty in this study, because previous researchers did not exist. who examined this matter, especially in integrated science and PKLH learning. The important thing that will be examined in this research is how is the ability of SMP science teachers in Mamasa Regency to integrate PKLH learning with science material based on the Revised K13?

To support the researcher's argument above, Rezkita (2017) says: In habituation, environmental care can be formed through character strengthening that involves education trip centers, namely class-based, school-based, and community-based. This opinion sees that education plays an important role in shaping the character of society to care for the environment. In addition, (Jufri et al. 2018) Said, human awareness and concern for the environment cannot just grow naturally but must be strived for continuous formation from an early age, through real activities that are carried out every day. To instill awareness and concern for the environment, the most strategic step is to educate about the importance of caring for the environment. To do educational goals, including in shaping the character of students towards caring for the environment, the role of teachers is very important. As stated by (Putri, 2017) that achieving good quality education is strongly influenced by the performance of teachers in carrying out their duties so that teacher performance is an important need for achieving educational success.

Not only domestic researchers support this research, but foreign researchers also have the same opinion, as (Piteri, 2020) said that, children were aware of the need to protect the environment, they were aware of some environmental issues within their local context. Children were able to share their opinions with adults about the importance of protecting the environment in different ways. Children's reasons for protecting the environment centred round moral reasons; the effects on human life; the effects on endangered species; supports for living; and, aesthetics.

Sustainable environmental education, not only is a problem in Indonesia, but also in other countries, such as Malaysia such as, has also implemented a program which they call the Sustainable School Environment Award (SLAAS) which has been implemented since 2005, especially in elementary schools. Its aim is to create a school environment which helps with preservation environment in aspects of management, curriculum, co-curriculum and sustainable green activities in sequence to build life practices that are in line with the concept sustainable development. (Mahat et al., 2016)

The importance of environmental education is for sustainable living, so that environmental education must be implemented in society from an early age. Every school must invite and introduce and understand the current natural conditions and problems. The goal is to increase the awareness of students to be more sensitive to natural conditions (Ichwan, 2018).

Today the world is facing serious environmental problems. There are nine major environmental problems, such as global climate change, waste management, scarcity of clean water, population explosion, depletion of natural resources, extinction of plants and animals, destruction of natural habitats, increased pollution and poverty (Hermasyah, 2016). Environmental preservation activities can be carried out through environmental education. Knowledge of the condition of Indonesia's natural environment needs to be known by all Indonesian people, especially students in the school environment. (Saliman, 2018). The purpose of environmental education is to make students participate in protecting the environment and make the environment not only as something to be exploited but as an asset that must be preserved and protected. (Ramadhan et al., 2019).

Current environmental conditions are about, because from time to time there is environmental damage, caused by humans who have no reason to keep the environment, in addition to increasing population growth that requires natural resources for their survival. Departing from this problem, it is hoped that Population and Environmental Education (PKLH) can be a solution so that public awareness can increase to protect the environment. However, the implementation of PKLH learning in formal schools is now considered ineffective, so it is necessary to find the cause, and one of the efforts to do this is through research, so according to researchers this research is urgent to do.

The implementation of the PKLH program in educational units, starting from elementary school (SD) junior high school (SLTP) and senior high school (SLTA) was implicitly introduced through the 1984 curriculum. After about 28 years of being introduced to schools, the results have not been encouraging. The daily reality shows that almost all education unit graduates have not shown an "environmentally friendly" performance (Kadir, 2013). The implementation of PKLH in Indonesia has been officially implemented at all levels of school since 1976 and is taught in an integrated way in almost all subjects, especially at the junior high school level (Hammado, 2011).

Based on research data conducted by experts who have explained in some of the above paragraphs about integrated PKLH learning from elementary to high school, it turns out that the implementation of PKLH learning which is carried out in an integrated way has not been effective so that the results of the research of these experts support the results. this research.

The world's attention to the environment was initiated since the United Nations Conference on the Environment in Stockholm, Sweden in June 1972. This conference declared an Environmentally Sustainable Development by making a decision to carry out economic and developmental activities, and guarantee that the environment and natural resources remain sustainable and worthy of being passed on to future generations. The concept of environmental and population education also emerged from this conference. Furthermore, UN agencies are being asked to organize "formal" and "mass" environmental education programs at the global level. International efforts to conserve the environment, especially through education, were subsequently initiated by UNESCO with the aim to formulate joint steps to overcome population and environmental problems.

The effort to preserve the environment has been seen in Indonesia through the Population and Environmental Education Program (PKLH) which has been initiated since 1975 based on the Minister of Education and Culture Decree No. 068 / U / 1974. Furthermore, it was centrally implemented by the PKLH project of the Directorate General of Primary and Secondary Education in 1976, which was called the "National Population Program Project" in collaboration with the BKKBN. The Population Education and Training Program was being implemented in schools in 1978. (Surbakti, 2015).

Integrated learning is an approach based on the idea that a subject can be integrated into other appropriate subjects, and can be pursued by 1) building units or series of lesson materials prepared to be integrated with certain subjects, 2) with core programming, starting from a core program in a particular subject (Surbakti, 2015). The advantage of this system is that there is no need to add more teachers because most of them are already involved. However, it is also inseparable from weaknesses, such as the need for teachers to be prepared in advance, change the syllabus and the allocation of learning hours, the possibility of using materials integrated with core subjects, difficulty experienced when evaluating because two objectives must be achieved in one learning program, and other difficulties that may arise such as technical educational difficulties in integrating PKLH materials into other subjects. The learning material consists of Physics and Biology, which are mixed in an integrated science model, taught by science teachers who are considered competent in their field of study.

Since the implementation of 2013 (K13) and K13 revised curriculum, the basic competencies (KD) that must be achieved in learning science includes: 1) Living life with a positive, honest and open attitude with critical creativity, collaboration and innovative thinking based on the essence of natural science, 2) Understanding the natural phenomena based on the results of learning science in an integrated manner through specific fields, including Physics, Chemistry and Biology, 3) Evaluating the products of thought in a society that is based on the principles of natural science and ethics, 4) Solving problems and making decisions in life based on scientific and

ethical principles, 5) Recognize and play a role in solving human problems, such as food unavailability, health, energy crises and the environment, and 6) Understanding the impact of natural science development in an integrated manner on the improvement of technology and human life in the past, present and potential future impacts on the environment (Kuncara, 2016).

The time allocation ready for VII grade includes 5 hours/week with details of 7 subjects and 52 sub-subjects, and PKLH which equals 33 sub-subjects or 63.5% of all science subject in VII grade. This specifically means that for science subjects, PKLH learning materials in VII grade are more many than others. For VIII grade, there were 57 sub-subjects with a fixed time allocation of 5 hours/week, but none of them were PKLH materials, although there was a connection. Furthermore, for IX grade, there were 50 PKLH sub-subjects and materials, with the same time allocation of 5 hours/week. Therefore, based on the allocation of time, curriculum (revised K13) and the number of sub-subjects for science lessons in junior high schools the total number of science materials for grades VII, VIII, and IX was 159 sub-subjects. In addition, PKLH materials equals 26% of the total number of science sub-subjects in junior high schools (Kuncara, 2016)..

The theory of ability that is defended in the historical and contemporary literature is called a hypothetical theory. This view argues that someone who has the ability means that person will act in a certain way if he has a certain will. (Zalta, 2020). The big dictionary of Indonesian explained that "*mampu* (able)" can be interpreted as power (able, capable) to do something. Furthermore, when its prefix "ke" and the suffix "an" are joined together it becomes "*kemampuan* (ability)" which means having the ability to do something (Alwi et al., 2007). The equivalent of the word *kemampuan* in English is an ability which means the quality, physical, mental, or legal power to do or it can also mean competence in doing something (Rush, 1998). Integrated comes from the basic word integration which means assimilation, coalescing, or joining to become one unified whole. Furthermore, it has a meaning in the verb class and can be expressed as an action, existence, experience, or other dynamic meaning (Alwi et al., 2007). .

Based on the definition above, the ability to integrate means to mix or combine something into one useful unit. If this context is related to the teacher's task in teaching, it can be interpreted that the teacher has the ability to integrate or combine something into one unified whole. Furthermore, if it is connected with science learning and PKLH materials, it means that the teacher has the ability or skill to combine both science and PKLH materials in learning processes carried out at school.

Ability is a general skill possessed by an individual. (Surya, 2014). The ability, capacity, or proficiency of teachers, with educational terms, is known as competence. Etymologically, it comes from the basic word *compete* which means competing or competition, and the noun *competence* which means ability, proficiency, or authority can be made from it. Competence can also be interpreted as knowledge, skills, and abilities that can be mastered in order to possess cognitive, affective, and psychomotor behaviors (McAshan, [1979](#)). The competence

of teachers is assessed by various groups as a picture of whether or not educators are professional (Janawi, 2012).

The teacher's expected ability here is to change the behavior of students, so that students can behave as expected in the learning objectives. As stated by (Skinner, 2013), in Behaviorism theory that student learning and behavior will increase in response to positive reinforcement such as rewards, praise, and bonuses. Furthermore, Skinner argues that repeated reinforcement techniques can shape behavior and improve learning outcomes. Therefore, this Behaviorism Theory, is very suitable to be applied in PKLH learning, which of course can also be referred to integrated learning with science subjects.

Details of several aspects of the realm that exist in the competence in PKLH learning concept and theory include; 1) knowledge as awareness in the cognitive field. 2) understanding: the depth of cognitive and affective behavior possessed by people. 3) ability or the skill to carry out a task or job. 4) value: a standard of behavior that has been psychologically integrated within a person. 5) attitudes, feelings, or reactions to stimuli that come from outside. 6) interest: a tendency to do something. (Gordon, 1990).

RESEARCH METHODS

The purpose of this study was to find the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum (K13 Revision) in State Junior High Schools in Mamasa Regency. The study population was 106 junior high schools in Mamasa district. with an average of one science teacher per school. Sampling was done randomly, amounting to 20% of the population of 21 teachers. This study used a single variable, namely the ability of science teachers to integrate PKLH material with science learning in junior high schools. Furthermore, it is translated into 5 sub-variables including: 1) teaching readiness, 2) knowledge of K 13 Revision, 3) ability to find PKLH material in Science subjects SMP based on K 13 Revision, 4) knowledge of PKLH material, and 5) ability to plan, carry out, and evaluate PKLH learning in an integrated way with junior high school science subjects.

Participants of the Study

Population is a group of people, animals, plants, or objects that have certain characteristics to be studied. The population will be the area for generalizing the conclusions of the research results (Mulyatiningsih, 2011). Population is a collection of subjects, variables, concepts, or phenomena. We can examine each member of the population to find out the nature of the population concerned, (Morissan, 2012). The population of this study were all 106 junior high schools in Mamasa Regency, assuming an average of one science teacher for each school, despite the fact that in the field there are schools that have more than one science teacher, but in some schools don't have a science teacher.

The sample is a group of members who are part of the population so that they also have the same characteristics as the population. To determine the sample size according to (Arikunto, 2013) if the subject is less than 100, it's better to take all of them until the research becomes a type of population study. Because the number of state junior high schools is more than 100, the random sampling is set at 20% of the population = 21 teachers (Gay, 1992).

Research Instruments

The research instrument used in this research is a list of questions used in structured interviews, which begins by asking about preparation, knowledge of the revised K13 curriculum, material and teacher knowledge of PKLH materials, the ability to plan integrated learning, management of the teaching and learning process, management class, use of media, learning evaluation abilities, and learning completeness. The entire list of questions is given a column to give weight according to the respondent's ability to answer.

Data Collection

The data in this study were obtained in the field by conducting in-depth structured interviews with respondents, namely all teachers who taught science subjects in an integrated manner with PKLH material in 21 teachers as sample.

Data Analysis

Data analysis techniques are methods / techniques used to analyze data tailored to the problematic form and type of data (Arikunto 1913). The data will be analyzed in a descriptive qualitative manner to select the tendency of each respondent's answer, grouped, reduced, presented, analyzed, then draw conclusions.

The data analysis steps are as follows:

1. The data from the interview are in the form of qualitative data, so that the data can be analyzed it must be converted into quantitative data (Arikunto 2013). Quantify the answers to the questions by giving the levels of scores for each answer as follows: (a) the answer to very good choice is given a score of 4; (b) good choice answers are given a score of 3; (c) less good choice answers are given a score of 2; and (d) bad choice answers are given a score of 1
2. Calculating the frequency for each answer category in each variable or sub variable
3. From the calculation of the formula, a number will be generated in the form of a percentage. The formula used for percentage descriptive analysis (DP)

$$DP = \frac{\text{Real score} \times 100}{\text{Ideal Score}}$$

4. Analysis of research data is adjusted to the research objectives so that percentage analysis is used. The results of the analysis are presented in qualitative sentences. The calculation steps are as follows:

a) Set the highest percentage

$$\text{Formula: } \frac{\sum \text{item} \times \sum \text{respondent} \times \text{highest value score} \times 100\%}{\sum \text{item} \times \sum \text{respondent} \times \text{score highest value}}$$

b) Set the lowest percentage

$$\text{Formula: } \frac{\sum \text{item} \times \sum \text{respondent} \times \text{lowest value score} \times 100\%}{\sum \text{item} \times \sum \text{respondent} \times \text{score highest value}}$$

c) Set class Interval:

$$\text{The formula: } \frac{\text{highest\%} - \text{lowest\%}}{\text{The desired class}}$$

d) Determining the level of criteria

In this study, the level of criteria used to assess the results of the study was determined: the value of 81.26 - 100 criteria Very good, the value of 62.51 - 81.25 good criteria, the value of 43.76 - 62.50 criteria is not good, and the value of 25 - 43.75 bad criteria.

The criteria above, then a descriptive table of percentages is made as follows:

Table 1. Descriptive percentage

INTERVAL %	DESCRIPTION
81.26 - 100	Very good
62.51 - 81.25	good
43,76 - 62,50	less good
25 - 43.75	bad

Source: (Arikunto, 2013)

RESULTS AND DISCUSSION

Research result

Teaching Preparation

This is the creation of learning tools following the K13 Revision. Therefore, teachers should make a Lesson Plan (RPP) before implementing learning activities. Regarding this issue, the results can be described in the table below

Table 2. Teacher preparation for carrying out learning process

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	5	24
2	62,51 – 81,25	Good	11	52,5
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	2	9,5
Total			21	100

Source: Processed Research Data

Before learning was carried out, 24% of respondents made learning tools very well. Furthermore, there were 52.5% of respondents with good criteria, namely compiling lesson plans, preparing learning media, and others as implied in the implementation of the K 13 Revision. However, there were still 14% who were categorized as less good, and 9.5% bad in carrying out learning without any preparation. It can be concluded that the preparation of science teachers at the research location before carrying out the learning process was categorized as being good.

Understanding of the Revised K13 Curriculum

The understanding of the revised K13 is the respondents method in implementing K13 in learning processes at school. Several question items were asked, such as the number of subjects and sub-subjects for each grade level, as well as the competency standards related to basic competencies and others in the field of study. The results on understanding the Revised K13 curriculum are presented in the table below.

Table 3. Respondents Understanding of the Revised K13

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	13	62
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	3	14
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's understanding of the Revised K13 consists of 62%, 24% and 14% and were categorized as very good, good and less good. This means that the understanding of science teachers in Mamasa Regency on the Revised K 13 can be categorized as very good.

Understanding PKLH Material in K13 Revision Curriculum of science subject in junior high school

This relates to the teacher's ability to identify or recognize PKLH material in the Revised K13 curriculum, starting from VII to IX grade. The results regarding this indicator, can be seen in the table below.

Table 4. The ability of respondents to identify PKLH material in the Revised K13 for Junior High School level in Mamasa Regency

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	3	14
2	62,51 – 81,25	Good	5	24
3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The ability of respondents to identify PKLH material in science subjects consist of 62%, 24% and 14% and were categorized as less good, good, and very good. The results indicate that the ability of respondents to identify PKLH material in the K 13 revision of science subjects in junior high school can be categorized as less good. This means that science teachers in the research area cannot distinguish which natural science and PKLH materials were substituted and taught in an integrated manner.

Knowledge of PKLH materials

Knowledge of PKLH material is grouped into three areas and they include: environmental knowledge, demography knowledge, and population and environmental management knowledge.

a). Environmental Knowledge

The results on respondents knowledge of the environment can be seen in the table below.

Table 5. Respondents' knowledge of the environment

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	10	48
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents knowledge of the environment consists of 52% and 48% and were categorized as good and less good respectively. Furthermore, the results indicates that 52% of science teachers in the Mamasa Regency have good environmental knowledge, and 48% with less good knowledge.

b) Population knowledge

The research results on respondents' knowledge of population can be seen in the table below.

Table 6. Respondents' knowledge of population

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	13	62
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents knowledge of the population consist of 62% and 38% and were categorized as good and less good. The results indicate that 62% of science teachers in the Mamasa Regency have good demographic knowledge and 38% with less good knowledge.

c) Knowledge of population and environmental management

The results on respondents' knowledge of the population and environmental management can be seen in the table below.

Table 7. Respondents' knowledge of population and environmental management

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	11	52
3	43,76 – 62,50	Less Good	8	38
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's knowledge of the population and environmental management consists of 10%, 52% and 38% respectively, and were categorized as very good, good and less good. The results indicate that science teachers in Mamasa regency have good knowledge of population management.

Integrated Teaching Planning Capabilities

The ability to plan integrated learning is divided into 3 groups and they, include: planning integrated learning, implementing and evaluating the teaching and integrated learning processes.

j) Ability to plan integrated learning

The research results on the ability to plan integrated learning can be seen in the table below.

Table 8. Respondents' ability in planning integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38
3	43,76 – 62,50	Less Good	11	52
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents ability in planning integrated learning consists of 10%, 38% and 52% respectively, and were categorized as very good, good and less good. According to the results, the ability of science teachers in the Mamasa Regency to plan PKLH lessons integrated with science subjects can be categorized as less good, and this is because their ability to sort PKLH materials with science materials is not efficient.

k) The ability to carry out integrated learning

The results on the ability to carry out integrated learning can be seen in the table below

Table 9. The ability of respondents to carry out integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	0	0
2	62,51 – 81,25	Good	15	71
3	43,76 – 62,50	Less Good	6	29
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondents ability to carry out integrated learning consists of 71% and 29% being categorized as good and less good. According to the results obtained, the ability of science teachers in the Mamasa Regency to implement integrated PKLH learning with science subjects can be categorized as being good. This is influenced by their ability to carry out learning in general. Furthermore, in the K 13 Revision, PKLH materials were integrated with that of science and was widely taught by the teachers.

l) The ability to evaluate integrated learning

The results on the ability to evaluate integrated learning can be seen below

Table 9. Respondents' ability to evaluate integrated learning

No.	Interval	Criteria	Frequency	%
1	81,26 - 100	Very good	2	10
2	62,51 – 81,25	Good	8	38
3	43,76 – 62,50	Less Good	13	62
4	25 – 43,75	Bad	0	0
Total			21	100

Source: Processed Research Data

The respondent's ability to evaluate integrated learning consists of 62%, 38% and 10% respectively, and were categorized as less good, good, and very good. According to the results obtained, the ability of science teachers in the Mamasa Regency to carry out an integrated evaluation of PKLH learning with science subjects was categorized as less good. This is due to their inadequate ability to sort PKLH and science materials. Furthermore, it was also revealed that some teachers actually knew about this, but didn't have enough time and opportunity to sort it out. Therefore, the learning evaluation was carried out without any separation of material.

Based on the results presented above, it was revealed that the single variable discussed in this study was the ability of junior high school science teachers in the Mamasa Regency to integrate Population and Environmental Education (PKLH) with science subjects. Furthermore, it was developed into 5 sub-variables and was supported by 21 indicators (research instruments). From the data analysis results, there are 3 sub-variables which show prominent weakness, and they include 1) The ability of respondents to identify PKLH material in K13 Revision of Junior High School Science subjects; 2) The ability to plan PKLH learning in an integrated manner with science subjects; 3) The ability to evaluate PKLH learning in an integrated manner with science subjects.

If the results of this study are confirmed by Bloom's Taxonomy Theory which states that learning success, especially PKLH, must be measured from three domains, namely: cognitive, affective, and psychomotor (Anderson et al., 1994) and Behaviorism theory (Skinner, 2013) that the role of teachers is very large to change student behavior as planned in the learning objectives. So that to do the psychomotor aspects of students in the field of PKLH, a good learning planning, implementation, and evaluation of PKLH learning is needed in an integrated way with SMP Science subjects according to the Revised K13. Therefore, the weaknesses of junior high school science teachers found in this study need to be improved.

Therefore, when planning, for example, making learning tools, lesson plans and others according to the demands of the K 13 Revision, it should be noted that PKLH teaching materials are not planned specifically but remain integrated with science materials. Subsequently, when teachers are faced with questions related to the identification of PKLH learning through this research instrument, and are not ready, the results obtained would be categorized as less good. When faced with questions related to the integrated PKLH learning evaluation, respondents generally answered that there was no separation in the learning evaluation carried out therefore the specific evaluation for PKLH materials was also not visible. From interviews with respondents, it was revealed that the things being evaluated were the cognitive and affective domains, while few were related to the students psychomotor domains. PKLH evaluation is also described in the PKLH teaching handbook compiled by the Ministry of Education and Culture and it was stated that the psychomotor domain concerning motor skills was very important regarding perception, readiness to do something (setting), mechanism, guided response, proficiency (complex overt response), adaptation and creation (Kastama, 1988). Points that support psychomotor are expected to be created when the cognitive and affective aspects are good. However, they need to be well planned in order for the results to appear when evaluating learning.

The failure of PKLH learning integrated with other subjects is because teachers were not able to give special emphasis to PKLH materials including its evaluation when planning integrated PKLH learning. Therefore the PKLH materials obtained by students are only good at the cognitive and affective domain level but failed in the psychomotor domain. Though in Indonesia, PKLH has been taught since 1976 at all levels of education in an integrated manner for 44 years, and the community behavior that reflects an environmentally conscious society is still far from expectations, (Lullulangi, 2018).

The same research was also carried out by (Kelani, 2015), namely the integration of environmental education in the science curriculum in secondary schools in Benin, West Africa: The results of this research, among others, show that all teachers support the importance of Environmental Education for students, then teachers. creatively using various strategies in learning, and although statistically the ability of teachers on average is still low, teachers are empowered to improve professionalism, to teach Environmental Education. The results of this study are in line with the research conducted by the author, namely to measure the ability of teachers to integrate science learning with PKLH, bearing in mind that one of the indicators of learning success is largely determined by the teacher's ability. Therefore, what is the lack of teachers in this study should be improved through special coaching, such as that carried out in West Africa, namely increasing the ability of teachers to plan PKLH and science learning in an integrated way, carry out, and evaluate so that learning outcomes are not only cognitive aspects. and increased affective, but also psychomotor aspects so that PKLH abilities appear in the form of student behavior.

This research implies that the government is expected to re-evaluate the PKLH learning model in an integrated manner with other subjects, such as religion, social science, and other subjects (Kuncara, 2016). However, the reality in their everyday life shows that the psychomotor domain of students in the field of PKLH is not visible. Subsequently, this is similar to the behavior of the general public, who are also alumni of the school and have studied PKLH in an integrated manner, but their environmental cleanliness awareness is not visible. This means that PKLH learning in Indonesia which is taught in an integrated manner was unsuccessful.

The largest producer of plastic waste in the world is China, which accounts for 8.8 million tons annually, Indonesia ranks second, contributing 3.8 million tons annually, and 87% of 3, 8 million tones floating in the sea. Furthermore, this means every resident of Indonesia's coast is responsible for 17.2 kilograms of plastic waste floating around and poisoning marine animals (Putri, 2019) and (Iyasa, 2020). Another evidence of the failure of PKLH learning in Indonesia is the results obtained by the Ministry of Health which shows that only 20% of the total Indonesian citizens care about hygiene and health. This means that out of the 262 million population in Indonesia, only around 52 million care about the cleanliness of the surrounding environment (Indonesia, 2018). Based on these facts, it is time for the Government of Indonesia to review the integrated PKLH method of learning because for 44 years of its implementation it has not produced significant results.

The contribution of these results was to evaluate PKLH learning in an integrated manner in Mamasa, which can also be carried out in several areas as a comparison to measure the success of its learning in each region. Therefore, its success in Indonesia can increase, and there can also be a comparison of PKLH learning in several countries.

The novelty of this research, is an evaluation of PKLH learning in an integrated manner with other subjects, especially the field of Natural Science taught in Junior High Schools, and provides an overview of the weaknesses experienced by teachers who teach these subjects, so that the results of this study It is hoped that it can be used as an evaluation material to determine policies, especially in basic education, so that integrated PKLH learning in the future will be better.

CONCLUSION

Based on the results and discussion above, it can be concluded that the ability of science teachers to integrate Population and Environmental Education (PKLH) with science subjects based on the 2013 Revised Curriculum at Public Junior High Schools in Mamasa Regency which is translated into 5 sub-variables, namely: 1) teaching readiness, 2) knowledge of K 13 Revision, 3) and knowledge of PKLH material is good, but the ability to integrate PKLH with science subjects was not good or weak in terms of: 1) the ability to find PKLH material in SMP Science subjects based on K 13 Revision, and 2) the ability to plan, carry out, and evaluate PKLH learning in an integrated way with science subjects of Junior High School.

ACKNOWLEDGEMENT

The author would like to thank the Rector of Universitas Negeri Makassar, through the Chairperson of the Institute for Research and Community Service (LP2M) Universitas Negeri Makassar who has provided PNBP funds for the cost of this research. The Mamasa government has permitted this research in its working area. The school principals and science teachers were respondents in the sample schools, as well as all those who helped in this research. I hope your help will be rewarded by God.

REFERENCES

- Alwi, Hasan. et.al. (2007). Kamus Besar Bahasa Indonesia. Edisi Ketiga. Pusat Bahasa Departemen Pendidikan Nasional. Jakarta : Balai Pustaka.
- Anderson, L.W., Sosniak, L.A., Bloom, B.S. (1994). Bloom's taxonomy : a forty – year retrospective. Chicago : Univ. Chicago Press IL
- Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.
- Gay, L.R. (1992). *Education Research Competencies for Analysis and Application*: London: Charles E. Milton Keynes Philadelphia Company.
- Gordon, S.P. (1990). Developmental supervision: An exploratory study of a promising model," *Journal Of Curriculum and. Supervision*, 5 (4), 293–307.
- Hammado.(2011). *Hand Out Perkuliahan Filsafat PKLH*. PPS-UNM
- Handayani T., Wuryadi, & Zamroni. (2015). *Pembudayaan Nilai Kebangsaan Siswa Pada Pendidikan*

Lingkungan Hidup Sekolah Dasar Adiwiyata Mandiri. *Jurnal Pembangunan Pendidikan: Fondasi dan Aplikasi*, 3(1), 95-105

Hermasyah, A. (2016). *Kenapa Harus Belajar PKLH?*. Kompasiana, 17 April 2016.

Ichwan, Muhammad. (2018). Pentingnya Kenalkan Pendidikan Lingkungan Ke Siswa. *JP. Pendidikan. Radar Tulungagung*.2021. Jawa Pos.com

Ilyasa, R.M.A. (2020). Analisis Pertanggungjawaban Negara Yang Menimbulkan Dampak Kerugian Dalam Kasus Pembuangan Sampah Plastik di Samudra Pasifik Dalam Perspektif Hukum Internasional. *Jurnal Padjadjaran Law Rev.*, 8 (1), 40–55.

Indonesia. C.N.N. (2018). Kesadaran Masyarakat Indonesia akan Kebersihan Masih Rendah," *Retrieved Sept.*, vol. 17, p. 2018

Janawi, (2012). Kompetensi Guru Citra Guru Profesional. *Bandung: Alfabeta*

Jufri, J., La Fua, J., & Nurlila, R. U. (2019). Pendidikan Lingkungan Di Sekolah Dasar Negeri 1 Baruga Kota Kendari. *Al-TA'DIB: Jurnal Kajian Ilmu Kependidikan*, 11 (2), 164-181.

Kadir, A. (2013). Signifikansi Strategi Pembelajaran Pendidikan Lingkungan Hidup Dalam Membentuk Prilaku Siswa Berwawasan Lingkungan. *Jurnal Al-Ta'dib* 6 (2), 1-18.

Kastama, E.(1988). *Pendidikan Kependudukan dan Lingkungan Hidup di IKIP dan FKIP*. Jakarta: Dirjen Dikti

Kelani, R.R. (2015). Integration of environmental education in science curricula in secondary schools in Benin West Africa: Teachers' perceptions and challenges. *Electronic Journal of Science Education*, 9 (3), 1-24.

Kuncara, D.W.B. (2016). Analisis Isi Buku Panduan Guru Ilmu Pengetahuan Alam Kelas VII Kurikulum 2013. *Semarang : Universitas Negeri Semarang*.

Kontur, R. (2007). Metode Penelitian Untuk Pnulisan Skripsi dan Tesis. *Jakarta : Buana Printing*.

Lullulangi, M & Pujantara, R.. (2017). Analisis Pembelajaran PKLH Secara Terintegrasi Dengan Pelajaran Lain di SMP Negeri 1 Balla Kecamatan Balla Kabupaten Mamasa. *Laporan Penelitian PNBP. Makassar : Lembaga Penelitian UNM*.

Lullulangi, M. (2018). Analisis Pembelajaran PKLH Secara Terintegrasi Dengan Pelajaran Lain Di SMP. *UNM Environ. Journals*, 1 (2), 45–52

Mahat, H. Saleh, Y. Hashim, M & Nayan, N. (2016). Model Development on Awareness of Education for Sustainable Schools Development in Malaysia. *Indonesian Journal of Geography*. 48 (1), 37-46.

McAshan, H. H. (1979). Competency-based education and behavioral objectives. *Educational Technology*.

Morissan, (2012). Metode Penelitian Survey. *Jakarta: Kencana Prenada Media Group*

Mulyatiningsih, E. (2011). Metode Penelitian Terapan Bidang Pendidikan. *Yogyakarta: Alfabeta*.

Putri, N. (2019). Sikap China Menolak Resolusi PBB UNEP/EA. 3/RES. 7 Tentang Pencemaran Sampah Plastik Di Wilayah Laut. <http://repository.unej.ac.id/handle/123456789/92756>

Putri, A.D. Kesuma & Imaniyati N. (2017). Pengembangan Profesi Guru Dalam Meningkatkan Kinerja Guru (Professional Development of Teachers in Improving the Performance of Teacher). *Jurnal Pendidikan Manajemen Perkantoran* 2 (2), 202-211.

Ramadhan, S., Sukma, E., & Indriyani, V. (2019). Enviromental education and disaster mitigation trough language learning. *IOP Conference Series: Earth and Enviromental Science*, 314.

Rezkita, S. & Wardani, K.. (2017). Pengintegrasian Pendidikan Lingkungan Hidup Membentuk Karakter Peduli Lingkungan di Sekolah Dasar. *Jurnal Pendidikan Ke-SD-an* .4 (2),.327-331

Rush, S. (1998). The noun phrase in advertising English. *J. Of Pragmatics.*, 29 (2),155–171.

Saliman, F. Setyabudi (2018). Pendidikan Lingkungan Hidup di SMP Negeri 3 Kebumen Jawa Tengah. *Jipsindo* 5 (1), 1 - 20.

Skinner, B.F. (2013). Ilmu Pengetahuan dan Perilaku Manusia. Penerjemah: Maufur, Pemyunting: Rianayati Kusmini. *Yogyakar : Pustaka Pelajar*.

Spiteri, J. (2020). Why is it important to protect the environment? Reasons presented by young children. *Journal Environmental Education Research*.29 (2), 175-191

Surbakti, A. (2015). Pendidikan Kependudukan dan Lingkungan Hidup. *Yogyakarta: Graha Ilmu*.

Surya, W.A, Astuti, E.S. & Susilo, H. (2014). Pengaruh Employee Knowledge, Skill, dan Ability (KSA) Terhadap Penggunaan Sistem Informasi Sumberdaya Manusia dan Kinerja Karyawan. *Administrasibisnis.studentjournal.ub.ac.id* 2. 8(1), 1-7.

Zalta, E.N. (2020). Stanford Encyclopedia of Philosophy. Copyright by John Majer john@jmaier.net

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yang lalu)

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yang lalu)

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- 1). Read carefully the latest article that has been through our final review, if there is any correction, this is the last chance to fix it, make a note on the pdf file and send back to us if you have any correction;
 - 2). Read carefully the declaration of originality and letter of statement, sign the letters, and upload it on your OJS account as the supplementary file;
 - 3). Upload the Turnitin report on your OJS account as the supplementary file.
 - 4). Complete all your authors' names in the metadata OJS as well.
- We are waiting for your response and congratulations once more.

Thank you for your cooperation.

All the best,

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22.58 (7 menit
yang lalu)

kepada Jurnal

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Journal of Indonesian Science Education

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We have also sent supplement files, which consist of: 1) Turnitin reports / files, 2) Certificate of Proofreading, 3) Letter of Statement, and 4) Declaration of Originality. Our hope is that everything will run smoothly for publication soon.

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09.38 (3 jam
yang lalu)

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Regards,
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12.41 (10 menit
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Dear: JPII Team

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Thank you for the email. A very basic correction is regarding the author's name, as we have sent via the last file in OJS with the following structure:

Mithen *, Onesimus, A. Arfandi, Raeny, Rahmansah. (Attached),

This is very important, because we adjust it to the rank decree, especially as the main writer, I plan to use it as the main journal for proposals to the professor, which in my decree only says MITHEN as for the family Name Lullulangi, it is always written to meet the Journal submission format. which always asks for Last Name. Hopefully this is a concern. Thank you.

Greetings,
Mithen Lullulangi

Jurnal Pendidikan IPA Indonesia

10.20 (2 jam
yang lalu)

Dear Authors,
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It has been a pleasure to work with you.
Thank you very much.
Best regards,

JPII Team

Jurnal Pendidikan IPA Indonesia

MITHEN LULLULANGI UNM <mithen@unm.ac.id>

12.50 (3 menit
yang lalu)

Dear: JPPII Team

Jurnal Pendidikan IPA Indonesia

Thank you for the email, as well as the LoA submission and the manuscript receipt. Of course we are also very happy to work with you, I hope that in the future our articles can still be accepted for publication in JPPII.

We hope that the final corrections regarding the composition and writing of names in articles such as the one we sent last and here we attach again, will be considered because it is in accordance with our Decree of Appointment as lecturers. Thank you.

Greetings,

Mithen

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25 Mar 2021 10.14 (6 hari
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- 2). Read carefully the declaration of originality and letter of statement, sign the letters, and upload it on your OJS account as the supplementary file;
- 3). Upload the Turnitin report on your OJS account as the supplementary file.
- 4). Complete all your authors' names in the metadata OJS as well.

We are waiting for your response and congratulations once more.

Thank you for your cooperation.

All the best,

JPPII Team

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MITHEN LULLULANGI UNM <mithen@unm.ac.id> 25 Mar 2021 22.58 (6 hari yang lalu)

Dear: JPPII Team
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Thank you for the email, and for receiving our article to be published in JPPII. I have read the last revision article and agree to publish it, after the Coauthors have been added, both in the article and in Metadata, the Last Revision file has also been sent in the OJS file. and also I attach it to this email.

We have also sent supplement files, which consist of: 1) Turnitin reports / files, 2) Certificate of Proofreading, 3) Letter of Statement, and 4) Declaration of Originality. Our hope is that everything will run smoothly for publication soon.

Greetings,

Mithen Lullulangi

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26 Mar 2021 09.38 (5 hari yang lalu)

Dear Author,

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Regards,
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26 Mar 2021 12.41 (5 hari yang lalu)

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Dear: JPPII Team

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Thank you for the email. A very basic correction is regarding the author's name, as we have sent via the last file in OJS with the following structure:

Mithen *, Onesimus, A. Arfandi, Raeny, Rahmansah. (Attached),

This is very important, because we adjust it to the rank decree, especially as the main writer, I plan to use it as the main journal for proposals to the professor, which in my decree only says MITHEN as for the family Name Lullulangi, it is always written to meet the Journal submission format. which always asks for Last Name. Hopefully this is a concern. Thank you.

Greetings,

Mithen Lullulangi

Jurnal Pendidikan IPA Indonesia

26 Mar 2021 13.38 (5
hari yang lalu)

Dear Author,

For the authors' name, the first name is abbreviated and only mentions the last name in the OJS. So we will only use the name as your wish both in OJS and in the article. We already edited the names both in the OJS and article. You may check the name in the OJS for your concern. Thank you very much.

Regards,

JPPII Team

Jurnal Pendidikan IPA Indonesia

Jum, 26 Mar 13.40 (5
hari yang lalu)

Jurnal Pendidikan IPA Indonesia

Dear Author,

As in the article we will use this name Mithen, Onesimus, A. Arfandi, Raeny, Rahmansah.
Thank you.

Regards,

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MITHEN LULLULANGI UNM <mithen@unm.ac.id>

Jum, 26 Mar 22.48 (5
hari yang lalu)

Dear: JPII Team

Jurnal Pendidikan IPA Indonesia

Thank you for the email, and we agree if the journal article will write our names like this:
Mithen, Onesimus, A. Arfandi, Raeny, and Rahmansah.

But don't be like what in OJS now it says: M. Mithen, O. Onesimus, A. Arfandi, R. Raeny,
and R. Rahmansah (this is not in accordance with the decree of our appointment as
lecturers).

Greetings,

Mithen

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Sab, 27 Mar 07.26 (4
hari yang lalu)

Dear Author,

Writing the author's name in OJS requires a first and last name. So we abbreviated the last
name as the first name to match what is in the article. Thank you.

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MITHEN LULLULANGI UNM <mithen@unm.ac.id>

27 Mar 2021 13.03 (4
hari yang lalu)

JPII Team

Jurnal Pendidikan IPA Indonesia

Thank you for the email, I thought it was okay for the author's name in OJS to be like this:

M. Mithen, O. Onesimus, A. Arfandi, R. Raeny, R. Rahmansah

But if you can in the article, just our name is like this:

Mithen, Onesimus, A.Arfandi, Raeny, and Rahmansah. This is our last wish. Thank you.

Greetings,

Mithen

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Sel, 30 Mar 12.54 (1
hari yang lalu)

Dear Author,

We hope you are doing fine. We would like to ask for your number of the research project funding agreement letter to be included in the acknowledgment. We would like to hear from you soon. Thank you in advance,

Sincerely,

JPII Team

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Sel, 30 Mar 13.33 (1
hari yang lalu)

MITHEN LULLULANGI UNM <mithen@unm.ac.id>

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Sesuai Surat Keputusan Rektor Universitas Negeri Makassar

Nomor: 371/UN36/HK/2020 tanggal 12 Mei 2020

So, and thank you.

Greetings,

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16.17 (5 jam
yang lalu)

Dear Author,

Congratulations. We would like to inform you that your article has been published on the Web. Please check it for the last time. We will wait until Sunday, 04 April 2021. After passing the Sunday, it cannot be edited again. If there is any correction, make a note on the pdf file and send it back to us.

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Sincerely,

JPPII Team

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MITHEN LULLULANGI UNM

21.36 (0 menit
yang lalu)

JPII Team

Jurnal Pendidikan IPA Indonesia

We put our names in articles like this: Mithen, Onesimus, A. Arfandi, Raeny, and Rahmansah. For that, we would be very happy if our articles were published with a model like the one in the attached article. Thank you.

Greetings,

Mithen