



# The Use of Qr Code Enhanced Student Worksheet as a Media to Strengthen Democratic Values Among Citizens

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**Abstract.** This study is based on the critical condition of democratic values among students. The values meant are appreciating others' opinion in a group, coordinating with other members in the group, proposing opinion for the group, and being responsible for the result discussed in the group. Those value should be involved in learning process of students because, essentially, they are the future generation of a nation. Therefore, to make it happens, teacher role is very important help the student in getting those values. One of the things that can be done by the teacher is developing an innovative learning media. The media developed is QR Code enhanced Student Worksheet. Thus, this study is conducted to know how well the teacher could use the media, QR Code enhanced Student Worksheet, in improving democratic values among students at school. The method used in this study is Classroom Action Research divided into three cycles. Then, the instruments used are interview, observation, questionnaire, and documentation. Data analysis technique used is data reduction, data display, and conclusion. The result of the study derived from all three cycles; cycle I, cycle II, cycle III showed significant improvement. Moreover, it can be said that QR Code enhanced Student Worksheet in Civic Education subject has significant effect towards the improvement of democratic values among the students at school.

**Keywords:** Democratic · National Identity · QR Code · Student Worksheet

## 1 Introduction

Education is a crucial part to support high-quality people from both knowledge and attitude. This is also in line with education definition stated by article 1 Number 1, Undang-Undang No. 20 Year 2003 related with education system in Indonesia. The definition declares that education is a planning effort to achieve goals. In Indonesia, education needs to facilitate democratic principal values and intellectual all together for all citizens.

In Indonesia, education need to be the one encouraging student to be citizens having democratic values. One of the values is commitment to keep it well. Therefor, to make it happens, Civic Education becomes a subject at school as stated by Torney Putra [1]. He states that Civic education includes several aspects such as civic knowledge, civic

engagement, dan civic attitudes. Then, it is expected to build strong commitment among citizens. To achieve that goal, there is a need to have democratic guidance to make sure that all citizens could be able to develop their own life with freedom, creativity, discipline and responsibility. From that process of guidance, it is expected that they also have high democratic values. Democratic citizen in this context means that they have several good characteristics such as honesty, responsibility, creativity, respect and are able to work together and think critically. Those characteristics could be created and maintained by learning process at school.

Those characteristics developed at school through learning process is expected to be a good root to socialize with bigger communities. It is also in line with Sapriya [2] stating that democratic education should be taught by a learning process both in formal one, at school, or informal one, in society. At school, it could be developed through a subject called civic education, meanwhile, in society it could happen simply in daily activities. If those characteristics could be developed well in both areas, they will be good citizens appreciating their country so much.

Based on the statements above, it is safe to say that democratic education in learning process is very needed by all students to live properly with others in society. Moreover, hopefully, they will be able to implement what they have learnt at school to socialize well with others so that the goals of having democratic citizens will be achieved.

Those characteristics as elaborated before are not something easy to be achieved by students. It is because there are, still, many factors making it harder to be implemented. One of the factors is learning media for students used by teacher in civic education class.

The media which is considered effective to strengthen citizens identity is the one having current information occupied by recent technology. This is because the development of science and technology really influence all aspects including students. Basically, nowadays, learning process has included technology on it such as the use of mobile phone and other gadgets to make students easier to learn. At first, this technology is only used for entertainment. However, now, it also can be used as a learning media in education field. The development of science and technology in education field is now increasing. Therefore, teachers are required to be more creative and innovative in mastering and developing learning media to achieve learning goals. This should be highlighted because there are many civic education teachers who still deliver the learning material through traditional ways such as books and power point. In fact, learning media is a significant aspect in learning process.

The learning process in civic education class should be supported by effective learning media. This is also supported by the statement of Hamalik in Arsyad [3] saying that a good learning media will increase students' motivation to learn. Moreover, it can be said that interesting learning media is very needed by students to make the learning process fun and enjoyable so that teachers are required to enhance their ability to create an interesting learning media. Hence, the learning media offered by the researcher is QR Code enhanced Worksheet.

Learning process strengthening citizen identity who are democratic is important for students. The learning process might be conducted and supported by learning media called QR Code enhanced Worksheet. This media has a private system so that, the students will have more concentration in doing it. Besides, it also encourages them

to be honest and responsible in doing it. According to Widjajanti [4] worksheet is a learning media in a learning process in which it can be adapted with learning situation and activities faced. Based on that definition, it could be concluded that worksheet is the one prepared by teachers containing steps of how to do it in a learning process. This worksheet might be used by individual or group.

The worksheet which is widely used today contains steps of how to do exercises. To maximize the use of it, QR Code becomes one of alternatives offered. QR Code is matrix having two dimension that is derived from Quick response. This code might be read fast and accurate. So that, it could help students to shorten their time in doing the exercises given to them because they could directly open the website through the website available. In other words, this learning media called QR Code enhanced Worksheet can be used to strengthen democratic values among students. Hence, it is very understandable if the researcher intends to implement and analyze this media for civic education subject in one of senior high school in Bandung city.

## 2 Methodology of Research

Research approach used is mix method. It is gathered from data of research subject. Meanwhile, the method used is called classroom action research. The use of it is based on the researcher founding related with problems faced by students during learning process. In other words, to get solution from the problems, this study was run into three cycles including planning, conducting, observing and reflecting on each cycle. This study was conducted in one of senior high school in Bandung city specifically in grade X of Science 2 class. Then, for the data collected, it used observation, interview and documentation study. Last but not least, analysis techniques in this study are data reduction, data presentation and conclusion.

## 3 Results of Research

The result of this study could be seen as follow: (Table 1).

In this planning section, QR Code enhanced Worksheet is intended to strengthen democratic values among citizens which is started by the researcher who becomes the

**Table 1.** Study Result related with the use of QR Code enhanced Worksheet

Cycle	I	II	III
<b>Planning</b>	Lesson plan	Lesson plan	Lesson plan
<b>Conducting</b>	<i>Zigsaw</i>	STAD	<i>Role Playing</i>
<b>observing</b>	89	94	98
<b>reflecting</b>	The use of LKPD QR <i>Code</i>	Time management problem	Continuity
<b>cognitive</b>	70	82	91
<b>affective</b>	Good	Good	Very good

teacher for Civic education. Still in this section, the researcher sets a lesson plan which is based on class situation. This lesson plan making is in the third cycle. After that, the researcher prepares learning material for cycle I, II and III with Political System in Indonesia as the topic. Then, it is followed by preparing learning models, such as, Zigsaw for cycle I, Student Team Achievement Division (STAD) for cycle II and Role Playing for cycle III. Every cycle has its own evaluation form developed to assess and observe democratic values of students after the learning process conducted.

- 1) The learning process of civic education with QR Code enhanced Worksheet to strengthen democratic values among students was conducted into three cycles. The result of each cycle might be elaborated as follows:
  - a. Cycle I was started by praying and apperception activity. After that, the teacher checked students' attendance. For the main activity, the students were divided into five groups for doing some exercises through the use of QR Code enhanced Worksheet and zigsaw model where students seem still confused but the teacher tries to guide them to use the worksheet. For closing activity, the teacher does assessment, summarizes the lesson and gives homework to read the next material.
  - b. Praying, doing apperception and checking the students' attendance become the three first activities in Cycle II. For the main activity, the teacher starts to use QR Code enhanced worksheet and Student Teams Achievement Division (STAD) model. In this cycle, it can be seen some improvement from the students where they become more familiar to use the worksheet. They are also braver to ask question and convey their opinion. Even though some of them are still passively involved in the learning process, the teacher does not give up, in fact, the teacher gives more motivation for the students to ask more questions. This cycle is closed by several activities such as giving assessment and filling the attitude scale format, summarizing the lesson and giving homework for students.
  - c. The third cycle is opened by praying, doing apperception and checking students attendance. Then, in the main activity, the students are divided into five groups to do exercises by using QR Code enhanced Worksheet and applying Role Playing model. Every students is prepared to do a role play appropriate with the role that they get. In this process, the students are very enthusiastic. They are also braver to put forward their opinion, ask question or even answer question. The last activities for closing are assessing, summarizing and reflecting learning activities.
- 2) The observation for civic education using QR Coded enhanced Worksheet is conducted by the observer to the teacher. The result of the observation could be described as follows' cycle I is categorized as 'Very good' with 89% percentage result. Cycle II is categorized as "very good" with 94% percentage result. Then the last one, cycle III, is categorized as "very good" with 98% percentage result.
- 3) Reflection related with the use of QR Code enhanced Worksheet to strengthen democratic values is intended to indicate and overcome problems. The problems in each cycle could be seen below:
  - a. Cycle I = The average score for cognitive is 70. Then, the students are not that familiar with the use of QR Code enhanced Worksheet so that technical problem happens. Also, the students have less respect to those who are doing a presentation.
  - b. Cycle II = The average score for cognitive is 83. The students are still not sure in asking questions so that they become passive in question-and-answer session.

- c. Code. The average score for cognitive is 91. The students are more familiar with the use of QR Code enhanced Worksheet in the learning process.

## 4 Discussion

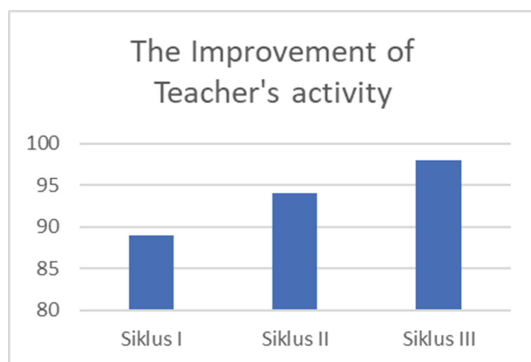
The use of QR Code enhanced Worksheet in civic education subject as a learning media to strengthen democratic values in this study was conducted in three cycles and it works properly as expected. It is based on a statement from Falahudin [5] stating that learning media is supposed to be appropriate with the users considering the age, characteristic, interest and difficulty faced. By doing so, the users will get optimal benefit from it. The following is the improvement of teacher's activity: (Fig. 1).

Based on the diagram above, it can be seen the improvement of teacher's activity. In cycle I, teacher activity gets 'very good' category with 89% result. In cycle II, the teacher gets more improvement with 94% labelled as 'very good'. This is because the teacher gets better in class and time management. Then, in cycle III, teacher gets the highest percentage result with 98% and categorized as 'very good'. This indicates that the teacher is very professional in starting and closing the learning process with the use of various models and QR Code enhanced Worksheet as the learning media.

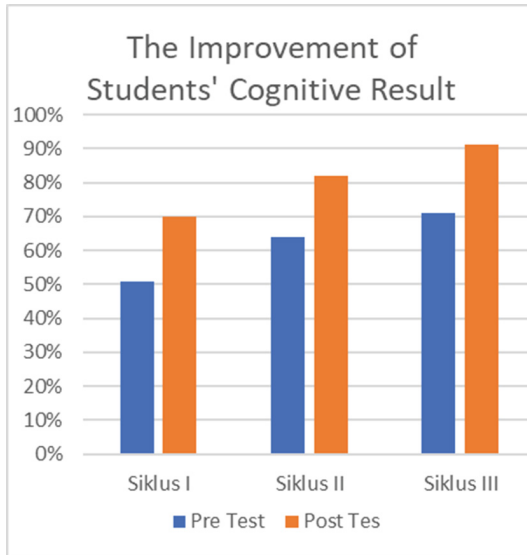
In the learning process with the use of QR Code enhanced Worksheet, it signifies that the students could be able to deliver their opinion, appreciate other, work together as a team, think critically and do responsible with the task given. Besides, they also participate actively in asking and answering question.

The result of leaning process with QR Code enhanced Worksheet as the learning media can be categorized as 'very good' in each cycle based on the test conducted to see the cognitive aspect by the researcher. The result could be well described as follow: (Fig. 2).

The result of students' cognitive in political system in Indonesia as the topic shows a significant improvement which can be seen in the diagram above. This test is needed to identify the influence of QR Code enhanced Worksheet as an interactive learning media affecting the way of delivering learning material for students. In all cycles, students are given new knowledge to be more active in classroom activities such as delivering



**Fig. 1.** The improvement of teacher's activity result

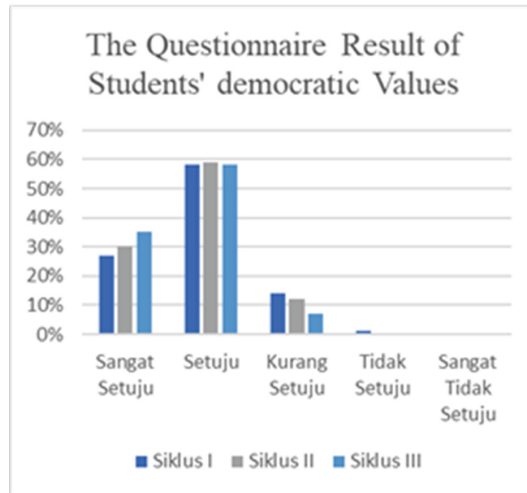


**Fig. 2.** The Improvement of Students' Cognitive Result

opinion, asking question, thinking critically and solving problems. Those are expected to increase their awareness towards their environment which will make their civic affair indirectly improves. Based on the improvement of students' cognitive result, it can be concluded that QR Code enhanced Worksheet could become an interactive learning media giving many information to enhance students' knowledge. Besides, the use of it also increases students' knowledge even though with different learning models. Democratic values which is explained by Zamroni [6] has 12 values including tolerance, freedom to deliver opinion, appreciating different opinion, respecting diversity among citizen, being open minded to communicate well, confidence, independence, respecting human rights, appreciating each other, having self-control, togetherness and continuity.

Despite the assessment toward students' cognitive, there is also affective assessment for the students during the learning process. The researcher also gives questionnaire for individual assessment to see the most honest and independent student in doing their exercises. Another thing done by the researcher is assessing students' attitude by attitude scale. This is in line with Endang Danial [7] stating that attitude assessment technique can be divided into two categorizes; a) attitude scale b) Observation c) questionnaire d) Check list e) continuum indication scale f) Anecdotal record g) Socio metrix. Based on the assessment scale in one time, there will be three categorizes derived; first, the improvement of students' attitude, second, the constant result of student's attitude and third, the decrease result of students' attitude. Hence, in this study, the result of questionnaire regarding students democratic values can be seen as follow: (Fig. 3).

Based on the result, it is safe to say that the use of QR Code enhanced Worksheet has been successfully strengthen democratic values among students. This could be clearly seen from the result of questionnaire above. Based on the questionnaire result, the highest percentage relies on 'agree'.



**Fig. 3.** The Questionnaire Result of Students' Democratic Values

The evidence above shows that during the use of QR Code enhanced Worksheet in the learning process, students could be able to comprehend the learning material about political system in Indonesia better and strengthen their democratic values. It could be perceived by their answer on Very Agree in each cycle. Therefore, it shows that students have stronger democratic values after the learning process with the use of QR Code enhanced Worksheet.

## 5 Conclusions

Civic education is an important subject to develop students' characteristics to be democratic citizens. The democratic values in this context is freedom to convey opinion, work together as a team, accept different opinion, appreciate diversity, respect decision, think critically and be responsible. To develop those characteristics, teacher need to prepare support systems in the learning process and one of them is learning media. Learning media could be a solution of problems facing by teacher in the learning process. That is why, learning media should be innovative and creative to help students achieving learning goals. Moreover, QR Code enhanced Worksheet is created to become an interactive learning media which combine traditional and digital aspects. The general conclusion derived from this research is that the use of QR Code enhanced Worksheet to strengthen students democratic values is effective even though some matters need to be improved later on.

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