

Science integration in the industry of making knife village Hadipolo for subject IPA SD material utilization natural resources

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Abstract. Local knowledge is a form of environmental wisdom that exist in public life in a particular place or area. Local knowledge can be reflected in the habits of life that has lasted a long time. The concept of the development of local wisdom inspired from various of potential, namely the potential of natural resources, human resources, geographical, cultural and historical. Local knowledge that exist in Kudus City many different such as: make a knife that to be work tradition in the Kudus. The process of integration of science in the lesson IPA SD basically very important. The scope of school is used in this study they are schools that in neighbourhood of craftsmen knife because in the integration ways to make a knife by used material of SDM, so the teacher must adjust the life area and the level of development children be adapted with material or subjects that submitted. Based on the research results ways of making knife usually tool and material already available, the material is used such as stainless and white iron sheet. The craftsmen of knife making knife by using the order of knife making. Suggestion that researcher convey the teacher should be able to integrate why to making knife in subject of material IPA SD utilization of natural resources in learning process. By using integrate the teacher hope fully student to knowing local culture itself that can developed and to preserved.

1. Introduction

Education is the process where a person develops the ability, attitudes and forms of behavior of others in the community where he lived. Education is the process where people were exposed to the environmental impacts of the elect and controlled. So that he can obtain or experiencing the development of social ability and individual optimally. The function of education must be recognized as a learning assistance at all levels about his desire, needs and potential that will show a personal satisfaction and social desire from life (Africa Soegeng, 2013: 54).

The subjects for a teacher is a guideline that where in a teaching and learning activities. Teachers must understand what must be explained to the students that later learners can understand the material that has been presented by the teacher. So that the subjects that often used by teachers in general are to be: the fact, concepts and procedures. From the third teachers must understands is really and focused. The importance of the subjects also as important as learning device for a teacher is to help the process of teaching so that the subjects and learning device that makes it easier for teachers to do teaching process, but difficulties teachers to make the subjects and learning device is less teachers understand how to make the learning. In order to make the learning process makes students difficult to understand the material presented by the teacher when not in the presence of the lesson.

Science is part of our life and our life is part of the division of science. The industry of a system which is a combination of the physical subsystems as components of the ingredients, raw materials or raw materials, energy resources, climate change with all the process of nature and the human subsystem of labor, technology capability, culture, political situation, government, transformation situation and communication, consumer dan market (Zulkifli, 2014: 02).

Science discuss about symptoms of symptoms of hosts that are organized systematically based on the results of experiments and observations done man (Samatowa, 2010: 3). Wisdom or the noble values contained in the wealth of the local culture in the form of tradition, adage and alarm life (Sudarmin, 2014: 26).

2. Methods

Research Method is basically a scientific method that have the data with a purpose and a specific purpose. Based on this there are four key words that need to be addressed i.e. the natural way, data, purpose and functionality.

In this study researchers using qualitative methods. The location of the research is channeled in the village of Hadipolo Jekulo sub-Holy. The research will be conducted on 21-22 June 2016. The interview is used as a data collection technique. The researcher did an interview with the makers of the blades in the village of Hadipolo. This document is the record of an event that has passed. Documentation techniques used researchers to obtain clear evidence of research. The observation that used in this takes the method of observation passive participation, so in this case the researcher came in the place where the activities of those who observed but does not get involved in the activities.

The results and the discussion of the research was done on 21-22 June 2016 in the village of Hadipolo. Interview done to 2 people speakers namely the first blade craftsmen Mrs. Siti Noeryati namely and craftsmen to the two namely Mr Solbi.

2.1. Mrs. Siti Noeryati

Applicants as craftsmen blades for 26 years since 1990 until now Mrs. Siti Noeryati which was formerly his father became craftsmen, now she blades forward his father business, Mrs. Siti Noeryati has 7 employees are 4 men and 3 women. Blade products produced from the first until now done by successive, in working system there is no relationship between the boss with employees but just no that differentiated. The work at the start 07.30 until at 17.00 and during the 5 working days. The material used stainless, usually check the material better not stick in a magnet if the material is not good will stick and it is always used in choosing materials. There are no obstacles in getting the ingredients. In the making of the blade usually required special tools namely hammer, grinding, covetous, stoves for loading the blade handle the tools has a different function to construct the appliance, all the appliance used to suppress the results of the blade, starting from the beginning to the end result of the finishing. Obstacles that usually faced as the cord broken down. In the process of making the blade usually need special accuration so that a good result. Mrs. Siti Noeryati blade sales have come to the areas outside Java both domestic and overseas, e.g. only Malaysia. The blade unit is sold online at one of the private students but has been packed well resulting blade product quality. The benefits obtained through Mrs. Siti Noeryati start from the blade making process on the whole of the proceeds from the sale of the net profit reached 350,000/day, if multiplied 30 days then 10.000.000/month was very satisfactory and was a very large profits.

2.2. Mr. Solbi

Mr Solbi became craftsmen blades for 20 years, since 1996. Be craftsmen because the experience, have 6 male employees, working day is the day of the week the holiday. The employees start work at 7.30.00. Mr Solbi Never differentiate between the boss with employees. The average employees who

work in the place of Mr Solbi namely the community around the business or neighbors itself. Mr Solbi choose the main material in making the blade with white iron sheets, the material used for the kinds of easy to search. Usually the type of materials used the most in the making of the blades are white iron sheets, wire and wood and all the ingredients are not difficult to be found. Alhamdulillah smoothly.

The tools used for the making of the blades in the production of Mr Solbi namely scissors, hammer, covetous and bur the tools is used because the very help the process of making the blade. In the making of the blade usually no obstacle faced the scissors that during the time become blunt, hamer that stalk distracted by, and bur that usually the eyes of grinder broken and damaged bur cable.

Blade craftsmen in the process of making the blades must be carefully and filled with patience. The process of making the blade itself requires special accuraction where perfecting a significant effect on the results of its products at a later time. The blade making process done by the craftsmen is usually done in the same work or gotong royong.

In the production of "Yasin Blades" already reaching the outside Java. The blade has been marketed to the various regions and the result is very encouraging buyers many who loved, proof only buyer directly order two or three blades. No doubt that awaited in the sales system namely the benefits, benefits acquired Mr Solbi starting from the making process on the whole of the proceeds from the sale of as many as 150,000 is net salary per day.

2.3. Producing the blade

The way the blade making the blade making the biased the appliance and the ingredients are available, the craftsmen who are preparing to be made declaring the blades so.

The appliance and material:

- a. Scissors iron special
- b. Hammer
- c. Covetous
- d. Bur
- e. Blade print (made of sonokeling wood)
- f. Iron utih sheets of
- g. A wire
- h. Sonokeling wood
- i. Plitur
- j. The seal of the blade product

First of all, take the iron white sheet and prints the blades and then open the white iron and put the sheets print the blade on it, scissors according the mold. The updated sliced blades struck the hour on one of its sides with the use of hammer to flat. After the blade flat not so is scratched repeatedly until the sharp, so that formed the blades are almost so. Then the blade unit in the cap with the name of the product. Take sonokeling wood to formed into the blade handle. After the wood has become the blade handle abrasives until smooth. Then the blade handle dibur on one end that later will be given some wire. Prepare the blade unit that has been scratched and blade handle to be united to become a train blades, hole that already grilled wire installed so that the blades and glue with strong. After a knife there are the eyes of the blades and the handle, the handle to look good and interesting. The end result or finishing the blade unit is packed with the eyes of the blade unit are given the plastic and inserted into the blade container namely boxes. The blades are ready to the hands of the customer.

3. Result and Discussion

The results of making the blade is not the only matter the utilization of natural resources grade 4, if applied with materials science that there is another matter of the object and its attributes, style and movement of objects, energy and the usage and environmental changes in class IV. The materials were will be discussed including:

3.1. Objects and attributes

The material objects and attributes there are the material nature of the ingredients and the usefulness. For example, objects made of iron: is the same as with the wood and iron also has a strong nature, hard, and able to withstand the load better than the wood. Iron many used to hedge house, household, cabinet, the bed, and others. Objects made of iron will hold long. Therefore, the blades are made with the main material of iron because iron long life. And the iron is easy to search and found. In general, the iron is used to make the blades are white iron the sheets because it is very easy to be cut.

Objects made of wood, wood has a strong nature and hard and able to withstand the burden. Therefore, wood used for the objects that is large and able to withstand the burden. For example, wheelchair, cabinet, table, the door, and others. In the making of the blade with the blade handle made of sonokeling wood, iron that comprised the burden of this will be balanced with the burden of wood.

3.2. Style and movement of objects

The science is not the same with the style we know in everyday life. The style is an action in the form of attraction or encouragement of an object. For example, encourage cabinet, interesting chair, pushing the wheelbarrow, football, and hit the baseball. If we do the encouragement or attraction toward an object, means we have to do to force the object. Styles can change the form of the object that is the attraction on the rubber rings and carved on wood including the form of style. Thus, proved that styles can change the form of the object. In the making of this style blade with stripes with hammer Dolly bounded into so that the blade screwdriver. And flukes will be transported forward scratched blade so sharp. Thus, in the making of the knife there is much material science but many if combined.

3.3. Environmental Changes

the more the population of the world is increasing. As a result, the needs of life are increased. Man continues to strive to meet the needs of life. One only with use and manage resources. Human activity in the use of natural resources can cause environmental changes. However, environmental changes are not only caused by the activities of man. The change also caused by the wind, rain and the light of the sun and the waves of the sea water. The wind is moving air. The air moves from high pressure areas to low pressure areas. The hot air is lighter so it will move to the top of a. Cool air is more weight to move to the bottom of a. The air flow is called with the wind. The winds blowing slowly benefit man and other creatures. Wind could help the drying clothes, help the process of pollination of plants, pan kites, and move the boat the screen. But the winds blowing very tightly will harm the man. The wind can cause rising waves of the sea water and tore down the house, smashed trees, and others. In this happens when creating a blade unit that is making telingan noise, and this also includes air pollution. Therefore, done at the time of the day so that it does not interfere with the community for the rest would be day.

The teacher can also apply the science in the making of the blade in the class V namely with the materials and styles simple aircraft. The material that will be discussed are: (1) magnet style magnetic force is the force generated by the magnets. The tools that take advantage of magnetic force in whom the door refrigerator, end of a screwdriver, end of scissors, box where the pencil, chess board, compass, dynamo, speakers and recordings. Turns out that there is a magnet that is placed in the body of the fridge and the frame of the door made of iron. When the door of the nearest, magnet will soon be pulling it. As a result, there arose a force of attraction that causes the door of the fridge will close. Why does the iron can be drawn by a magnet? Gravity on magnets can attract certain things. Observe the following experiment to identify the types of objects that can be drawn magnet and that cannot be drawn magnets.

The magnets have two poles. On the free state, magnet will always have pointed toward the north and the south. End of the magnet that lead to the north is called the north pole, while the end of the magnet that lead to the south is called the South Pole. Usually both ends of the magnet are given different colours to distinguish both the pole magnets. What happens if two pole magnets into the nearest each other? Poles of the magnets have special attributes. When the same poles of two magnets mutual

nearest, both of them will be rejected. On the contrary if the pole which is different from the two magnets nearest, will happen pull the interesting. The material used Mrs. Siti Noeryati namely stainless, good stainless material that is if the ingredients tidang stick with magnets, (2) simple aircraft is the tools that can facilitate the work of man. You need to perform various styles of work. Style that is done by the muscles. The strength of the muscles of the human being is limited. Of course, you never have difficulties in doing a work. For example, open the cap from the bottle, climb trees, draw water and move heavy items. Therefore, you will need to make it easier for the job. You can use the aircraft. The aircraft can minimize the style you remove. The aircraft is a complex issue and there is simple. The complex plane is composed of planes and simple.

In principle, simple aircraft is divided into four different, namely levers, the field at an angle, pulley, and accessible shafted. The field at an angle household is one type of the field at an angle. If climb trees directly, the burden of our bodies will be center on the hands and feet. However, when wearing the stairs, body weight will be detained by the stairs that we crushed. That is why as though our work lighter. In fact, our work remains, but cut on appeal by the appliance. So, using the field at an angle we can save power. The same principle is also applied on the stairs of the building on stilts you know why the way in the area of the hill made winding roads? The car does not enough energy to climb the steep slopes. Therefore, the road climbs in a steep mountain made winding roads. The way that will reduce the energy required to achieve the same height. Tilt climbs will be more entry ramp with the existence of the bending coastal so it is easier to climb. The field at an angle to help move the objects too heavy. The easiest way to move the ark into the trucks are using the field at an angle. The Ark can be pushed or pulled through the field at an angle. The energy released is smaller than lifting the chest directly. Sharp objects such as knives, axes, sculpture, and nails using the working principles of the field at an angle. A sharp section of the tools is the field at an angle.

Have you ever pay attention to the form of the screws? You know the screws also including simple aircraft? The screws using the working principles of the field at an angle. The screws have the groove in circles in the form of a spiral. If the screws shown, the relief a will form the field at an angle. The eyes of the grinding on borehole electricity also take advantage of the grooves of such as on the screws. The eyes of the former is used to make the holes in the wood or the wall. The eyes of the grinding made threaded as the screws. When the eye bores played with fast, it can make the hole quickly.

From an explanation of the field at an angle above there is a science in the making of the blades, explained that the nails, sculpture, axe blades and bur is biding field. And on the matter can be applied to the making of the knife itself, in grade 5 science subjects.

4. Conclusion

Based on the results of research and discussion on Chapter IV can be concluded that there is integration of science in the making of the blades with the local wisdom in the village Hadipolo Holy. The habit of that carried on the villagers Hadipolo this is forming the local wisdom and have more value for the community to be creative that better. The need for local wisdom so that people would know the culture and uniqueness culture. The making of the blade explanation can be integrated with the creation of the blades in the village of Hadipolo with Primary Science lesson materials the utilization of natural resources. One of the blade making integration application which is a prospective area. The students actually have culture in their soul, teachers must be samosa, local wisdom is around the environment where the students. Through the integration of science on the blade making industry Hadipolo Village students are expected to know the local culture itself that can be grown and preserved.

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