27012-74161-3-REVISION

by Jurusan PTA

Submission date: 24-Feb-2021 01:24AM (UTC-0800)
Submission ID: 1516913762
File name: 27012-74161-3-REVISION_-_Grammarly.docx (79.99K)
Word count: 6930
Character count: 37424

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

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DOI: 10.15294/.....

Accepted: ..... 2021. Approved: ..... 2021. Published: 2021

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 posses 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 goog 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)

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

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:

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

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.

a) 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.

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 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.

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
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 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 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.

CONLUSION

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.

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