Application of Inquiry Learning Model Using Android to Improve Media Literacy of Junior High School Students

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Abstract

This research is actually an evaluation of the implementation of the 2013 curriculum conducted in 2019. However, the results are still very relevant to the condition of the co-19 pandemic in early 2020. The evaluation was conducted to find out the application of inquiry learning models using Android. The population of this study were 200 junior high schools which had implemented the 2013 curriculum in 2018. The data were collected by using surveys. Data were processed using Excel and analyzed using simple descriptive statistical techniques. The result of the study is that Android is very suitable to be used as an alternative media in inquiry learning models. In the end it can be seen that the use of Android in inquiry-based learning can improve students' media literacy skills, an increase in media literacy skills is due to students being required to be able to find learning resources independently. Of course the learning resources are in accordance with the topic being discussed by the teacher. This is indicated in the evaluation conducted in May related to the use of online learning resources and the percentage was very significant, above 85%.

Keywords: Inquiry, Android Phone, Media Literacy

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INTRODUCTION

Innovative learning strategies are the key to implementing the 2013 curriculum well. It is very reasonable, if inquiry learning is a key model that must be implemented by SMP. The hope is of course that the 2013 curriculum can be implemented to the fullest.

Inquiry learning is a learning model that can activate student learning processes. The inquiry learning model develops critical and creative thinking skills as well as open interaction skills. The learning process in inquiry learning involves students to be involved in the process of observation, asking, trying, processing data and presenting and concluding and possibly creating.

Media is a tool that makes it easy for students to be actively involved in the learning process. There are two types of media developed in schools: media in the form of hardware and media in the form of software that is widely available in cyberspace.

One of the contents of the 2013 curriculum that must be grown is literacy. The six basic literacies grown through the 2013 curriculum are literacy, numeracy literacy, scientific literacy, financial literacy, digital literacy (media) cultural and citizenship literacy. This shows that the learning process that occurs in the classroom must also contribute to fostering literacy. This study discusses the application of inquiry learning that fosters digital literacy for junior high school levels.

The main problem in this research is the extent to which the teacher's skills in applying the inquiry learning model using Android so that digital literacy of junior high school students can grow.

Objectives of the study

The objective of this research are evaluating the application of the inquiry learning model; and explore the media used by schools to foster literacy in junior high school students.

METHODS

This research is program evaluation. It evaluate the implementation of curriculum 2013 in Junior high school in Central Java province in 2018

Setting of the Study

This research is conducted in Junior High School which had implemented curriculum 2013 in 2018 in Central Java province. The data collection is done in 3 month from October to December 2018.

The population of this research is Junior high schools which implemented curriculum 2013 in 2018. The numbers of school participated in this study are 200 schools. There are 4 respondents in each school; they are school supervisor, head master, teacher who had participated in workshop and teacher who hadn’t participated in workshop. The collected data was then tabulated by using excel and classified in sub classification, then presented in result of data collection.

Analysis of Overall Data Collection Results

Figure 1 is a graphic image of the results of data processing. The figure is the percentage of achievement of mentoring for the implementation of the 2013 curriculum in 2018. In Figure 1, data is displayed with the main components of learning implementation. About how to prepare and mentoring strategies, will be displayed in the following sections.
Based on the figure, it can be seen that the successive spectrum of outcome percentages are: a) syllabus completeness; b) completeness of Lesson plan; c) learning performance; d) strengthening of character education; e) implementation of literacy; f) critical thinking training; g) high order thinking skills; h) inquiry based learning; and i) authentic assessment are 97.7% 98.07% 98.55% 95.53% 87.09% 93.01% 80.27% 94.82% and 93.61%. From the spectrum above, it shows that there are some components which can be achieved to the maximum, in this case the maximal category is above 95%. Those components are: a) syllabus completeness; b) lesson plan completeness; c) learning performance; and d) strengthening of character education. Meanwhile, there are other 5 components which achieve less than 95% even some less than 85%. The component achieved less than 85% is high order thinking skills. To make the analysis easy, the achievements of all components are presented with criteria of percentage in the table below.

<table>
<thead>
<tr>
<th>Table 2. Table of criteria</th>
<th>Percentage</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 70 %</td>
<td>Not good</td>
<td></td>
</tr>
<tr>
<td>70.01% to 85%</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>85.01 to 100%</td>
<td>Very good</td>
<td></td>
</tr>
</tbody>
</table>

General presentation graph in the figure 1 then is sharpened in some sub part of the graph which contain how the implementation of inquiry learning model in the school. Besides, it is also correlated to the data which strengthen the performance of inquiry learning model. The data cover how literacy, critical thinking, and high order thinking skill training has been implemented by the schools. In this research, there is no presentation on how to assess learning result on implementation of inquiry based learning. Although in the instrument, we have collected data of assessment, it cannot be convinced whether the assessment was appropriate with the learning model or not.

**Implementation of Inquiry learning model**

![Figure 2. the percentage of the outcome of implementation of inquiry learning model in respondents' schools.](image)

Percentage of outcome of preparation of implementation can be seen in the Figure 2. It shows that the outcome of implementation of scientific learning is very good, the percentage on each indicator item is in range of 92.08 and 96.58. The lowest percentage which not yet implemented this learning model is varied, around 92.08%.

**Implementation of literacy training**

![Figure 3. Percentage of outcome of implementation of literacy mentoring in respondents’ schools](image)
From the Figure 3, it shows that the outcome of implementation of literacy training is very good; the percentage of outcome for each indicator item is in range between 78.85% and 92.22%. The lowest percentage is on making map training 78.85%

**Critical thinking training**

![Figure 4. Percentage of outcome of critical thinking training in respondents schools](image)

Percentage of outcome of preparation of implementation can be seen in Figure 4. it shows that the outcome of 21 century education is very good; the percentage of outcome in each indicator item is in range between 89.75% and 95.42%. The lowest percentage is only teacher skill in making steps of learning which give opportunity of students to think critically which only reach 89.75%

**High order thinking skill**

![Figure 5. Percentage of outcome of high order thinking skills development in respondents schools](image)

The percentage of outcome of preparation of implementation can be seen in Figure 5. the figure shows that the outcome of high order thinking skills is already good. The percentage for each indicator item is in range of 66.28% to 86.48%. The indicator which has the lowest percentage is habituation of students in writing diaries 66.28%. It shows that generally high order thinking skill has not become learning habit yet.

**DISCUSSION**

One of the tasks of the teacher is to assist students, so that they can be actively involved in the learning process. Without being actively involved, their learning is meaningless. by being involved in the learning process, students are conditioned to enter in an activity that stimulates and challenges their thinking and creativity so that students can respond actively to the lesson.

Inquiry-based learning model, if implemented properly, will certainly also involve children actively in the learning process. The main principle in the process of inquiry learning is "growing self-confidence in students", so teachers need to give two things in the learning process, namely praise and not "embarrass students".

Inquiry learning model as a strategy in learning emphasizes the process of searching and finding. so that the learning process can go according to the design, subject matter should be assigned to students to be studied independently. In this case, students act as seekers and discoverers of subject matter. Meanwhile, the teacher acts as the facilitator. The application of inquiry learning in learning is a strategy that can stimulate higher and critical thinking patterns. In the learning process, students are required to be able to arrange their own subject matter from the formulation of problems, hypotheses, steps to gather evidence to test the hypothesis. The results of this hypothesis can later be used as answers to questions or formulations of problems that arise at the beginning of learning.

Based on the learning structure, skills developed through the application of inquiry as a strategy are critical thinking and higher order
thinking. Meanwhile the impact that can be seen immediately is an increase in literacy skills.

The structure can be described as a pyramid of the implementation of the inquiry strategy as shown in Figure 6.

![Figure 6. Pyramid of Inquiry Learning Model implementation](image)

In Figure 6, it shows that when the teacher applies inquiry as a strategy, there are three skills that are directly measured: critical thinking, high-level thinking and media literacy skills. In this discussion digital literacy is more interpreted as media literacy. Why? It is because media literacy is much broader in scope than digital. In this study the notion of media literacy is more considered to be a skill. Meanwhile, according to Potter, media literacy is a set of perspectives that are used actively when accessing mass media to interpret the message at hand.

One of the factors causing the increase in media literacy in the application of inquiry-based learning models is the participation of Android phones as a tool for students to find learning resources that are massive and complete in cloud storage. With Android mobile students can search for learning resources using the Google search engine for example. In the percentage of analysis of the results of data collection media literacy reached more than 70%. This shows how the teacher's skills in growing literacy skills are good. Indeed, the development of digital literacy has not yet appeared in detail, because the instruments are arranged so that it can observe just the habit of literacy. To strengthen the data, one more data was added about the use of the search engine by several partner schools. Partner schools implement school policies at home during the pandemics. After our survey, the data obtained are as presented in Figure 7.

![Figure 7. Frequently used portals](image)

Figure 7 shows the use of several portals that are often used by teachers and students. In this survey, students and teachers are asked to choose what portals they often use as a platform to choose subject matter that is suitable for the learning topic. In the picture shows that the Google search engine is the most widely used search engine, then YouTube and the final choice is "rumah belajar".

### Inquiry-Based Learning Procedures

There are 6 stages of inquiry learning procedures, namely orientation, problem formulation, hypothesis submission, data collection, hypothesis testing and conclusion drawing. The six stages of the inquiry learning procedure always give students the opportunity to be actively involved. This process makes some people think that inquiry-based learning is also one of the learning models that supports the implementation of "student center" learning. The student center learning process will usually enhance a variety of student literacy skills, therefore students will be encouraged to be able to improve the skills in this literacy. In developing this learning model, the use of an Android mobile phone is included in the order of the learning process. In this study, the teacher allows students to use the Android cell phone as a tool to find learning resources. Searching for learning resources is used in learning procedures number one, two and three. Students are trained to be able to develop a developing orientation, then formulate problems and proceed with the submission of hypotheses. In all three
procedures students are given the opportunity to develop their media literacy skills to openly explore and elaborate material according to learning sources that can be trusted. After the three procedures can be carried out properly, then students will be asked to collect data and test hypotheses according to the rules they have set previously. It is expected that the conclusions drawn can also add to their skills and knowledge in accordance with the learning target. By giving students the opportunity to use mobile phones in the learning process, the teacher also fosters media literacy skills.

CONCLUSION

The conclusion of this research is that teachers in general are able to apply inquiry-based learning in schools. the percentage of inquiry-based learning implementation has actually been very good, because it is above 90%. However, to strengthen the data, we associate it with several main indicators. The indicators are literacy skills, critical thinking and higher order thinking. Some indicators show a good percentage, which is above 80%. the high percentage of literacy skills in general is already good at above 80%, except for one indicator, namely how the teacher accustoms students to making a concept map. Meanwhile, the percentage of critical thinking is good, because it is above 80% and the percentage of high-level thinking is above 80% except the habit of writing a diary. As for the habit of writing a diary, it is still 66.28%

The teacher's skills in using Android as a learning medium can foster a culture of student media literacy. This can be answered after there is further data collection. Advanced data shows the high use of Android phones when students search for information related to learning resources. It is also known that the websites that are frequently visited by teachers and students in finding their learning resources are Google, YouTube and learning houses.

It is recommended for further research the need for variations of learning models that can be used by using the basis of inquiry learning both inquiry as a strategy or inquiry as an approach.

REFERENCE