

# The Relationship between Inquiry Learning Model and Students' Information Literacy Skills at SMP Negeri 5 Banjarmasin on Classification of Living Things

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## Abstract

One of the goals of Gerakan Literasi Sekolah was to develop the information literacy skills needed by students to be more critical in receiving and using information because along with the progress of the information age it becomes infinite. This study aims to determine the relationship between inquiry learning models and information literacy of students at SMP Negeri 5 Banjarmasin on the classification of living things. This research is a quasi experiment that uses 7th grade as a population and the sample is selected based on purposive sampling. The data were collected by tests (pretest and posttest) and assessments on student worksheets. The analysis technique used: 1) paired t-test to determine differences in the test results of each class. 2) Unpaired t-test to determine the difference in posttest between two classes. 3) correlation test to determine the relationship between the two variables. The results show that there is a significant increase in the test scores in the experimental class of 36.7 and 23.7 in the control class and the posttest score of the experimental class is greater 2.97. The correlation test show that percentage of the relationship between the two variables is 88.6%, this means that inquiry learning models has a positive effect on students' information literacy skills.

### Abstrak

Gerakan literasi Sekolah yang digagas oleh pemerintah memiliki tujuan salah satunya yaitu mengembangkan kemampuan literasi informasi yang diperlukan siswa agar menjadi lebih kritis dalam menerima maupun menggunakan informasi karena, seiring dengan kemajuan zaman informasi menjadi tak terbatas. Penelitian ini bertujuan untuk mengetahui hubungan antara hasil pembelajaran inkuiri dengan literasi informasi siswa di SMPN 5 Banjarmasin pada materi klasifikasi makhluk hidup. Penelitian ini merupakan *quasi experiment* yang menggunakan seluruh kelas 7 sebagai populasi dan sampel dipilih berdasarkan teknik *purposive sampling*. Teknik pengumpulan data yang digunakan adalah tes (*pretest* dan *posttest*) serta dilakukan penilaian terhadap hasil kerja siswa selama pembelajaran berlangsung. Tahap analisis data diantaranya: 1) uji-t berpasangan untuk mendapatkan perbedaan *pretest* dan *posttest* masing-masing kelas. 2) Uji-t tidak berpasangan untuk mengetahui perbedaan *posttest* kedua kelas. 3) uji korelasi untuk mengetahui hubungan model pembelajaran inkuiri dengan keterampilan literasi informasi siswa. Adapun dari hasil analisis menunjukkan adanya peningkatan yang signifikan skor *pretest* ke *posttest* pada kelas eksperimen sebesar 36,7 dan 23,7 pada kelas kontrol serta terdapat perbedaan nilai *posttest* kelas eksperimen sebesar 2,97 lebih besar dari kelas kontrol. Berdasarkan uji korelasi, persentase hubungan pembelajaran inkuiri dengan keterampilan literasi informasi yaitu 88,6% sehingga hal ini menunjukkan bahwa penggunaan model pembelajaran inkuiri berpengaruh positif terhadap keterampilan literasi informasi siswa.

## A. Introduction

Gerakan Literasi Sekolah (GLS) is a program developed by the Ministry of Education and Culture to foster and develop a literacy culture in schools. The definition of school literacy in the context of GLS itself is the ability to access, understand, and use something intelligently through various activities, including reading, viewing, listening, writing, and/or speaking (Kemendikbud, 2016). Literacy also includes the ability to think using information to gain knowledge (The National Literacy Trust, 2017). This kind of ability is also known as information literacy.

A similar concept is used by the American Library Association (ALA). The American Library Association states that information literacy is a set of necessary abilities, such as the ability to find, evaluate, use and communicate information effectively (ALA, 2000). In addition, Leung (2010) also mentions that someone who has information literacy skills can usually compare, evaluate, and assess the authenticity, credibility and accuracy of information found critically.

Adding to that, Webber & Johnson (2000) explained that information literacy is also included in the ability to identify/identify, formulate searches, source selection and interrogation, evaluate information, synthesize and use information. It can be concluded that information literacy is a person's skill in evaluating and using information correctly and appropriately. These skills also include the ability to find, evaluate, and communicate information effectively.

This skill should be possessed by each individual, because it can help in selecting the information that is currently coming in repeatedly every day. Embedding it in the adolescent age group is one of the obligations carried by schools, as described in Gerakan Literasi Sekolah. However, in the research of Smith, *et al.* (2013) found that high school students (12<sup>th</sup> grader) lacked the ability to complete tasks at the level of improving database search strategies, interpreting information in various sources, and evaluating information. This shows that there is still a need for a learning process in schools that can foster information literacy and turn students into lifelong learners.

The learning process in the current curriculum places students at the center of learning in the classroom while the teacher is the facilitator. So that a lesson is designed to increase the potential of students in order to construct their knowledge and students become active learners. One of the Learning process that involves students to taking an active role is The Inquiry Learning Model. One of the syntax of Inquiry Learning Model according to Sanjaya (2012) is as follows.

1. Orientation, consisting of 2 activities: a. explain the topic, explain the goals and provide motivation to students; b. explain the main activities that must be done by students to achieve goals
2. Formulate the problem
3. Formulate a hypothesis
4. Collect data
5. Testing the hypothesis based on the results of data collection
6. Conclusions

Indirectly, inquiry trains students' information literacy skills because inquiry is related to finding and managing information into knowledge to solve problems. In this regard, Anggareni, *et al.* (2013) revealed that learning by inquiry is a design of learning activities that is carried out maximally by involving students' abilities as a whole in searching and investigating activities systematically, critically, logically, analytically, so that they are able to formulate results his own findings. Research by Lintuman & Wijaya (2020) also states that in addition to increasing learning achievement, it also increases students' self-confidence in learning so that their ability to think critically, logically and systematically also increases.

The advantages of inquiry learning are: 1) improve students' cognitive skills. 2) students gain knowledge individually. 3) increase motivation and enthusiasm for learning. 4) provide opportunities to develop and advance according to the abilities and interests of students. 5) strengthen and increase self-confidence through the process of finding yourself (Mulyasa dalam Masyithah, 2017).

Based on what has been described, inquiry learning is learning that encourages students to be active in discovering concepts and principles learned through experience. This is where students need information literacy skills so that during the process of discovering these concepts and principles, students are able to select and evaluate correct information. So that the authors believe there is a relationship between inquiry learning and students' information literacy skills. Students will be able to realize their information needs and use the information critically in solving problems so that it can affect student achievement. Therefore, it is necessary to research whether there is a relationship between the inquiry learning model and the information literacy abilities of junior high school students. So, the purpose of this research is to:

1. Knowing the difference between student learning outcomes in the inquiry learning model and the expository model.
2. Determine whether there is a relationship between the inquiry learning model and information literacy skills.

## B. Materials and Method

The type of this research is Quasi-experimental design with the independent variable is the inquiry model and the dependent variable is information literacy skills. The population in this study is 7<sup>th</sup> grader (class E-H) at SMPN 5 Banjarmasin and the technique used is purposive sampling. So that the class C (experimental class) and E (control class) were selected. The research design can be seen in Table 1.

The treatment given to the experimental class was using the inquiry model on the subject of classification of living things. The learning process is given in 3 meetings. While the control class gets learning with conventional methods where the teacher teaches by lecturing and provides exercises like a teacher usually teaches.

**Table 1 Research design during 1, 2, and 3 meetings**

Subject	Pretest	Treatment	Posttest
<b>K<sub>E</sub></b>	T <sub>1</sub>	X <sub>E</sub>	T <sub>2</sub>
<b>K<sub>K</sub></b>	T <sub>1</sub>	X <sub>K</sub>	T <sub>2</sub>

Measurement of student information literacy is done by giving students a pretest and post-test. The test tool used has passed the validation test and reliability test so that it can be said that the test tool is suitable for use. The test tool used consists of 15 essay items measuring 4 indicators of information literacy as shown in Table 2. Indicators of Information Literacy Ability. A maximum score of 100 can be obtained by students if they answer all the questions correctly, while a score of 0 will be given if the student fails to answer all the questions correctly. The score is determined based on a rubric that has been made a set of questions.

**Table 2 Indicators of Information Literacy Ability**

No	Indicators of Information Literacy
1	Developing skills and use a good strategy for searching for information
2	Skills in selecting information according to the question or theme is being discussed
3	Skills to produce and communicating information and ideas in appropriate format
4	The skill of applying new information to one's knowledge

The data that has been collected will be analyzed using the ANCOVA test using statistics on the IBM SPSS 25 application. ANCOVA is a statistical test commonly used in social research including educational research (Kadir, 2017). ANCOVA is a statistical calculation where the scores after treatment are compared to the difference, by including the covariate as a controlling factor for the external component in order to minimize other effects apart from treatment (Rutherford, 2001; Street, 1995). In this study, the pretest score is used as a covariate so that statistically the influence of other aspects besides the inquiry learning model can be minimized.

The results obtained from the ANCOVA test are then discussed in the results and discussion section. The researcher also added a number of notes about the implementation of the research that were collected based on the qualitative researcher's observations of the research situation as a complement to the discussion (Sugiyono, 2013).

## C. Results and Discussions

This study was to determine the effect of the inquiry learning model with the literacy skills of junior high school students on science subjects in the classification of living things. The pretest data was taken before the treatment was carried out, then the post-test data was taken after the treatment was given to the experimental class. The control class received the pretest and posttest at the same time but did not get special treatment, or did learning using the lecture method.

The data that had been collected through the pretest and post-test according to the description in the method section were analyzed using ANCOVA. The data used in this study have been checked through normality tests, regression homogeneity, data homogeneity, and linearity. The test results show that the data has met the requirements for the ANCOVA test.

The ANCOVA test results table shows that the sig. or the p-value is 0.001 < 0.05. This shows that there is a significant difference in scores in the two classes, with the experimental class having higher scores than the control class. These results indicate that the inquiry learning model affects students' information literacy.

The difference in scores can be seen in Table 4 Description of the Mean Post-Test Score. It appears that the average score of the experimental class is higher than the mean score of the control class. These results indicate that there is a positive effect of the inquiry method on students' information literacy.

**Table 3 ANCOVA Test**

Dependent Variable: Posttest							
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	
Corrected Model	8849,329 <sup>a</sup>	2	4424,665	96,466	,000	,760	
Intercept	2867,927	1	2867,927	62,526	,000	,506	
Pretest	7331,613	1	7331,613	159,843	,000	,724	
Perlakuan	540,690	1	540,690	11,788	,001	,162	
Error	2797,930	61	45,868				
Total	340597,254	64					
Corrected Total	11647,259	63					

a. R Squared = ,760 (Adjusted R Squared = ,752)

This study shows consistent results and is similar to other studies that are in line. For example, Azhari's research (2008) shows that inquiry learning strategies affect learning outcomes of Information and Communication Technology students at MTsN Stabat. This is in line with the aspects of Information Literacy as described in Table 3 in relation to aspects of information literacy. In addition, these results are also in line with Riyadi's (2008) research which found that the inquiry model can improve critical thinking skills. Critical thinking skills are one of the important components in information literacy where students are expected to not only understand but also evaluate and interrogate information as described by Webber & Johnston (2000).

**Table 4 Description of The Mean Post-Test Score**

Dependent Variable: Posttest			
Perlakuan	Mean	Std. Deviation	N
Ekspерimen	76,5624	14,17980	32
Control	66,8230	11,21128	32
Total	71,6927	13,59695	64

In addition, these results are also in line with the research of Purnamawati et.al. (2017) which showed that student worksheets in the inquiry model class were also proven to improve students' higher order thinking skills. Among the many aspects of higher-order thinking skills, there is an aspect of evaluating information, where this aspect is also an important aspect in information literacy as described in table 3 in relation to aspects of Information Literacy.

More about these results can be seen in the implementation of the treatment for the experimental group. The first meeting was an introduction to information literacy, by giving directions to students during the learning process. According to Lai and Kong (2007), students are invited to have a discussion beforehand about what kind of assignment will be done, what information is needed, the kinds of sources used and where it can be found, and how to present and evaluate the information.

The result is in the aspect of the ability to choose information in accordance with the theme and in the aspect of communicating information is good. Students are able to choose which information fits the theme and separate information that is not needed. So that when communicating the content information of their assignments in accordance with the learning theme. Whereas in the aspect of identifying and finding information, students are a little confused to determine which information is needed and its sources. In the aspect of applying information to new knowledge, researchers provide a little encouragement to students because they are not used to processing the information they get.

At the second meeting the students understood enough about information literacy so that students did more of their own tasks during the learning process. Only a few are still asking what steps they need to take. The result, in the aspect of the ability to choose information that fits the theme and in the aspect of communicating information is good. Students are able to choose which information fits the theme and separate information that is not needed. In this aspect, all students are able to do their own tasks. This also has a good effect when communicating information, the content of their assignments is in accordance with the learning theme.

In the aspect of identifying and seeking information, students have been able to determine which information is needed and their own sources. Sometimes they hold discussions with their friends to make sure the information they are looking for is correct. Meanwhile, in the aspect of applying information to new knowledge, students still need a little direction by the researcher, but not as much as the first meeting.

At the last meeting the students had understood how information literacy was so the students did their own tasks during the learning process. The result, in the aspect of identifying and seeking information, students have been able to determine which information is needed and their own sources. They are still in discussion with their

friends to ensure that the information they are looking for is correct.

On the aspect of the ability to choose information in accordance with the theme and on the aspect of communicating information it looks good. Students are able to choose which information fits the theme and separate information that is not needed. In this aspect, all students are able to do their own tasks. This is in line with the opinion of (2010) where students who are familiar or trained in their information literacy skills are able to access, search, retrieve, edit, and format information for presentations. This is evidenced by the fact that students do not directly copy the information they get but also adjust it to their needs, so that it also influences when communicating information, the content of their assignments is in accordance with the learning theme. At this last meeting, the aspect of applying information to students' new knowledge increased. They have been able to process the information/knowledge they have acquired during the learning process.

## D. Conclusion

Based on the results of the explanation above, it is concluded that the class that receives learning material classification of living things with the inquiry model has a significantly different score compared to the class that uses conventional learning (lectures). The suggestions given based on this research are that inquiry can be considered as a learning model used by science teachers to improve information literacy skills. The limitation of this research is that the research is carried out using quantitative methods and is equipped with several notes derived from unstructured qualitative exploration. It is recommended that researchers who wish to deepen the findings in this field consider structured qualitative research to be able to explore more deeply about the thinking processes that occur in students.

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