



Profile of Student's Cultural Concern Through Science Learning Based on Pacu Jalur Kuantan Singingi

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Abstract: Science is a lesson that discusses various natural phenomena scientifically and systematically in life. Along with the times, science has undergone many transformations in improving the quality of learning, one of which is local culture-based science learning. The rapid flow of globalization of foreign cultures that enter Indonesia, making the youth generation begin to forget local culture as a noble identity. This study aims to see the effect of local culture-based science learning on the profile of cultural awareness of junior high school students. The research method used is quantitative research by giving post-test to two different classes that have implemented the learning. The two classes consisted of 31 people in the modeling class and 29 people in the implementation class. The sampling technique used was cluster random sampling. The results obtained were then analyzed and discussed descriptively quantitatively. The results show that the application of Kuantan Singingi Pacu Jalur culture-based learning can affect the achievement of students' cultural concern profile by obtaining an average score of high categories in the modeling class and very high in the implementation class. Although the average results are in two different categories, when tested through non-Parametric statistics the two results do not have a significant difference.

Keywords: Cultural Concern; Pacu Jalur Kuantan Singingi; Science Learning

Introduction

Science learning is a study that discusses various natural phenomena scientifically and systematically that occur in life. This study is present as a form of solution for humans in solving problems faced daily (Rahmiwati, Festiyed, & Ratnawulan, 2022; Sarmi, Ratnawulan, & Gusnedi, 2019; Widiyatmoko, 2016; Wilujeng, 2019).

Along with the development and progress of the times, science as one of the studies that is a compulsory subject at every school level has undergone many transformations. Science is now not only seen as a collection of theoretical knowledge in the form of scientific facts or concepts, but has also become an essential foundation that supports various technological advances and their application in life (Handayani, Wilujeng, & Prasetyo, 2018; Rumlolas, Sandra, Rosely, & Nunaki, 2021; Wilujeng, 2019)

The transformation of science is also increasingly developed in the world of education. If in the past science was only known as learning that presents discussions about natural symptoms and phenomena, it has now become a field of study that is more holistic and comprehensive. This innovation can be seen in the application of integrated science in schools (Asrizal, Amran, Ananda, & Festiyed, 2018; Mubita & Kalimaposo, 2016; Novitasari, Masykuri, & Aminah, 2016; Sarmi et al., 2019; Widiyatmoko, 2016; Wilujeng, 2019).

Integrated science is one form of implementation of the transformation of science learning in the modern era. This field of study is known as learning that presents experiences by integrating various aspects, including knowledge (content), skills, attitudes, and character. As an integration in the content aspect, science in the present era must be able to connect the interrelationships between its subdisciplines (biology, chemistry, physics,

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etc.) and various other aspects of life in the presentation of the material discussed (Asrizal, Amran, Ananda, Festiyed, & Khairani, 2018; Rahmiwati et al., 2022; Sarmi et al., 2019; Wilujeng, 2019; Yusnitasari & Isnaeni, 2019). This means that the discussion of science is not only presented in one point of view but is studied from a variety of broad scientific perspectives and related to one another. Such as the application in the latest technology, to touch aspects that may have previously been considered to have no correlation with science learning. An example is the socio-cultural element.

So far, socio-culture is considered the closest dimension to human life. Culture as part of human identity has become a habit of life and a pattern of social construction that has been carried out continuously or from generation to generation (Azima, Furnamasari, & Dewi, 2021; Irmania, Trisiana, & Salsabila, 2021; Nahak, 2019; Setyaningrum, 2018). These habits and constructions can be born or appear in the form of ideas, patterns of life, customs, beliefs, language, knowledge, social systems, objects, and ceremonial events (Azima et al., 2021; Irmania et al., 2021).

If this element can be linked in scientific science learning, it will certainly be a potential innovation opportunity as a strengthening of contextuality which has been the essential identity of science learning so far. Thus, science learning becomes more interesting for students, more relevant to the life they live, and not just a mere discussion of theory.

This alternative is expected to be a solution to the current low attitude of human concern for their culture. Cultural concern can be defined as an attitude and action in the form of concern for culture with a high sense of awareness and great responsibility to feel ownership, maintain, preserve, inherit, and develop a culture as a proud identity with its noble values (Eufrasia, Emilianus, Hildegardis, & Utami, 2019; Irmania et al., 2021; Nahak, 2019; Parmiti, Rediani, Antara, & Jayadiningrat, 2021; Purwanti, 2017; Setyaningrum, 2018; Tabi'in, 2017).

This attitude is considered an important character trait that must be possessed by everyone in society. As an identity, culture must always be preserved and passed on. The lack of concern for culture today, makes culture something that is considered old-fashioned, outdated, and uninteresting. This has led many people today to not care, not recognize, and even abandon their culture. This view has led to a change in the attitude of people towards culture in society. This can make the existence of local culture be replaced by the rise of foreign cultures that enter the society (Dwianto, Wilujeng, Prasetyo, & Suryadarma, 2017; Irmania et al., 2021; Nahak, 2019; Setyaningrum, 2018).

This phenomenon can be seen in everyday life, especially in the younger generation. The lack of filtering of all information obtained, causing the younger

generation to now be more interested in foreign culture than Indonesian culture. In fact, Indonesia as a country rich in cultural heritage needs the nation's successors who have a high cultural concern (Uge, Neolaka, & Yasin, 2019).

Currently, although it is not too late, the youth generation is expected to re-foster a concern towards their culture. The process of growing and improving this attitude can start from the academic environment, such as through learning at school. Based on this, in this article, researchers will discuss the profile of students' cultural concern through the implementation of culture-based science learning in junior high school.

Method

The method used in this research is quantitative research. This study took samples of students from 2 different classes. The selection of these two classes was carried out through the Cluster Random Sampling technique. The number of samples in class A amounted to 31 people, and in class B as many as 29 people. Class A is a modeling class, while class B is an implementation class. Both classes were given the same treatment, namely implementing culture-based science learning. In measuring the results of the profile of students' cultural concern, a post-test was given after treatment. The instrument used in this research is a questionnaire of cultural caring attitudes accessed via google form.

This study also conducted statistical analysis using SPSS 21 to see if there were differences in the results of research in two classes. Testing in this statistic uses a non-Parametric model through the Mann Whitney test, with the following hypothesis:

H_0 : There is no significant difference in the profile of cultural caring attitudes between the two classes.

H_1 : there is a significant difference in the profile of cultural caring attitudes between the two classes.

The results of the data in this study were then analyzed descriptively quantitatively with reference to Table 1.

Table 1. Category Level of Achievement Profile of Attitude of Caring for Culture

Scores	Category
>80 - 100	Very High
>60 - ≤80	High
>40 - ≤60	Medium
>20 - ≤40	Low
0 - ≤20	Very Low

Result and Discussion

In this research, science learning uses learning content based on the Kuantan Singingi Pacu Jalur

culture. Pacu jalur is one of the cultures of Kuatan Singingi regency, Riau. In the Rantau Kuantan Malay language, pacu jalur means a cultural festival of traditional rowing boat races with a length of 25-40 m and filled by racing athletes totaling 40-50 people on the Kuantan-river every year. It is organized to commemorate Islamic holidays and the independence of the Republic of Indonesia. (Afrison & Masunah, 2021; Febrian & Jumadi, 2022; Firmanyah & Masunah, 2019; Putra, 2019). Currently, pacu jalur has become one of the most famous cultures in Riau and Indonesia. This is considered very potential to be raised as an integration material with the world of education, especially in school learning (Aslati & Silawati, 2017; Febra, Sugiyanto, & Kristiyanto, 2018; Febrian & Jumadi, 2022; Mahardi & Erlisnawati, 2019; Venydeha & Rosaliza, 2020).

Prior to testing, this product was validated by experts and practitioners. The results of this validation will be discussed in a separate article. In product testing, there are 3 indicators that become the reference for assessing cultural caring attitudes in students, namely knowledge of culture and its values, showing love and involvement in culture, and applying and developing culture.

In Indicator 1, there are 3 assessment sub-indicators. In the cultural knowledge sub-indicator, students from modeling and implementation classes are both in the very high category, but the modeling class has a score below the implementation class. Unlike the previous subindicator, in the formulate of cultural values and understanding of cultural values subindicators, the modeling and implementation classes are in different categories. The modeling class only reached the high category, while the implementation class again reached the very high category on both. These results can be seen in Figure 1.

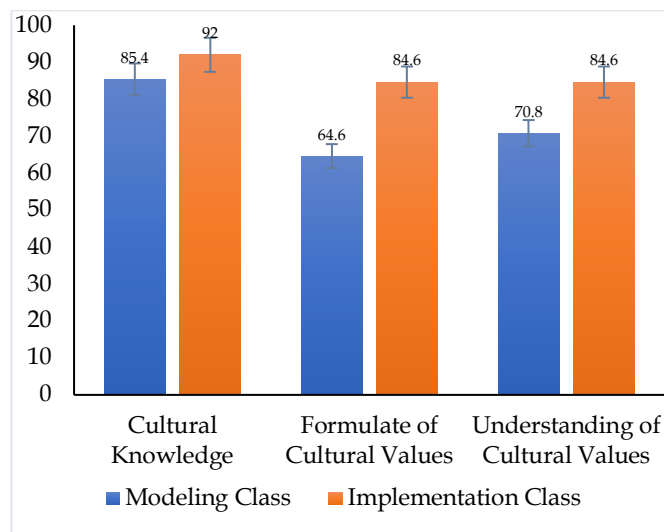


Figure 1. Cultural Knowledge and Understanding (Indicator 1)

Indicator in Figure 1, the modeling and implementation classes both achieved the highest score on the cultural knowledge subindicator. On the other hand, the lowest score in indicator 1 was obtained by the modeling class on the subindicator formulate of cultural values. This subindicator will indeed be considered difficult by students, because not many of them know the values of the developing culture. Based on the results of interviews with science teachers at the research location, he thinks this is because the majority of the younger generation now only knows about their culture.

When averaged on indicator 1, the implementation class has an average of 87.06 (very high), while the modeling class has an average of 73.6 (high). Although, both achieved good results, the cultural awareness of the implementation class was considered higher than the modeling class. As for the second indicator, namely showing a sense of love and involvement with culture has 4 sub-indicators. The score results on this indicator can be seen in Figure 2.

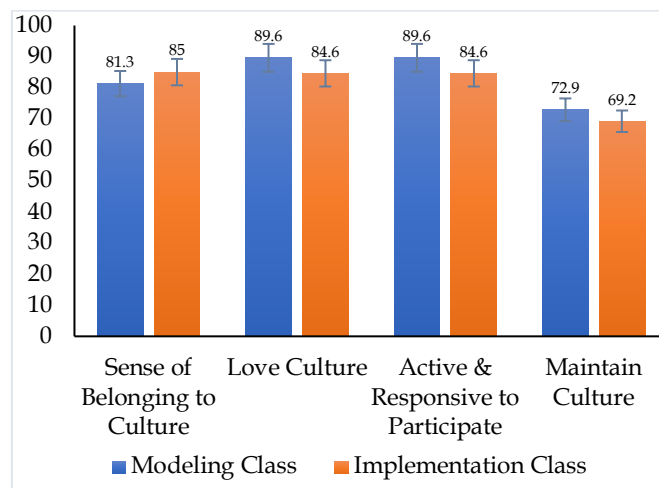


Figure 2. Love and Involvement in Culture (Indicator 2)

In contrast to the previous indicator, the results of the cultural concern profile assessment in indicator 2 are more dominantly controlled by the modeling class. Although, in the senses of belonging to culture sub-indicator, the implementation class can still outperform the modeling class with a very high category, but in the next 3 sub-indicators the modeling class has better achievements. This can be seen in the results shown in Figure 2.

In this indicator, the modeling class achieved the highest score in the sub-indicator love culture and active and responsive to participate. This result is also the highest score in indicator 2. While the lowest score obtained by the modeling class is on the maintain culture subindicator. This was also experienced by the implementation class which also achieved the lowest score on this subindicator, as well as being the lowest score achievement in indicator 2. The average obtained

by the modeling class on this indicator was 83.35, while the implementation class was 80.85. Both of these average results show very good category results.

In indicator 3, the achievement of the cultural concern profile began to be considered balanced. Of the 4 sub-indicators assessed, both classes can outperform each other. In the preserving culture and passing on culture sub-indicators, students in the modeling class outperformed the implementation class with high category achievements in both. On the other hand, in this subindicator, learners in the implementation class achieved a high category in the preserving culture subindicator and only achieved a medium category in the pass on culture indicator. The score results on this indicator can be seen in Figure 3.

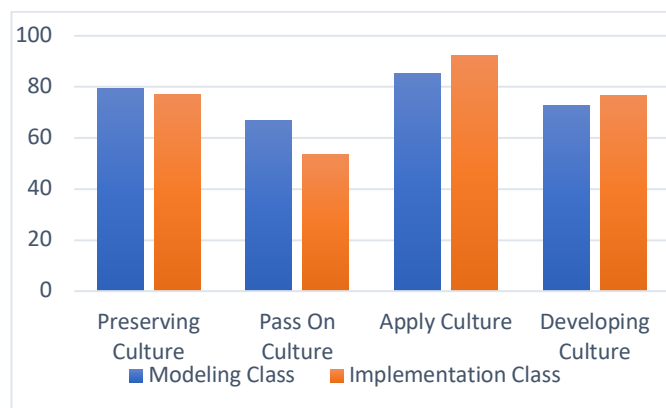


Figure 3. Culture Implementation and Development (Indicator 3)

In the next two sub-indicators, namely applying culture and developing culture, the implementation class students outperformed the modeling class. The achievement of the implementation class on these two sub-indicators was categorized as very high and high. The modeling class also achieved the same category, but with a score below the implementation class.

In indicator 3, the modeling class achieved the highest score on the apply culture subindicator, and the lowest score on developing culture. The same was followed by the implementation class which also achieved the highest score on the apply culture subindicator, and at the same time as the highest score in indicator 3. For the lowest score achieved by the implementation class, it was on the pass on culture subindicator, this score was also the lowest score in indicator 3. Based on the overall results of this indicator, the average obtained by the modeling class was 76.05 (high), while the implementation class was 75 (high).

Based on the three indicators assessed, the modeling class achieved the highest average in indicator 2 of 83.85 (very high), while the lowest score in indicator 1. The achievement of the modeling class score in indicator 1 is also the lowest average acquisition in this assessment. On the other hand, the implementation class

achieved the highest average in indicator 1 of 87.6, which is also the highest average overall, and the lowest average in indicator 3 by only getting 75. If specified on the subindicator, the highest acquisition is in the apply culture subindicator. Conversely, the lowest indicator score was obtained in the pass on culture subindicator. When accumulated from the three indicators, the modeling class achieved an average of 77.67 (high), while the implementation class achieved 80.97 (very high).

To strengthen the data analysis, the results of the assessment of the cultural awareness profile of these two classes were also tested through statistical analysis on SPSS 21. Before testing the hypothesis, the prerequisite test was carried out first by checking the normality. In the normality test, the Modeling class has a significance of 0.2. Thus, it can be concluded that the data in the Modeling class is normally distributed because it is >0.05. In the implementation class, the results of the data analysis tested are the opposite. With a significance value of 0.01, the data is not normally distributed because it is <0.05. Therefore, the statistical analysis process will continue with a non-Parametric test using the Mann Whitney Test. The results of data homogeneity can be seen in Table 2.

Table 2. Test of Homogeneity of Variance

Result	Levene Statistic	df1	df2	Sig.
Based on Mean	0.035	1	20	0.854
Based on Median	0.035	1	20	0.853
Based on Median and with adjusted df	0.035	1	14.027	0.854
Based on trimmed mean	0.009	1	20	0.925

Based on Table 2, the significance value in “Based on mean” is 0.854. The value is >0.05, thus it can be concluded that the data to be tested is homogeneous. The test is continued by looking at the Mean Rank in both classes. The mean rank results can be seen in Table 3.

Table 3. Ranks of Data Test

Class	N	Mean Rank	Sum of Ranks
Modeling Class	11	10.73	118.00
Implementation Class	11	12.27	135.00
Total	22		

In Table 3, the analysis results show that the Mean Rank of the Modeling Class is 10.73 and the mean rank of the implementation class is 12.27. To find out whether or not there is a significant difference between the two classes, the results of the hypothesis test can be seen in Table 4.

Table 4. Result of Mann Whitney test

Result	Score
Mann-Whitney U	52.000
Wilcoxon W	118.000
Z	-0.560
Asymp. Sig. (2-tailed)	0.575
Exact Sig. [2*(1-tailed Sig.)]	0.606 ^b

Table 4 shows that the significance value obtained in testing the data of the cultural awareness profile in this class is 0.6. This value is >0.05 . Thus, it can be concluded that in this study there is no meaningful or significant difference between the two classes (H_0 accepted).

Based on the description of the research results above, it can be seen that the application of Pacu Jalur Kuantan Singingi culture-based learning content can have an effect on the results of students' cultural concern profile. Through this learning, a post-test was conducted to assess the profile of students' cultural concern in both classes. The results both show that students from both classes have a good cultural concern profile, with details of the modeling class reaching the high category, and even in the implementation class students can achieve a very high category. Although the two classes are in different categories in terms of the average score obtained, statistically through the Mann Whitney test the two class results do not differ significantly.

The influence of culture-based science learning is felt to have a very real impact and influence on students. One of the things that strongly supports these findings is the contextual element in learning, namely the cultural element that makes students feel that the science learning they get is closer and relevant to life. This makes learners more interested and active during learning. This is in accordance with the nature of science learning which should be taught contextually, so that it becomes more meaningful to students (Dewi, Suryadarma, Wilujeng, & Wahyuningsih, 2017; Wilujeng, 2019). This finding is in line with previous research which also states that, science learning taught by containing contextual essence will be able to improve the quality of learning and increase students' competency achievement (Dwianto et al., 2017; Østergaard, 2017; Setiawan, Innatesari, Sabtiawan, & Sudarmin, 2017; Zidny, Sjöström, & Eilks, 2020; Zinyeka, Onwu, & Braun, 2016).

Culture-based science learning can present learning content that is not too monotonous. Besides attracting students' interest, this kind of learning will also help students to always appreciate and be proud of their culture (Cahyono & Iswati, 2017; Putra, Ardiwinata, & Hasanah, 2018).

As a national identity, culture is considered very important for a country. Especially in the era of rapid globalization that makes the character of the younger generation degenerate. The youth generation seems to

be complacent with foreign cultures, even not recognizing and leaving the noble culture of Indonesia (Isbandiyah & Supriyanto, 2019; Putra et al., 2018).

School as a means of preparing students to be able to have competence to face real life, is considered to play a vital role in the process of shaping the character of students. To be able to overcome this, one solution that can be done is to start teaching culture in schools. This is considered relevant because Indonesian culture contains many noble values. By teaching these noble values, it is certainly expected to shape the character of students for the better, such as one of them instilling the character of caring attitude towards culture (Hayudiyani, Supriyanto, & Timan, 2020; Putra et al., 2018). It is hoped that the development and implementation of culture-based learning like this can be an opportunity as well as a solution for the advancement of education in Indonesia.

Conclusion

Science learning-based culture of Pacu Jalur Kuantan Singingi can affect the achievement of the cultural concern profile of junior high school students. This can be seen in the results obtained showing that students from both classes who applied culture-based learning obtained an average score in the high and very high categories. Although the average results are in two different categories, when tested through non-Parametric statistics the two results do not have a significant difference.

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Author Contributions

Andika Febrian contributed as conceptualized of ideas, designed research methods, collected-analyzed data, and as the main author of the article. Andi Rahmawati and Sofyan Dwi Nugroho contributed to help collected the data. Insih Wilujeng and Zuhdan Kun Prasetyo contributed as lecturers who provided guidance in research and writing this article.

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Conflict of Interest

The authors declare no conflict of interest.

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