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Ethnoscience Study of the Application and Delivery Procession of *Adat Melayu Jambi* as Science Learning Resources

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Abstract

This research aims to reconstruct and analyze the concept of science in the application and delivery procession of *Adat Melayu Jambi*. This study used a qualitative approach through ethnoscience studies, a study of knowledge systems organized from existing cultures in society. The subjects of this study were customary leaders and science education experts. Data were collected through in-depth interviews, observations, and documentation. The data were analyzed descriptively by using Miles and Huberman analysis model. Test the validity of the data with triangulation. The procession of the application and customary delivery is part of the traditional procession of Jambi Malay wedding procession. The procession starts from the introduction (*berusik sirih berguraupinang*), applying (*tegak batuik duduk betanyo*), and custom delivery (*ulur antar serah terimo adat dan lembago*). In the procession of the application and the customary distribution, the groom usually takes a series of souvenirs (*Tepak Sirih/Kepalo Baso*) (containing betel, betel lime, gambier, areca nut, tobacco), rattan split ring, graduated clothes and giving "*adat*" (gold, gold scales, selarief rifles, and spears) and "*lembago*" (buffalo, 100 ropes coconut, "*selemak semanis seasam segaram*," and 100 bushels of rice). The community knowledge of the application process and customary delivery can be reconstructed into scientific knowledge related to science. Identified science concepts were quantities, units and measurements, classification of living things, elements, compounds, and mixtures.

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1. Introduction

Today, ethnoscience based learning into one research trend in several developing countries, including Indonesia. Research on ethnoscience based learning has been done in some countries with the object of local wisdom different. Implementation ethnoscience can enhance science process skills in high school biology students in Nigeria (Ibe & Nwosu, 2017). The ethnoscience approach significantly influences student achievement and interest in the State of Benue, Nigeria (Okwara & Upu, 2017). Ethnoscience based learning effectively to improve learning outcomes, the entrepreneurial character (Sudarmin et al., 2017) and the cultural awareness of students (Sudarmin et al., 2018). Science module-based ethnoscience can improve scientific literacy (Nisa et al., 2015), Chemistry learning module that oriented ethnoscience could improve the students achievement (Lia et al., 2016), critical thinking skills

(Fitriani & Setiawan, 2017), cognitive ability (Rosyidah et al., 2013), and effective to develop the spirit of conservation of students (Rahayu & Sudarmin, 2015).

The integration of local wisdom in learning can be done on some subjects, for example, science and mathematics subjects for junior level. Learning that integrates local knowledge gives the impression of more meaningful learning so that students more easily understand the material being studied. Learning local-oriented knowledge can enhance learning motivation, improve creative thinking, increase understanding of science concepts, and student learning outcomes. Novitasari et al., (2017) ethnoscience is an activity of transforming between the original science of society and scientific science. Parmin et al., (2015), the use of local wisdom in learning also ensures that science learning is not only to understand the concept but also strengthen Indonesia with a variety of cultural identities.

The integration of local knowledge in learning should consider the suitability of the material being studied. Therefore, teachers should be able to identify the potential of local knowledge in the area that can be integrated into the learning of science and mathematics. Jufrida et al., (2018) state that indigenous communities in an area that has the values of science can be used as a source of learning science in junior high school. Phiri (2008) explains the success of teachers in applying local wisdom based learning dipengaruhi by the design of the curriculum, teachers' academic background, pedagogical knowledge, and knowledge of the local culture. Based on interviews with some of the science teachers at SMP N 7 Muaro Jambi revealed that teachers are still experiencing difficulties in integrating local knowledge with learning. This is due to the lack of knowledge about the local wisdom Jambi teachers, who have the potential to be used as a learning resource. Teachers also still have difficulties in analyzing the science and math concepts contained in objects Jambi local wisdom.

Jambi is a province rich in local knowledge. One form of local wisdom, namely Jambi Malay wedding ceremonies. The traditional ceremony of Jambi wedding consists of pre-marital stage namely introduction (*berusik sirih bergurau pinang*), application (*tegak batuik duduk batanyo*) and delivery customs (*ulur antar serah terimo adat dan lembago*) and stage a wedding that the *akad nikah dan ulur antar serah terimo pengantin* (Gafar, 2012). Tools and materials on the procession customary application and delivery is a requirement that must be taken and used in traditional ceremonies. Custom application and the delivery procession is a tradition and culture that developed from the knowledge society. Public knowledge about the

procession of custom application and delivery can be reconstructed into science related to science (ethnoscience).

The purpose of this study was to determine the meaning of the procession of the application and delivery of Jambi Malay traditional and reconstruction of indigenous society in procession application and delivery into scientific knowledge. Science concepts reconstruction results can be mapped in accordance with the basic competencies contained in the national curriculum for junior high school. The results of this study are expected to bridge the difficulties of teachers in analyzing the science content contained in your application and delivery procession Jambi Malay customs. Teachers are expected to integrate and develop local knowledge-based learning so as to improve the skills, attitudes, and knowledge of the students as well as insight into the local culture.

2. Methods

This type of research was qualitative research through the study of ethnoscience (Battiste, 2005). This study was conducted to analyze the knowledge of indigenous people in the procession of application and delivery Jambi Malay customs and reconstruction that knowledge into scientific knowledge in the field of science. The reconstruction process focused on activities, tools, and materials that were taken during the procession of application and delivery Jambi Malay customs. These research subjects, including traditional leaders Jambi (3) and education experts. The criterion of this research subject is a person who understands the procession of custom application and conductivity Jambi wither and experts in the field of science. Data were collected through interviews, observation, and documentation. Data were analyzed using the descriptive analysis model of Miles and Huberman (data collection, reduction, display, and verification) (Sugiyono, 2013). The process of data analysis is done from the beginning to the end of the study. Data obtained verification and reconstruction into a science. Interpretation of the data is made through discussions with experts who are competent in ethnoscience. Test the validity of the data used are the credibility test. Credibility test data is done by means of triangulation. Triangulation of data is done through observation, interviews, and documentation on the same object.

3. Results and Discussion

3.1 Application and a delivery procession of *Adat Melayu Jambi*

Jambi community to live a public life always adhered to a philosophy of indigenous jointed *Adat Bersendi Syara', Syara' Bersedikan Kitabullah*. Deeds or work should always be given

the customary and religious rules, should not contradict with each other. One of the traditions of the people who always practice the philosophy that Jambi Malay wedding ceremonies. Series of activities carried out before the wedding the procession of custom application and delivery. Based on interviews with some of the traditional leaders (Datuk) at the Institute of Traditional Malay, Jambi City obtained information about the procession of custom application and delivery. Process custom application starts from the introduction (*berusik sirih bergurau pinang*), application (*tegak batuik duduk bertanyo*), and *ulur antar serah terimo adat dan lembago*. Community knowledge about the procession of application and delivery of customs is knowledge gained from experience sourced from traditions that have been passed down for generations.

1. Introductions (*Berusik Sirih Bergurau Pinang*)

The introductory stage of the prospective bridegroom and the bride called *berusik sirih bergurau pinang*. The introductory stage is done by the prospective bridegroom that happened to visit the female candidates. By the time came for a visit, the prospective bridegroom should not come alone but must be with a companion as well as the bride must be accompanied by *mamak* or mother. Must know him through *prantara* should not be home by home or face to face. When it comes to house women, men need to take food such as bread, tea, and so forth. The goal is to help ease the woman. After the introduction will be given a sign called *bemudon* namely gloves or long cloth.

2. Application (*Tegak Batuik Duduk Bertanyo*)

Tegak batuik duduk bertanyo means asking if the girl there who are applying or already have a bond with other men. The man was sent a messenger or *Menti* to ask the woman, and handed *bungo nan berangkai*, *buah nan betumpuk*, in the form of betel leaves to the parents of the girl. If it turns out the girl is already spoken for others or became engaged to someone else, then it should not be continued applying. When the girl no one has applied for or laying *tanyo*, then she continued on the process of applying bias. Male party elders sent a messenger to carry *sirih tanyo pinang tanyo* as a binding command. Tando in the form of betel nut, rattan bladed ring, *sepululusan* clothing, and cash is fitting. The decision about whether the application is accepted or rejected must discuss advance by the girl's parents with relatives, *tengganai*-uncle, and grandmother in the family. The next stage-uncle grandmother both sides held talks to discuss the customary level to be filled and to be poured *lumbago*, *lumbago*

pours the filling customary, the ceremony, determine the dowry, and the back and forth between the handover of the bride or the anchoring lek.

3. *Ulur antar serah terimo adat dan lembago*

Ulur antar serah terimo adat dan lembago means a series of activities to fill and pour lembago customs. The prospective groom carrying tools and materials into the terms and agreement at the time of application. *Adat dan lembago* should be brought to Jambi Malay traditional wedding procession has three levels, including the following:

a. Level I (*Lek Rajo*)

Adat:

1. Pure gold weighing 3.5 tail
2. Gold scales significantly *rajo adil rajo disembah, rajo zalim rajo sisanggah*
3. Little meaningful *kecil kawan mencari, gedang kawan menjemput*
4. Spear serlarih meaningful *titian jalan kejenang, tango jalan ke rajo*

Lembago:

1. A water buffalo, coconut 100 rope (200), selemak sweet as acidic as segaram, 100 bushels of rice.
2. Chicken seven eaglets significant tail of seven
3. betel-handled
4. Pinang bertandan
5. Cash
6. Clothes are two of the release
7. Fill the room: bed, cabinets, and dressers

b. Level II (*Lek Negeri*)

At this level it means a great party but not so much custom *adat lembago* to be completed are as follows:

Adat: Gold, gold scales, cash, clothing sepululusan

Lembago: A goat, coconut rope 10, selemak sweet as acidic as segaram (chili, salt, sugar, spices), rice 10 bushels.

c. Level III (*Lek Nenek Mamak*)


At this level quite family alone during the wedding procession ceremony to be filled is lembago only. Lembago must bring two male chicken, two bushels of rice, coconut two ropes, selemak sweet as acidic as segaram. When the man could not also meet the

customs and institutions at the third level even though it can be argued that the men have not been able to get married.

3.2 Ethnoscience analysis of application and delivery procession of *Adat Melayu Jambi*

Public knowledge about the procession of custom application and delivery can be reconstructed into science related to science (ethnoscience). The reconstruction process focused on activities, tools, and materials that were taken during the procession of application and delivery Jambi Malay customs. Based on interviews with some traditional leaders (Datuk) at the Institute of Traditional Malay, Jambi City revealed the community's original knowledge about the activities, tools, and materials contained in procession customary application and delivery. Results reconstruction genuine knowledge society of the procession customary application and delivery of scientific knowledge can be seen in Table. 1.

Table 1. Results of the reconstruction of indigenous knowledge into a scientific knowledge society

| Objects of local wisdom | Science concepts |
|---|---|
| <p><i>Tepak sirih</i> <i>Tepak sirih</i>, according to the Jambi tradition called <i>kapala basoh</i> (the beginning of negotiations). <i>Tepak sirih</i> containing betel, areca nut, lime, gambier, and tobacco. <i>Tepak sirih</i> must be taken when talking, discussing, and talk customs from both parties are coming and wait — eating betel done first before starting negotiations.</p>  <p>Picture 1. <i>Tepak sirih</i></p> | <p>Betel (<i>Piper betle L</i>), including the family Piperaceae (betel-sirihan). Betel leaves contain saponins, tannins, eugenol, and various types of essential oils. The contents in the betel leaf make the benefits to human health. Betel leaves are known to be antiseptic, anti-inflammatory, cooling the skin, anti-bacterial, anti-cavity and anti-diabetic.</p> <p>Areca nut (<i>Areca catechu L.</i>) is a plant of monocots and including Palmaceae family. The content contained in betel nuts are alkaloids, such as arecoline, guvakolin, guvasine, phenolic compounds, gallic acid, arekolidine, arekain, gum, lignin, the oil evaporates and does not evaporate, and salt. Betel nut has many benefits such as to increase appetite, treat indigestion, cope with worms, protect teeth, overcome bad breath, and others.</p> <p>Lime is sediment resulting from the process of soaking the rock has a bitter taste and distinctive bitterness. Lime containing compounds Calcium Hydroxide Ca(OH)_2. Lime has several benefits, namely as an antimicrobial agent to kill bacteria on the teeth and protects teeth from infection.</p> <p>Gambir (<i>Uncaria gambier Roxb.</i>) It is a kind of dried sap derived from extracts squeeze the leaves and twigs of plants of the same name. Gambir contains flavonoids, catechins, tanning substances, alkaloids, d-catechin, and astrigen katekumat acid. Gambir has many benefits, including reducing the secretion of a drug mixture burns, migraine headaches, diarrhea, dysentery medicine, mouthwash, mouth ulcer drug, skin pain medication, anti-allergic, anti-oxidants, hepatitis, and injury to the liver.</p> <p>Tobacco is one of the raw materials for the manufacture of cigarettes. Tobacco contains some compounds, which are carbon monoxide, nicotine, tar, hydrogen cyanide, benzene, formaldehyde, arsenic, cadmium, ammonia. Tobacco has several benefits, among which prevents cartilage, joint damage, stimulant, appetite suppressant.</p> <p>Rattan (<i>Calamus sp.</i>) is typical tropical plant that grow in wet tropical forests heterogeneous. Rattan is a plant that grows climbing</p> |

| Objects of local wisdom | Science concepts |
|---|---|
| <p>Antar Tando</p> <p>Antar tando interpreted as laying the mark application. At the time of application, the men are carrying signs such as the rattan blade ring. In ancient times the cane is a plant that many live in Jambi Province and the meaning of rattan blades circular rings symbolize the two sides are still innocent and holy. Preferred types are rattan cane sego (the smallest).</p> | <p>family Palmae (Lepidocaryodidae). Rattan has 22 types of eye Lemur (<i>Ceratolobus concolor</i> Blume), Mawang (<i>Calamus nematospadix</i> Becc.), Hotang rice (<i>Calamus javensis</i> Blume), Hotang-Hotang (<i>Daemonorops didymophylla</i> Becc.), Hotang Pahu (<i>Calamus</i> sp.), Rus-rus (<i>Korthalsia rostrata</i> Blume), Buto / Sega (<i>Calamus caesius</i> Blume), Cakre (<i>Ceratolobus subangulatus</i> (Miq.) Becc.), Marucam (<i>Daemonorops hystrix</i> (Griff.) Mart.), Ring (<i>Calamus polystachys</i> Becc.), manau cheerfully (<i>Calamus oxleyanus</i> Teijsm. & Binn. ex Miq.), Calamus (<i>Calamus holtumii</i> Furt.), black nails (<i>Calamus lorelinduensis</i> J.P. Moge & Rustiami), Stone (<i>Calamus boniensis</i> Becc. ex Heyne), Branch (<i>Korthalsia celebica</i> Becc.), Jaramasin (<i>Calamus leiocaulis</i> Becc. ex Heyne), Longipina (<i>Calamus longipinna</i> K. Schum. & Lauterb.), small Somi (<i>Calamus pachypus</i> W.J. Baker al.), Auriense (<i>Calamus aruensis</i> Becc.), Sanjat (<i>Calamus paspalanthus</i> Becc.), Paku (<i>Calamusexilis</i> Griff.), Koala (<i>Calamushumboldtianus</i> Becc.), And fiber (<i>Daemonorops</i> sabut Becc.)</p> |
| <p>Adat and Lembago (Level 1)</p> <p>The bride and groom in the delivery process must fill the <i>adat</i> and <i>lembago</i>. <i>Adat</i> was brought in the form of gold, gold scales, selarief rifles and spears. Gold brought at 3.5 tail (22-28 parts) however, this amount is adjusted again with the outcome of negotiations between the families based on economic conditions. Gold scales are an allegory. Where this scale to measure the weight of one of the bride and groom with crops. Rifles and spears menage meaningful when both parties have been provided techniques and how to make money by hunting, trade, and farming.</p> | <p>Gold is a chemical element in the periodic table that has the symbol Au (Latin Languages: Aurum) and atomic number 79, class 11 blocks -d, 6th period and included in the transition metal element with electron configuration: $[Xe]4f^{14}5d^{10}6s^1$ as per the skin is 2, 8, 18, 32, 18, 1, Gold melted into liquid form at ambient temperature 1000°C with a melting point of 1337.33 K (1064.18, 1947.52) and the boiling point of 3243 K (2970, 5378). °C°F°C°F</p> <p>Unit conversion means changing the value of a system of units to another unit values. Unit conversions do not change the value of a quantity. In Jambi gold known as tribal units and tahlil. But the national unit used is gram. 1 Unit conversion rate and equivalent to 6.7 grams and 1 tahlil equivalent to 37.7994 grams. Scales are tools used measuring the mass of an object. Gold scales included in the category of digital scales. Gold scales are the type of scales that have high akuransi to measure the mass of gold (precious metals). According KBBI rifle is a firearm. Meanwhile, according to KBBI spear is sharp weapon and pointed, double-edged, long-stemmed, to stab home from close range or far.</p> |
|  | <p>Buffalo is the mammalian animal farm animals. Taxonomy from buffalo as follows:</p> <ul style="list-style-type: none"> Kingdom: Animalia Phylum: Chordata Class: Mammalia Order: Artiodactyla Family: Bovidae Subfamily: Bovinae Genus: Bubalus Species: <i>B. bubalis</i> |
|  | <p>The buffalo has very many uses for humans is extremely tough worker, has the job of being the forklift, towing carts as well as plow the fields that are still widely used in Indonesia. Meat and milk consumption for most people, its horns be decorated home to various customary in Indonesia and other countries, and their droppings which can be dried and used as fertilizer for plants.</p> |
| <p><i>Lembago</i> brought buffalo, coconut, rice, sweet selamak seasam salt. The buffalo are the most expensive animals for slaughter at the time. Buffalo signifies the rajo Lek. Lek</p> | <p>Coconut including plant parts Aricaceae a nut-proposal. Coconut have a seed pieces, fibrous roots and classified family</p> |

| Objects of local wisdom | Science concepts |
|--|---|
| <p>rajo used when inviting 500 guests or more. So that buffalo are used. Coconut is a fruit that used to be used as an additional ingredient when cooking foods such as rendang. According to the former, as much as 100 coconut rope (200) serves to make the food taste like rendang is much more enjoyable. In addition, also to balance the amount of rice, about 100 bushels. Rice is a staple food used to entertain the public and invited guests when executing an event.</p> <p>In conducting this process, the men carrying rice 100 bushels. Gantang is a national measure when measuring rice. The unit does not equal the Kilogram bushel. Rice, about 100 bushels (200 kg) according to the preceding, is to balance the buffalo meat with rice. History People have been predicting how much rice should be taken when doing an event. Selemak uniforms are as sweet as acidic, as is seasoning, such as onion, garlic, salt, chili, pepper, lemongrass. Onions belong to the sweet selemak seasam segaram. Salt is a salty food ingredient. Chili is a plant that tastes spicy. Pepper is used as a cooking ingredient extra hot and spicy taste. Lemongrass seasoning is used as an addition to the aroma of cooking.</p> | <p>palem (palmea).</p> <p>Kingdom: Plantae Subkingdom: Spermatophyta Division: Magnoliophyta Class: Liliopsida Sub Class: Arecidae Order: arecaceae Family: Arecaceae Genus: Cocos Species: <i>Cocos nucifera L.</i></p> <p>Coconut fruit contains 30% vegetable oil. Coconut fruit has many health manffat for them to meet the body fluid intake, high blood pressure, treat and prevent gingivitis, burn belly fat, and prevent kidney stones.</p> <p>In Jambi in bringing better known as unit coconut rope. But the national unit used is the fruit. Unit conversion means changing the value of a system of units to another unit values. Unit conversions do not change the value of a quantity. Conversion unit 1 is equivalent to 2 pieces of rope.</p> <p>Rice is part of rice grains (grain) which has been separated from the chaff. Husk is anatomy called the palea and lemma. In bioloi, Baian adala rice grains consisting of aleurone. Endosperm and embryo. While rice is a plant belonging <i>Oryza</i> genius l. which includes about 25 species and is spread in the tropical and subtropics such as in Asia, Africa, America, and Australia. Taxonomy of the rice plant itself is as follows:</p> <p>Kingdom: Plantae Division: Magnoliophyta Class: Monocots Subclass: commelinids Order: Poales Family: Poaceae Genus: <i>Oryza</i> Species: <i>O. sativa</i></p> <p>According Indonesia Dictionary bushels is defined as a unit of measure or the contents of 3,125 kg dose, usually to measure or rice swine, beans, and so on. 1 bushel = 3.125 kg</p> <p>Kilogram (kg) is the unit of International Standards for the masses.</p> <p>Red onion (<i>Allium cepa L</i>) is an annual plant that forms clumps and grow upright with a height reaches 15-40cm.</p> <p>Kingdom: Plantae Subkingdom: Tracheobionta Superdivisio: Spermatophyta Division: Magnoliophyta Class: Liliopsida Sub-Class: Liliidae Order: liliales Familia: Allium Genus: Allium Species: <i>Allium cepa L. var. Aggregatum</i></p> <p>Garlic can prevent diseases related to the heart, such as high blood pressure, atherosclerosis and cholesterol.</p> |

| Objects of local wisdom | Science concepts |
|-------------------------|--|
| | <p>Classification of garlic:</p> <p>Division: Spermatofita</p> <p>Subdivisions: Angiospermae</p> <p>Class: monocotyledonous</p> <p>Order: Asparagales</p> <p>Family: Amaryllidaceae (Liliaceae)</p> <p>Subfamily: Allioideae</p> <p>Genus: Allium</p> <p>Species: <i>Allium sativum</i></p> <p>Salt or sodium chloride (NaCl) is an ionic compound consisting of positive ions and negative ions, thereby forming a neutral compound (without charged). Salts formed from the reaction of acids and bases.</p> <p>Peppers (<i>Capsicum annum L.</i>), Is a plant of the order solanales and family solanaceae. The chili is a fruit that has a spicy flavor and is so popular among the people of Southeast Asia.</p> <p>Classification of pepper plants:</p> <p>Kingdom: Plantae</p> <p>Division: Spermatofita</p> <p>Subdivisions: Angiospermae</p> <p>Class: Dikotiledon</p> <p>Order: solanales</p> <p>Family: Solanaceae</p> <p>Genus: Capsicum</p> <p>Species: <i>Capsicum sp.</i></p> <p>Pepper (<i>Piper Albi Linn</i>) is a plant that rich in content chemistry, as oil, fat, and starch, Pepper classification as follows:</p> <p>Kingdom: Plantae</p> <p>Division: Magnoliophyta</p> <p>Class: Magnoliopsida</p> <p>Order: piperales</p> <p>Family: Piperaceae</p> <p>Genus: Piper</p> <p>Species: <i>P. nigrum</i></p> <p>Serai or lemongrass (<i>Cymbopogon citratus</i>) is a plant grass tribe members were used as kitchen herbs to scent of food. Citronella Plant Classification as follows:</p> <p>Kingdom: Plantae</p> <p>Super Division: Spermatophyta</p> <p>Division: Magnoliophyta</p> <p>Class: Liliopsida</p> <p>Order: Poales</p> <p>Family: Poaceae</p> <p>Genus: Cymbopogon</p> <p>Species: <i>Cymbopogon citratus</i></p> |

Table 1. it was found three objects of local wisdom that can be explained by scientific knowledge. The results of the analysis of scientific concepts contained in the application and conducting customary procession wither jambi basic competence to do the mapping. Basic

competency mapping and scientific content on the procession customary application and wither jambi conductivity are shown in Table 2.

Table 2. Basic Competency Mapping and Science Content

| Basic competence | Matter | Objects of local wisdom |
|--|--|--|
| 3.1 Applying the concept of measurement of various magnitudes using standard units (default). | Applying the concept of measurement of various magnitudes using standard and non-standard units relating to equipment and materials brought in procession application and conductivity Jambi Malay customs. | Malay custom conduction Jambi At the time of conduction usually carry betel slap containing betel, areca nut, lime, gambier, and tobacco. Eating betel done first before starting negotiations. The custom was brought in the form of gold, gold scales, selarih rifles and spears. |
| 3.2 Classifying living things and objects based on the observed characteristics. | Classification of plants animals, and objects in the environment that is used in the application and conductivity procession Jambi Malay customs. | Lembago brought buffalo, coconut rope 100, 100 bushels of rice, sweet selemak sesam salt. |
| 3.3 Explain the concept of mix and single substances (elements and compounds), physical and chemical properties, physical and chemical changes in everyday life. | Explaining the concept of the mix, the physical and chemical properties on the activity of eating betel nut when the procession of application and conductivity Jambi Malay customs. Explaining the characteristics of the substance (gold) used to charge customs and lembago. | |

Public knowledge about the procession of custom application and conductivity can be reconstructed into a science that deals with science. Science concepts were identified that magnitude, units and measurement, classification of living things, elements, compounds and mixtures. The results of reconstruction of public knowledge about the procession of custom application and conductivity can be integrated Jambi wither science lessons. The results are consistent with research conducted Jufrida et al., (2018) that the traditional fishing gear (tangkul fish) can be utilized as a source of learning science, namely by making tangkul fish as a context to explore the science content. Students can learn about the concept of a simple plane through direct experience; the best applications are simple in tangkul fish. Basuki et al., (2019) explain that local knowledge Senamat Desa Ulu as independent village electricity can be integrated into the learning of science in materials environmental conservation, environmentally friendly technologies, changes in energy, and electric energy sources. Sumarni et al., (2017) explain proses palm sugar production, which is a legacy of knowledge

ancestors, there are many science communities that can be reconstructed into a science that can be a source of science learning for students. Found there is 16 original science that can be explained by scientific knowledge, which is divided into 48 concepts of science. Sudarmin et al., (2018) conducted an analysis of nginang cultural science in the context of an integrated STEM with ethnoscience. Culture nginang able to strengthen teeth because the betel contains phenyl propanoid volatile oil and tannin. Mixing betel leaf with some chemicals containing chemical concepts mixture, acid-base reactions, and changes in substance. Nuroso and Sudarmin et al., (2018) identifying the original science in the process of making bricks through studies Penggaron ethnoscience village, Semarang, and in the village Welahan, Jepara. The results showed that the original science in the process of making the bricks that cover the materials composing, printing, drying, burning, and brick quality testing. The process of making bricks can be integrated into the Environmental Physics.

4. Conclusions

The custom procession and delivery procession is part of a series of traditional Malay marriage process. The procession starts from the introduction (*berusik sirih bergurau pinang*), applying (*tegak batuik duduk betanyo*), and *ulur antar serah terimo adat dan lembago*. In this customary procession, the bridegroom usually carries a siri / kepalo baso (containing betel, betel, gambier, areca nut, tobacco), rattan bladed rings, graduation clothes and surrenders the adat (gold, gold scales, selilh, and spears) and lembago (kerbau, kelapa 100 rope, selemak sweet as acidic as segaram, and rice 100 bushels). Procession application and carrying this custom is a tradition and culture that developed from the knowledge society. Tools and materials are brought in procession application, and conductivity of the custom has its own meaning and art with symbols of life. Public knowledge about the procession of custom applications and delivery can be reconstructed into scientific knowledge related to science. The identified scientific concepts are quantity, unit and measurement, classification of living things, elements, compounds, and mixtures. The results of the reconstruction of public knowledge about the procession of Malay custom application and conductivity can Jambi integrated by science learning. The next researcher is expected to be able to conduct research on the development of teaching materials and learning media based on the local wisdom of the application procession and the traditional delivery of Malay Jambi.

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