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Analysis of Science Literacy Learning with Scientific Inquiry Approach in Increasing Science Competence of Students

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Abstract

This study aims to describe the implementation of learning, to analyze the effectiveness of learning, students' competency science profile, and teacher and student responses toward science literacy learning with scientific inquiry approach. The research method used is Mix Method with concurrent embedded model of quantitative method become primary with research subjects are science teachers and students of class VII SMPN 1 Lilirilau and MTs DDI Pattojo Soppeng Regency, South Celebes Province. The results shows that (1) the implementation of learning is very good with 86% the average percentage of implementation. (2) The effectiveness of learning is shown on student's learning completeness classically that is 90% of students reach KKM value. These results have reached the established criteria of 75%. The average increase in students' science competence is 0.69 in the medium category. The students' competency profile based on PISA criteria appears dominant in the explanation of scientific phenomena, whereas based on the criteria of science literacy dominant in science as the body of knowledge. (4) The teacher's response toward scientific literacy learning was positive with an average score of 3.83, and (5) students' responses toward scientific literacy learning are quite positive with an average score of 3.22 out of a maximum score of 4.00.

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INTRODUCTION

Science education in the world is reforming for the availability of science literacy before high school graduates (Liu, 2009). According to Holbrook & Rannikmae (2009), learning science literacy is the development of ability and creativity based on scientific knowledge relevant to daily life and career in decision making for problem solving. In line with Rusilowati, et al (2016a), revealed the purpose of science education is to understand and use the concept of science and technology in everyday life. Literacy of science is considered to have an important role in life.

The term literacy of science according to the Organization for Economic Cooperation and Development is the ability to use scientific knowledge, identify questions to acquire new knowledge, explain scientific phenomena, and draw conclusions based on scientific evidence (OECD, 2013). Science literacy is not only an understanding of science knowledge, but also the ability to apply knowledge and the process of science in real situations, both for oneself and for society at large. The importance of science literacy capability makes Indonesia take part in the assessment conducted by international institutions TIMSS and PISA. Results TIMSS 2011, Indonesia is ranked 40th of 42 countries with an average value of 406 (Martin,et al., 2014). The TIMSS assessment information shows that students' science skills in TIMSS are still below the international average of 500 and are generally at the lowest level (Low International Brenchmark).

The results of the PISA study report on the achievement level of students science literacy organized by the OECD (Organization for Economic Cooperation and Development) for the age of 15 years at the international level from 2000 to 2015, also looks less encouraging for Indonesian education. In 2000 Indonesia was ranked 38th out of 41 countries with a score of 393 (OECD, 2003), 2003 ranked 38th out of 40 countries with a score of 395 (OECD, 2004), 2006 ranked 50th of 57 countries with Scores 393 (OECD, 2007), 2009 ranked 60th out of 65 countries with a score of 383 (OECD, 2010), in 2012 ranked 64th out of 65 countries with a score of 382 (OECD, 2014), 2015 ranking 62 of 70 (OECD, 2016). In general, students' science literacy skills are at the lowest level (Low International Brenchmark) under the average PISA score of 500.

Several factors that affect the low science literacy are science learning still emphasizes on the level of rote (Permanasari, 2010), The science literacy aspect has not been facilitated in the lesson plan (Alam, et al. 2015), the textbook used indicates an imbalance in the proportion of science literacy categories (Yulianti & Rusilowati, 2014; Maturradiyah & Rusilowati, 2015), and instruments Science literacy-based evaluation needs to be developed so that students can become familiar with problem solving based on science literacy (Rusilowati, 2016b).

The conditions above are also in line with the science learning that occurred in South Sulawesi Province, especially in Soppeng District. Based on the results of interviews and surveys of some teachers in the area, obtained data that teachers aim in teaching is students get the value based on the minimum mastery criteria so that the competence of science students is out of concern. Regarding this condition, learning towards the development of students science literacy skills does not run well because of the teachers do not understand the meaning of science literacy (Rusilowati & Basam, 2017).

The result of science literacy ability test of 63 students in the three junior high schools in Soppeng District in the academic year 2016/2017 shows that the average of the students score is 41 from the maximum value of 100. The ability of science literacy on the science aspect as the body of knowledge is 39%, on the aspect of science as a way of thinking is 50%, on the aspect of science as a way of investigating is 37%, and on aspects of interaction between science, community technology and the environment is 36% (Rusilowati & Basam, 2017). The results of the science literacy test at the beginning emphasize the low of students' literacy ability in Indonesia.

Based on the problem presented, it needs to be re-examined the learning process that

supposed to apply in teaching science essentially to develop students' science literacy.

METHODS

This research is a combination research (Mix Method) concurrent embedded model with quantitative method to be primary. The subjects of this study were science teachers and students of class VII.2 with 21 children (11 boys and 10 girls) and VII.6 with 19 children (9 boys and 10 girls) in SMPN 1 Lilirilau Soppeng Regency, South Sulawesi Province and VII.A class were 27 children (girls) and VII.E were 19 children (boys) in MTs DDI Pattojo, Soppeng District, South Celebes Province.

Learning devices used in this study is a learning tool that consists of teaching materials, syllabus and lesson plan which refers to the development of science literacy students. The types, data resources, collection techniques, and data analysis techniques are shown in Table 1.

Table 1. Types, Data Sources, Collection Techniques, and Data Analysis Techniques

Data type	Data sources	Data collection techniques	Data analysis techniques
Learning implementation	Teacher	Observation	Descriptive percentage And qualitative descriptive
Learning effectiveness: Mastery learning Learning improvement outcomes	Student	Competency science test	Descriptive percentage Test *N <gain>*
Profile of science competence	Student	Competency science test	Descriptive percentage
Acceptance of teaching by the teacher	Teacher	Questionnaire and interview	Descriptive statistics and qualitative descriptive
Acceptance of teaching by the student	Student	Questionnaire and interview	Descriptive statistics and qualitative descriptive

RESULTS AND DISCUSSION

Implementation of Science Literacy Learning with Scientific Inquiry Approach

Science literacy learning with scientific inquiry approach using environmental pollution and global warming topic is conducted in learning scenarios or lesson plans because according to Alam's Research et al (2015), found the low aspects of science literacy caused by lack of facility in school lesson plan that traines science literacy.

Scientific-based learning scenarios applied in learning process consist of five phase: contact phase, curiosity phase, elaboration phase, decision-making phase and nexus phase (Permanasari, 2010), then collaborated with scientific inquiry approach, that refers to asking questions and solving the problems, reflective and building knowledge of data, collaborate and exchange information while seeking solutions, developing concepts and interrelations based on empirical experience (Rustaman 2010), integrated with the 2013 curriculum, such observing, questioning, collecting information/attempt, reason/associating, and communicating (Kemendikbud, 2014). The concept of a combination of science literacy learning in scientific approach is shown in Table 2.

The results of the implementation of science literacy learning obtained through the process of observation of teacher activity in carrying out science literacy teaching science- for four meetings. The percentage result of science literacy teaching experience by scientific teacher in each class, SMPN 1 Lilirilau and MTs DDI Pattojo is shown in Table 3.

Table 2. The Concept of Science Literacy Learning with the Scientific Inquiry Approach

Learning phase	Implementation description
Contact phase	Observe pictures/videos or provide contextual examples and ask questions as an effort to make students familiar with the material to learn.
Curiosity phase	Generating curiosity by conducting questioning or discussion related to environmental issues or daily life to obtain additional information to be known, or as a clarification so as to obtain a problem formula that can be found solution.
Elaboration phase	Experiment, demonstrate, and collect data from other sources such as textbooks by collaborating and exchanging information while searching for solutions to build knowledge of data.
Decision making phase	Processing the collected information presented in the form of a written report includes the process, the results in the form of charts, diagrams or graphs, and conclusions, and presents the report orally with the discussion
Nexus phase	Conducting ideas applicatively from the concept obtained as a form of problem solving in people lives

The results showed that the average ability of teachers in implementing science-based on science inquiry learning is very good with the average implementation of each teacher 86%. The learning implementation gradually changed, the highest occurred at the fourth meeting that is 100% in accordance with the planned syntax. Based on the result, it can be assumed that teachers need to adapt to be able to implement this science literacy learning to be more accustomed. Dani (2009) considers teachers have an important role in building students' science literacy.

Table 3. Percentage of Implementation of Science Literacy Learning

School	Class	Percentage of implementation (%)				
		P_1	P_2	P_3	P_4	Results
SMPN 1 Lilrilau	VII.2	67	93	80	100	85
	VII.6	66	100	73	100	85
MTs DDI Pattojo	VII.A	80	86	86	100	88
	VII.E	80	87	80	100	87
Average		73	91	80	100	86

The results showed that the average ability of teachers in implementing science-based on science inquiry learning is very good with the average implementation of each teacher 86%. The learning implementation gradually changed, the highest occurred at the fourth meeting that is 100% in accordance with the planned syntax. Based on the result, it can be assumed that teachers need to adapt to be able to implement this science literacy learning to be more accustomed. Dani (2009) considers teachers have an important role in building students' science literacy.

In the contact phase the teacher has familiarizes students with the material that will be taught by providing examples in contextual, do the questioning, searching information through textbooks of science literacy. The availability of science literacy teaching books is very helpful for students in understanding the material and assisting the teacher in delivering the material. Textbooks on science-based literacy become effective stimulants in increasing students' science literacy (Rusilowati, et al. 2016a). With textbooks based on science literacy, teachers do not have to explain too long which sometimes makes students become saturated.

In the curiosity phase, teachers 'creativity in building students' curiosity is lacking. Teachers still focused on learning scenarios by giving short questions, even though they are already building student curiosity but still need to be improved so that students' curiosity can form when they discover new things. Teachers need to provide contextual examples. Examples of phenomena that occur in everyday life or environment are very good at building curiosity so that students' understanding can be applied in everyday life (Permanasari, 2010).

In science literacy learning, the concept or elaboration phase is the central phase because in this phase the concepts will be embedded

concretely into the competence of science for students. In this phase the activities are carried out more to the discussion and practice so that the knowledge of students is not just memorizing the concept. Inquiry learning is able to build the ability of science literacy in students (Gormally, et al., 2009). One of the weaknesses faced by teachers during this phase of concept formation, particularly in the process of practice is classroom management. The good planning and implementation of classroom management let students to practice in orderly manner and do not take much time in practice. Cheung (2008) reveals that the number of students and the demands of learning materials that are too much to be a major obstacle in the implementation of learning with inquiry. Materials and practice tools also sometimes become obstacles in implementing learning with inquiry. Implementation of learning model in this research has become one of learning examples of inquiry, by using simple tools and materials. Thus, teachers are motivated to apply inquiry learning and the absence of tools in the laboratory is no longer an excuse.

The next stage after concept formation is decision-making phase. In this phase the ability to think critically, think creatively and ability to communicate in delivering opinions will be trained, through these stages learning is not only understanding or not understanding the concept but how the concept can be useful in society and environment as the main goal in learning science literacy to be able to face the challenges of the 21st century (Archer-Bradshaw, 2014). Through science literacy learning has seen the ability of critical thinking, the ability to think creatively and the ability to communicate at the time of discussion even though most students still need to be given stimulators by the teacher. This is in line with the opinion of Holbrook & Rannikmae (2009) that science literacy learning is an ability development and creativity based on scientific knowledge relevant to daily life and career in decision making in problem solving.

The last stage of learning science literacy is the nexus phase. In the nexus phase, the main constraint concept seen by the teacher is the limited time due to the amount of time consumed in the previous learning phases. With these constraints in this phase the development of the concept is examined with the development of concepts by giving short discussion or with homework.

If the overall review of the implementation of learning by using the phases of science literacy has been done well, but still need to accustom for teachers so that learning scenarios can be mastered properly, so as to develop the creativity of teachers in teaching students with science-based literacy. Suyono and Hariyanto (2015) also revealed that learning should be conditioned to achieve the learning objectives effectively and take place in pleasant conditions. With the main constraint that is often faced by teachers that is limited time, can be examined by implementing phases of science literacy not at once in learning but will be implemented partly at the next meeting, adjusted to the conditions in schools that like to apply this learning.

The Effectiveness of Science Literacy Learning with the Scientific Inquiry Approach

The effectiveness of science literacy learning that implemented is seen from the Comprehensiveness of classical learning and the improvement of students learning outcomes. Students' classical completeness is seen as a result of students' science competency test after learning process. Learning is completed classically if ≥75% of students in one class get KKM score of 70. Improvement of student learning outcomes obtained from the value of pre-test results and post-test results.

The frequency of students who are classified as complete and incomplete criteria of classical learning in class VII.2 SMPN 1 Lilirilau, grade VII.6 SMPN 1 Lilirilau, grade VII.A MTs DDI Pattojo, and class VII.E MTs DDI Pattojo are shown in Table 4.

Table 4. Frequency of Student Classical Learning Comprehensiveness

Value	Category	Frequency			
		SMP N 1 Lilirilau		MTs DDI Pattojo	
		Kelas VII.2	Kelas VII.6	Kelas VII.A	Kelas VII.E
≥ 70	Completed	20	16	26	16
≤ 70	Incompleted	1	3	1	3
Total		21	19	27	19

Improvement of student learning outcomes of each class in grade VII.2 SMPN 1 Lilirilau, grade VII.6 SMPN 1 Lilirilau, grade VII.A MTs DDI Pattojo, and class VII.E MTs DDI Pattojo shown in Figure 1.

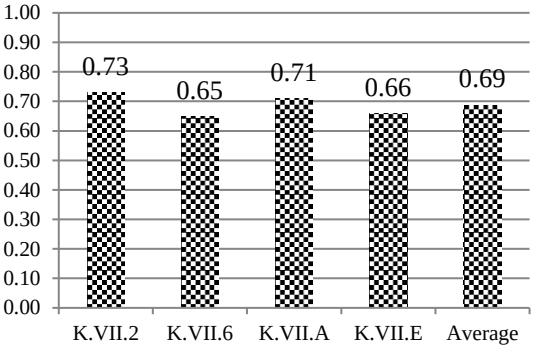

Figure 1. Improvement of Student Learning Outcomes

Based on the result of the research, in general the students who are taught by science literacy learning with scientific inquiry approach reached the completeness of classical learning with an average percentage above the criterion limit of 75%. The classical completeness achieved in this research is 90%. Improvement of student's score before and after taught using average science literacy learning in medium category with average value of gain of 0.69.

Based on these results, it can be concluded that science literacy learning has a scientifically effective inquiry approach to use. The results are in line with Rakhmawan et al (2015) study that science-based literacy learning is better in terms of improving students' literacy skills.

Learning science literacy applied to the level of basic education is essential for science education to reform focus on achieving science literacy before high school graduates (Liu, 2009). The ultimate goal of science learning is to produce individuals who are able to understand and evaluate information in making decision and furthermore to produce individuals with professional skills based on science (Duschl, et al., 2007). Teachers are very important in generating individuals who have the ability of science literacy to prepare for their future so that students are able to adapt in rapidly changing social life (Archer-Bradshaw, 2014). With the provision of science literacy can make a person to be able to solve problems in an increasingly complex life.

Profile of Student Science Competency

The students' science competency profile was analyzed based on PISA aspects of science competence (OECD, 2013) and science literacy capability based on the science literacy aspect developed by Rusilowati (2016a). Scientific competence according to PISA consists of three aspects: (1) identification of scientific issues, (2) explanation of scientific phenomena, and (3) the use of scientific facts. The ability of science literacy is measured by the scientific literacy aspect consisting of four aspects: (1) science as a body of knowledge, (2) science as a way of investigating, (3) science as a way of thinking and (4) interaction between environmental science, technology and society (SETS).

Analysis of students' science competency profile based on PISA aspects of pre-test and post-test results of each grade SMPN 1 Lillirilau and MTs DDI Pattojo is shown in Table 5.

The analysis of the students' science literacy skills profile of SMPN 1 Lillirilau and MTs DDI Pattojo based on the pre-test and post-test science literacy aspects taught by science-specific science-based literacy learning is shown in Table 6.

Table 5. Profile of Student Science Competency based on PISA Aspect

Aspects of competence science	Percentage (%)									
	SMP N 1 Lilirilau				MTs DDI Pattojo				Resut	
	Kelas VII.2		Kelas VII.6		Kelas VII.A		Kelas VII.E			
	Pre-test	*Post-test*	*Pre-test*	*Post-test*	*Pre-test*	*Post-test*	*Pre-test*	*Post-test*	*Pre-test*	*Post-test*
Identify scientific issues	29	76	33	67	42	83	29	77	33	76
Explain phenomena scientifically	38	86	30	76	41	85	29	78	34	81
Use scientific evidence	27	78	35	62	33	76	24	69	30	71
Average	31	80	33	68	39	81	27	75	32	76

Based on the results of the analysis of students 'science competency profile based on the PISA aspect, it can be seen that the competency of students' science from both schools is seen from the three aspects of science competency, the explanation of scientific phenomenon is higher than the other two aspects such as the ability to identify science issues and the use of scientific facts. The results of the analysis show that students' habits of learning with inquiry-based are still lacking, so they are still dominated by conceptual abilities. The science subject in Indonesia generally emphasizes on memorizing without being understanding that students can apply to real life (Permanasari, 2010).

Analysis of science literacy ability based on science literacy aspect is not much different from result of science competence based on PISA aspect. Of the four aspects, the ability of students is still dominant to the aspect of science as a body of knowledge while the lowest aspect of the four aspects is science as a way of thinking. Seeing the tendency of the results of the analysis, students need to strengthen investigation ability on aspects related to scientific skills that can be increased further.

Table 6. Profile of Student Science Competency Based on Science Literacy Aspects

Aspect of science literacy	Percentage (%)									
	SMP N 1 Lilirilau				MTs DDI Pattojo				Resut	
	Kelas VII.2		Kelas VII.6		Kelas VII.A		Kelas VII.E			
	Pre-test	*Post-test*	*Pre-test*	*Post-test*	*Pre-test*	*Post-test*	*Pre-test*	*Post-test*	*Pre-test*	*Post-test*
Body of knowledge	37	86	32	69	39	87	28	78	34	80
A way of investigating	30	78	37	69	47	86	31	81	36	79
A way of thinking	24	76	28	57	27	72	26	65	26	76
Interaction between SETS	37	86	34	65	48	83	27	78	37	78
Average	32	82	33	67	40	82	28	76	33	77

Science learning needs to be done in scientific inquiry to cultivate the ability to think, to work, and to be scientific and to communicate it as an important aspect of life skills (Kemendikbud, 2014). Through science learning, students are able to acquire three kinds of skills and understanding of science, which are principles and concepts of science, reasoning skills and work procedures of science scientists, and understand the nature of science as a specific form of human effort (National Research Council 2000). Product knowledge, process skills, and scientific attitude should be taught in science learning.

Acceptance of Science Literacy Learning with The Scientific Inquiry Approach by The Teacher

The acceptability of science literacy learning with scientific inquiry approach in integrated science teaching by teachers and students at SMPN 1 Lilirilau and MTs DDI

Pattojo of Soppeng Regency can be seen from their positive response. The teacher's response to quantitative science literacy learning can be shown in Table 7.

Table 7. Details of Teacher's Response to Science Literacy Learning

Aspect	Indicator	Score	Criteria
Planning	The clarity of the formulation of learning objectives and their relevance to the existing curriculum	4,00	Positive
	The accuracy of the use of learning methods and strategies	4,00	Positive
	Completeness and quality of learning assistance materials	4,00	Positive
Implementation	Ease of learning scenario to be implemented	3,75	Positive
	The suitability of the scenario with the time provided in the lesson	3,25	Positive enough
	The suitability of the scenario with the submitted material	4,00	Positive
	Active student involvement in learning	3,75	Positive
Assessment (evaluation)	The tasks and exercises are in accordance with the cognitive students	4,00	Positive
Impression on learning	Plans to adopt instructional design in the implementation of learning	3,50	Positive
	The desire to disseminate the science literacy learning design	3,75	Positive
Average Score		3,80	Positive

The results of the analysis of the acceptance of literacy learning by teachers showed that science literacy learning applied in SMPN 1 Lilrilau and MTs DDI Pattojo as a whole get a positive response from the teacher who taught with the science literacy learning design with the average value of response of 3.83 from the maximum score 4.00. To measure the acceptability of learning science literacy by teachers, it was measured based on four indicators, namely on aspects of planning, implementation aspects, assessment aspects (evaluation), and aspects of teachers' impression of learning. From the four aspects of the acceptance indicators all teachers responded positively to every aspect.

According to teachers who apply science literacy learning, the learning is in accordance with the curriculum because it also contains a scientific approach such as the current one which is the curriculum 2013. Learning science literacy is also easy to implement and allows students to understand the learning materials. In learning science literacy, it is also according to student teachers look more active and vibrant than previous learning process. In line with Setiadi's (2013) study, science-based literacy learning enables students to actively investigate and discuss the results of investigations.

There is a difference of process skill and mastery of students' IPA concept which is taught by guided inquiry model based on environment (Hariyadi, 2016). Teachers also consider that science literacy learning is suitable to use in other schools because it is adjusted to the phenomena that occur in everyday life in order to facilitate students to understand the material being taught.

If viewed as a whole this study was responded positively but if analyzed more deeply on each indicator on implementation aspect there is a little constraint experienced by teacher is the problem of time management. The main obstacles in the implementation of learning with inquiry are the ability of educators, ineffective inquiry materials, the number of students and the demands of learning materials are too much (Cheung, 2008). This is indeed a classic problem in learning so this is not a problem that is too meaningful but more related to the habits and creativity of the educator itself to conduct the lesson plan, therefore to be able to conduct learning process in accordance with the estimated time provided.

Acceptance of Science Literacy Learning with the Scientific Inquiry Approach by The Students

The details of the responses of SMPN 1 Lilirilau and MTS DDI Pattojo students to quantitative science literacy learning are shown in Table 8. Based on the analysis of the results of the research at SMPN 1 Lilirilau and MTs DDI Pattojo, the average student acceptance response to science literacy learning from the four classes indicates positive response. The average student admits that science literacy learning makes it easier for them to understand the material, while the example of phenomenon given can be practiced directly with materials and tools that are easy to obtain. Students are able to form knowledge from their experiences (Budiningsih, 2005).

The science literacy based teaching materials provided also get a fairly positive response. Students recognize that the explanations in teaching materials are easy to understand because they are briefly explained with examples in daily life that can be practiced directly. This is because the science teaching materials used have a balanced category of science literacy. The results of this study support the opinion of Rusilowati, et al., (2015; 2016a) that teaching materials that contain the balanced literacy aspect more effectively provide stimulants in improving students' science literacy.

Student activeness in learning also still needs to be trained and accustomed. Among several aspects of the acceptance indicator, the students' responsiveness is relatively low compared to other aspects, the average students admitted is lacking in activity, especially during the discussion, the students admitted there is still shame and doubt in expressing their opinions. This is because students are poorly trained and accustomed to express opinions, critical thinking and creative thinking, so in science learning should be based on learning done in scientific inquiry to develop thinking ability, work, and be scientific and communicate it as an important aspect of Life Skills (Kemendikbud, 2014). Student involvement in complex inquiry, modeling and reasoning becomes a golden bridge for the development of students' attitudes, skills and knowledge (Anderson, 2002; Crawford, 2016; Kelly, 2016; Hamdani, 2011; Saputri & Ridlo, 2015).

Students should also be familiarized with evaluation-based tools of science literacy because some students also complain about science literacy - based that is too long and has many readings or information in it. According to Rusilowati (2016b), the need to develop a literacy-based evaluation instrument so that students can get used to solving problems based on science literacy. Questions based on science literacy become the student's practice in solving problem in real life.

Table 8. Details of Student's Response to Science Literacy Learning

Aspect	Indicator	Average skor (Criteria)				Result
		SMPN 1 Lilirilau		MTs DDI Pattojo		
		Class VII.2	Class VII.6	Class VII.A	Class VII.E	
Planning	Clarity of formulation of learning objectives	3,19 (CP)	3,00 (CP)	3,22 (CP)	3,11 (CP)	3,13 (CP)
	The depth and suitability of teaching materials	3,00 (CP)	3,11 (CP)	3,33 (P)	3,11 (CP)	3,14 (CP)
	Completeness and quality of learning assistance materials	3,43 (P)	3,16 (CP)	3,33 (P)	3,21 (P)	3,28 (P)
Implementation	Ease of understanding teacher explanation in learning	3,43 (P)	3,32 (P)	3,63 (P)	3,32 (P)	3,42 (P)
	Motivation and interest in learning	3,48 (P)	3,63 (P)	3,41 (P)	3,11 (CP)	3,40 (P)
	Interest in the phenomenon exemplified as learning	3,52 (P)	3,47 (P)	3,30 (P)	3,26 (P)	3,39 (P)
	Activeness in learning	2,95 (CP)	2,89 (CP)	3,15 (CP)	2,84 (CP)	2,96 (CP)
Assessment (Evaluation)	The tasks and exercises are in accordance with the cognitive students	3,34 (P)	3,37 (P)	3,24 (CP)	3,05 (CP)	3,25 (CP)

Aspect	Indicator	Average skor (Criteria)				Result
		SMPN 1 Lilirilau		MTs DDI Pattojo		
		Class VII.2	Class VII.6	Class VII.A	Class VII.E	
Impression on learning	The desire to relearn by using science literacy learning design	2,86 (CP)	2,89 (CP)	3,26 (P)	2,86 (CP)	2,97 (CP)
Average		3,25 (CP)	3,22 (CP)	3,31 (P)	3,11 (CP)	3,22 (CP)

CONCLUSION

Based on the results of research on science literacy learning in scientific science inquiry in improving the competence of science, it can be concluded that (1) the implementation of science literacy learning with sciencetific Inquiry approach on each teacher classified in very good category with the average percentage of implementation is 86%, (2) Science literacy learning is effective to be used in junior high school learning, it is seen based on the result of students' average learning comprehensiveness in classical that is 90% reach KKM value that is 70 and shows improvement of result with the average value of gain is 0.69 which is in average category (3) students' science literacy profile based on PISA aspect is still dominant in the explanation of scientific phenomenon, it is not much different from students' science competency profile based on science literacy aspect that is still dominant in science aspect as body of knowledge, (4) The acceptance of science literacy learning by teachers received positive responses with an average score of 3.83 from a maximum score of 4.00, and (5) the acceptability of learning science literacy by students got a positive response with an average score of 3.22 from Maximum score 4.00.

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