

Analysis of potential biology learning resources based on the result of ethnobotanic research on wedding processions in Magelang district

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Article information	ABSTRAK
Article history Received May 23, 2021 Revised June 23, 2022 Accepted June 23, 2023	Penelitian ini mengenai etnobotani pernikahan masyarakat Kabupaten Magelang untuk mengetahui prosesi pernikahan dan pemanfaatan tumbuhan serta maknanya, corak tradisi pernikahan dan menganalisis potensi sumber belajar biologi berdasarkan hasil penelitian. Penelitian ini merupakan penelitian kualitatif dengan lima narasumber sebagai subjek penelitian. Objek penelitian ini adalah tumbuhan yang digunakan dalam prosesi pernikahan. Teknik pengumpulan data yang digunakan adalah wawancara, observasi dan dokumentasi dengan menggunakan instrumen pedoman wawancara dan observasi. Teknik analisis data yang digunakan adalah analisis data deskriptif dan analisis potensi sumber belajar biologi. Hasil penelitian menunjukkan terdapat 20 prosesi adat pernikahan Kabupaten Magelang meskipun tidak semua masyarakat menggunakan 20 prosesi tersebut dengan alasan finansial dan kepraktisan. Terdapat 25 tumbuhan <i>Spermatophyta</i> , semuanya termasuk dalam <i>Angiospermae</i> . Bagian tumbuhan yang digunakan dalam prosesi pernikahan berupa 13 daun, 6 batang, 4 biji, 6 bunga, 3 buah, dan 1 tunas dengan suku terbanyak adalah <i>Fabaceae</i> yaitu, 6 tumbuhan. Corak tradisi pernikahan di Kabupaten Magelang lebih mirip dengan prosesi yang ada di Surakarta dengan 17 prosesi yang sama. Makna dari semua tumbuhan yang digunakan adalah pengharapan agar acara pernikahan berjalan lancar. Analisis hasil penelitian menunjukkan bahwa penelitian ini berpotensi menjadi sumber belajar biologi, tetapi tidak dapat dikaitkan dengan materi <i>Plantae</i> pada KD 3.8 dan lebih cocok dijadikan sebagai materi pengayaan.
Kata kunci Etnobotani Magelang Sumber belajar	
	ABSTRACT
Keywords Ethnobotany Learning resources Magelang	Analysis of Potential Biology Learning Resources Based on The Result of Ethnobotanic Research on Wedding Processions in Magelang district. This research is about the ethnobotany of weddings in the Magelang Regency community to find out the wedding procession and the use of plants and their meaning, the style of wedding traditions and to analyze the potential of biological learning resources based on research results. This research is qualitative research with 5 sources as research subjects. The object of this research is plants used in wedding processions. The data collection techniques used were interviews, observation and documentation using interview and observation guide instruments. The data analysis technique used is descriptive data analysis and analysis of potential biology learning

resources. The results of the research show that there are 20 traditional wedding processions in Magelang Regency, although not all people use the 20 processions for financial and practical reasons. There are 25 *Spermatophyta* plants, all of which are included in *Angiospermae*. The parts of the plants used in the wedding procession are 13 leaves, 6 stems, 4 seeds, 6 flowers, 3 fruits, and 1 shoot with the largest tribe being *Fabaceae*, namely, 6 plants. The pattern of wedding traditions in Magelang Regency is more similar to the procession in Surakarta with 17 similar processions. The meaning of all the plants used is the hope that the wedding will run smoothly. Analysis of the research results shows that this research has the potential to be a source of learning biology, but cannot be associated with the *Plantae* material in Kd 3.8 and is more suitable as enrichment material.

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INTRODUCTION

Ethnobotany is a science that can be used as a tool to document the knowledge of traditional communities or ordinary people who have used various kinds of plant services to support their lives (Suryadarma, 2008). Ethnobotany is a science that studies the traditional use of plants by people in their lives. The traditional use of plants by the community can vary, from food needs to traditional rituals and traditions carried out from generation to generation. One of the traditional uses of plants by society is in wedding traditions. This use includes the use of plant parts that have certain meanings and expectations in accordance with inherited traditions.

Nowadays, the traditions of ancestral weddings are gradually being abandoned. Several stages of marriage have begun to be eliminated so that the current generation is less aware of the wedding procession according to traditional rules or inherited from their ancestors. Even though in some areas they still maintain it, the enthusiasm of the younger generation to preserve all stages of marriage which have become traditions is decreasing. This causes the local community's local knowledge about wedding traditions and the meaning of plant use to be difficult to explore (Supriyati et al., 2017). This tradition is starting to be abandoned due to the culture of practicality, modernization, globalization, and various other factors. To preserve local wisdom in the form of traditions and community knowledge, ethnobotanical research is important as a conservation effort to preserve community traditions and knowledge regarding the use and meaning of plants at weddings.

Ethnobotanical studies originate from local potential in the surrounding area. The results of ethnobotanical research on Javanese marriages in Magelang Regency can be developed as research that has the potential to become a source of biological learning. This is supported by the fact that the majority of schools have not utilized the natural environment as a learning resource in their respective regions. The use of locally based learning materials and media is still limited to the school environment and has not utilized local potential. Most students consider it necessary to integrate local potential and wisdom in biology learning (Jayanti et al., 2017). Biology learning should emphasize interaction between students and learning objects directly.

Using learning resources based on local potential is rarely done because of educators' considerations such as the difficulty of organizing students when learning in the field, limited time, the abilities of educators and community assumptions, especially regarding cooperation and the community's caring attitude towards learning, which views learning as taking place at school (Faridah et al., 2017). Ethnobotany research on plants used in wedding traditions in Magelang Regency needs to be seen as part of the integration of local values and potentials in biology

learning. Therefore, the focus of this study is to analyze the process and results of the study in accordance with basic competency number 3.8 in the biology curriculum for high school (KD 3.8), namely the relationship between the role of plants in wedding traditions in Magelang Regency and *plantae* material.

METHOD

This research is qualitative research. The subjects of this research were 5 sources with two sources being make-up artists, one source being a wedding consultant, another source being a make-up artist and the final source being a participant in wedding traditions in Magelang Regency. Source persons were selected based on work qualifications in the field of marriage, age of the source and length of work in the field of marriage. Other sources chosen were the perpetrators of wedding traditions who were local people living in Magelang Regency. The object of this research is the plants used in wedding processions. The data collection techniques used were interviews, observation and documentation using interview and observation guide instruments. Interviews were conducted in Magelang Regency on 19-24 August. Observations were carried out in Magelang Regency on three weddings in Grabag Village and Dukun Village, 23 August-2 October 2020. The data analysis technique used was descriptive data analysis by reducing, presenting and verifying the data. Analysis of the potential of biology learning resources is adjusted to the terms and criteria of learning resources put forward by Djohar (Suhardi, 2012) including, clarity of potential, availability of objects and problems raised, suitability to learning objectives, clarity of material targets and their use, clarity of information captured, clarity exploration guidelines and clarity of the gains to be achieved.

RESULTS AND DISCUSSION

Based on research results, there are 20 series of wedding processions in Magelang Regency. The series of processions consist of *nontoni*, *ngelamar*, *peningsetan*, *pasang tarub*, *siraman*, *ngerik rikma*, *adhol dawet*, *midodareni*, *nyantri*, *akad*, *panggih*, *balangan suruh*, *wiji dadi*, *sindur binayung*, *nimbang*, *nandur*, *kakar-kucur*, *dahar klimah*, *mapak besan* and *sungkeman*. Not all residents of Magelang Regency use the full 20 processions, due to practical and financial reasons.

This matter is because most of the people of Magelang Regency still rely on their income from the agricultural land and fields they own. Especially for those who live in highland areas. Others rely on their income from providing services, processing industries such as selling food, clothes, etc. The rest work in industrial areas such as factories, shops or local companies. This is based on 2016 Central Bureau of Statistics (BPS) data, land use allocation in Magelang Regency includes 86,405 ha of agricultural land and 22,168 ha of non-agricultural land (Regent Regulation Number 18 of 2017 concerning the 2018, 2017 Magelang Regency Regional Plan).

Processions that use plants consist of *peningsetan*, *pasang tarub*, *siraman*, *midodareni*, *panggih*, *balangan suruh*, *wiji dadi* and *kacar-kucur*. The plants used in the 20 processions are presented in the Table 1.

Table 1. Plant that use in wedding procession

No	Nama		Suku	Pemanfaatan	
	Lokal	Ilmiah		Organ	Ritual
1	Ringin	<i>Ficus benjamina</i> L.	Moraceae	Leaves, stem	Tuwuhan
2	Opo-opo	<i>Flemingia lineata</i> (L.) Roxb. ex W.T.Aiton	Fabaceae	Leaves	Tuwuhan dan siraman
3	Alang-alang	<i>Imperata cylindrica</i> (L.) P.Beauv.	Poaceae	Leaves	Tuwuhan dan siraman
4	Kenongo	<i>Cananga odorata</i> (Lam.) Hook.f. & Thomson	Annonaceae	Flowers	Siraman, ngerik rikma, midodareni wiji dadi dan bucalan
5	Mawar	<i>Rosa</i> sp.	Rosaceae	Flowers	Siraman, ngerik rikma, midodareni wiji dadi dan bucalan
6	Kantil	<i>Magnolia champaca</i> (L.) Baill. ex Pierre	Magnoliaceae	Flowers	Siraman, ngerik rikma, midodareni wiji dadi dan bucalan
7	Kluwih	<i>Artocarpus camansi</i> Blanco	Moraceae	Leaves	Tuwuhan dan Siraman
8	Melati	<i>Jasminum sambac</i> (L.) Aiton	Oleaceae	Flowers	Siraman, ngerik rikma, midodareni wiji dadi dan bucalan
9	Kelopo gading	<i>Cocos nucifera</i> L.	Arecaeae	Stem, Fruits, buds	Pasang tarub, tuwuhan, siraman dan midodareni
10	Gedang rojo	<i>Musa paradisiaca</i> L.	Musaceae	Fruits, stem, buds	Tuwuhan, siraman, ngerik rikma dan midodareni
11	Dadap serep	<i>Erythrina variegata</i> L.	Fabaceae	Leaves	Tuwuhan dan siraman
12	Tebu wulung	<i>Saccharum officinarum</i> L.	Poaceae	Stem	Peningsetan dan pasang tarub
13	Pandan	<i>Pandanus amaryllifolius</i> Roxb. ex Lindl.	Pandanaceae	Leaves	Siraman
14	Jambe	<i>Areca catechu</i> L.	Arecaeae	Flowers	Midodareni
15	Suruh	<i>Piper betle</i> L.	Piperaceae	Leaves	Peningsetan, ngerik rikma dan balangan suruh
16	Pari	<i>Oryza sativa</i> L.	Poaceae	Fruits, leaves, Stem	Peningsetan, tuwuhan dan kacar-kucur
17	Jagung	<i>Zea mays</i> L.	Poaceae	Seeds	Kacar-kucur
18	Kacang ijo	<i>Vigna radiata</i> L.	Fabaceae	Seeds	Kacar-kucur

19	<i>Kedele ireng</i>	<i>Glycine max</i> (L.) Merr.	<i>Fabaceae</i>	<i>Seeds</i>	<i>Kacar-kucur</i>
20	<i>Kacang tanah</i>	<i>Arachis hypogea</i> L.	<i>Fabaceae</i>	<i>Seeds</i>	<i>Kacar-kucur</i>
21	<i>Mojo</i>	<i>Aegle marmelos</i> (L.) Corrêa	<i>Rutaceae</i>	<i>Leaves</i>	<i>Tuwuhan</i>
22	<i>Koro</i>	<i>Phaseolus lunatus</i> L.	<i>Fabaceae</i>	<i>Leaves</i>	<i>Tuwuhan</i>
23	<i>Kapas</i>	<i>Gossypium hirsutum</i> L.	<i>Malvaceae</i>	<i>Flowers, Stem</i>	<i>Tuwuhan</i>
24	<i>Puring</i>	<i>Codiaeum variegatum</i> (L.) Rumph. ex A.Juss.	<i>Euphorbiaceae</i>	<i>Leaves</i>	<i>Tuwuhan</i>
25	<i>Pring ireng</i>	<i>Gigantochloa atroviolacea</i> Widjaja	<i>Poaceae</i>	<i>Stem</i>	<i>Pasang tarub</i>

From the Table 1, it can be seen that there are 25 types of *Spermatophyta* plants and all of them are *Angiosperms* with the most use of plants coming from the *Fabaceae* tribe, namely 6 plants. The plant parts used are 13 leaves, 6 stems, 4 seeds, 6 flowers, 3 fruits and 1 shoot which are used in the wedding procession. Some of these processions are:

a. *Nontoni*

Nontoni is a procession that aims to find out whether the daughter is still *legan* (single) or has made her own choice (Rohman, 2015). *Nontoni* in Magelang Regency is carried out by sending representatives to ask the selected girl whether she is still single or has a potential husband. Apart from that, he also asked about his willingness to be proposed to be his wife. If they are willing, they will continue with making an official application and setting up. In Surakarta tradition, the family will not answer immediately but will first ask the daughter and ask for around 5 days to provide an answer (Rohman, 2015). Slightly different from Yogyakarta tradition, before *nontoni*, the man's family will do *dom malanguping banyu* which is a secret investigation regarding the woman and her family who will become her in-laws (Rohman, 2015).

b. *Peningsetan*

Peningsetan is a procession of handing over objects or binding objects which symbolizes that the girl child has been tied up and proposed to by a man so that the girl child is no longer allowed to accept proposals from other men. Rusdiana (2020), explained that *peningsetan* is an event that aims to bind a girl by giving her things and determining the wedding date. The plants brought in Magelang Regency traditions are agricultural products (harvested in the local area) or fruit and staple foods obtained in the surrounding area which are a symbol of good fortune, betel leaves (*Piper betle* L.) and *wulung* sugar cane (*Saccharum officinarum* L.). The traditional of Surakarta, the plants that brought were betel leaves which symbolize determination and *wulung* sugar cane which symbolizes determination (Hamidin, 2012). In accordance with Yogyakarta tradition, the use of a single coconut plant is carried by oneself (Rohman, 2015).

c. *Pasang Tarub*

Tarub is a tradition of making *bleketepe* or woven coconut leaves to be used as a roof or shade when a bridal reception is held (Hamidin, 2012). *Pasang tarub* is a procession for placing woven coconut leaves on top of the decorations, in front of the main door where the wedding will be held. The woven coconut leaf is also called *bleketepe*. The woven coconut leaf consists of coconut leaves (*Cocos nucifera* L.) linked with *wulung* bamboo (*Gigantochloa atroviolacea* Widjaja). Simultaneously with the *tarub* installation, the *tuwuhan* will also be installed which is located under the *bleketepe* that has been arranged. The *tuwuhan* is prepared from bananas plants (*Musa paradisiaca* L.), ivory *cengkir* (*Cocos nucifera* L.), *wulung* sugar cane (*Saccharum officinarum* L.), *kluwih/kluweh* leaves (*Artocarpus camansi* Blanco), *banyan* leaves and twigs (*Ficus benjamina* L.), cotton flowers (*Gossypium hirsutum* L.), rice (*Oryza sativa* L.), *croton* leaves (*Codiaeum variegatum* (L.) Rumph. ex A.Juss.), *dadhap srep/dadap serep* leaves (*Erythrina variegata* L.), *maja/mojo* leaves (*Aegle marmelos* (L.) Corrêa), *kara/koro* leaves

(*Phaseolus lunatus* L.) equipped with leaves of thatch/*alang-alang* (*Imperata cylindrica* (L.) P. Beauv.) and *apa-apa/opo-opo* leaves (*Flemingia lineata* (L.) Roxb. ex W.T. Aiton). Yogyakarta and Surakarta traditions have slight differences in the use of plants for *tuwuhan*.

d. *Siraman*

Siraman means bathing which aims to cleanse the prospective bride and groom physically and mentally. The water used in *siraman* is special water that comes from seven springs (Negoro, 2001). *Siraman* is a bathing procession so that the bridal couple is clean in body and soul. The things that need to be prepared for the *siraman* are a barrel, a ladle and in the water there are 2 ivory *cengkir* (*Cocos nucifera* L.) tied together, which means steadiness of intention and determination and a *telon* flower consisting of roses (*Rosa sp.*), Jasmine (*Jasminum sambac* (L.) Aiton) and Kenanga (*Cananga odorata* (Lam.) Hook.f. & Thomson). roses have meaning and a symbol of courage, jasmine is a symbol of purity and ylang-ylang represents a symbol of good memories. If there is no ylang-ylang, the *Magnolia champaca* (L.) Baill. ex Pierre) is a symbol of closeness.

Other things which needed for the shower are small chairs, jugs and mats made from pandan leaves (*Pandanus amaryllifolius* Roxb. ex Lindl.) so that the bride and groom's body smells good. Mats can also be made from several other leaves, namely *maja/mojo* leaves (*Aegle marmelos* (L.) Corrêa), *kara/koro* leaves (*Phaseolus lunatus* L.), thatch/*alang-alang* leaves (*Imperata cylindrica* (L.) P. Beauv.) as well as *apa-apa/opo-opo* leaves (*Flemingia lineata* (L.) Roxb. ex W.T. Aiton) which has the Javanese philosophy "*ojo ono perkoro utowo alangan opo-opo*" which in Indonesian means "do not get into any obstacles or problems so that the wedding can run smoothly". The total number of *siraman* is generally done seven times which symbolizes *pitulungan* which means help when you have problems in the household. The bride's parents do the last two flushes and the bride's mother will rinse her child with water from a jug. The jug will be broken as a sign of breaking his son's prestige.

The Surakarta traditional *siraman* number of *siramans* in the *siraman* procession is nine times which is a symbol of *wali sanga* (nine saints) and *babangan sanga* (nine passions that must be restrained). Yogyakarta's traditional *siraman*, the number of *siraman* in this procession is seven times, which is a symbol of *pitulungan* (help) (Rohman, 2015). After the sprinkling, the *krik rikma* and *adhol dawet* procession takes place.

e. *Midodareni*

Midodareni comes from the Javanese word *widodari*, which means angel. On *midodareni* night, the bride-to-be will be dressed like a goddess or angel and will be visited by goddesses from heaven (Kussunartini & Prayekti, 2010). This procession is a procession where the bride will be in her room from after sunset until midnight to wait for an angel to descend from the sky who will give her blessing to the wedding which will be held the next day. Simultaneously with the *midodareni* procession, there will be a redemption of *kembar mayang* made from coconut leaves (*Cocos nucifera* L.) which are shaped in such a way as to form a keris, grasshopper and various other shapes which are then decorated in the form of several leaves, areca nut flowers (*Areca catechu* L.). *Kembar mayang* who have been redeemed will be placed on the right and left of the aisle chairs. The *Kembar mayang* will also be accompanied by a pair of budding ivory *cengkir* (*Cocos nucifera* L.) which symbolize the strength of determination to form a new family. Surakarta traditional *Midodareni*, the prospective groom will also carry out *jonggolan* which is a procession where the prospective groom meets the prospective bride's family to listen to advice from the prospective bride's family and show his readiness for the wedding event which will be held tomorrow morning (Rohman, 2015). Yogyakarta's traditional *midodareni* is held when the bride-to-be stays in the room all night, there is no procession of *nebus kembar mayang*. The prospective groom will carry out the *nyantri* procession, which is a grooming procession for the groom's relatives before the wedding day (Rohman, 2015). Each stage in the *midodareni* has its own meaning related to blessings, prosperity, and family harmony (Nurlaili et al., 2024).

f. *Akad and Panggih*

Akad/ijab kabul is the legal and religious legalization procession of the bride and groom's marriage to become husband and wife. *Akad/ijab* is a strong and firm bond in human life and existence, not only between husband and wife and their descendants, but also between two families (Mardiantari *et al.*, 2022). The marriage contract is carried out in the presence of a guardian, witnesses and religious leaders (Pratiwi and Yarham, 2023). *Panggih* is the procession of meeting the bride and groom after officially becoming husband and wife. The traditional *panggih* procession in Magelang Regency consists of the *balangan gantal/suruh*, *wiji dadi*, *sindur binayung*, *pangkon/nimbang*, *nandur*, *Kacar-kucur*, *dahar klimah*, *mapak besan*, and *sungkeman* processions. In Surakarta tradition, *panggih* is preceded by the *liru kembar mayang* ceremony which is carried out by the twin knights and two *domas* princesses who exchange the *kembar mayang* they bring. After that, a *panggih* procession is held which consists of *balangan suruh*, *wiji dadi*, *pupuk*, *sindur binayung*, *pangkon*, *nandur*, *tukar kalpika*, *kacar-kucur*, *dahar kembul/dahar klimah*, *rujak degan*, *bubak kawah*, *tumpak punjen*, *mertui* and *sungkeman* (Rohman, 2015). In Yogyakarta tradition, *panggih* consists of a procession of *balangan suruh/gantal*, *wiji dadi*, *dahar klimah* and *sungkeman*. However, before the *pangih* ceremony, what is slightly different is that the palace holds a crazy dance procession which has the meaning of expelling all the wandering spirits that disturb the progress of the *panggih* procession (Rohman, 2015).

g. *Balangan Suruh*

Balangan suruh is a procession in which the bridal couple will stand facing each other at a distance of ± 2 meters in front of the wedding chairs and throw rolls of betel leaves (*Piper betle* L.) tied to each other using white thread. Couples will compete to throw rolls of betel leaves (*Piper betle* L.) meaning couples will compete to throw affection at each other. The *balangan suruh* ceremony is a betel leaf filled with soft chalk (Java *injet*) and *jambe* tied together with white thread (Bratawijaya, 2006). *Balang suruh* in Surakarta tradition is a procession of the bride and groom throwing packages containing betel leaves tied with white thread to each other, indicates the person chosen according to sincere intentions (Aziz & Khoiri, 2021). This throw is done once (Hamidin, 2012). In Yogyakarta tradition, *balang* order is carried out 4 times by the groom with 4 rolls of betel. The bride throws 3 rolls of betel 3 times (Rohman, 2015).

h. *Wiji dadi*

Wiji dadi is a procession of stepping on eggs by the groom. *Wiji dadi* symbolizes that the groom is ready to become the head of the family and is responsible for his wife and children (Jatinurcahyo and Yulianto, 2022). The plants used in this procession are "telon flowers" (three flowers) consisting of roses (*Rosa sp.*), jasmine (*Jasminum sambac* (L.) Aiton) and *ylang-ylang* flowers (*Cananga odorata* (Lam.) Hook.f. & Thomson). Roses have the meaning and symbol of courage, jasmine has a symbol of purity and *ylang-ylang* represents a symbol of good memories. If there is no *ylang-ylang*, it can use the magnolia flower (*Magnolia champaca* (L.) Baill. ex Pierre) is a symbol of closeness. This flower will be placed in a cup with the water used to wash the groom's feet. The *wiji dadi* ceremony is a request to God for the bridal couple to have children. The groom steps on the free-range chicken eggs provided by the bride until they break (Bratawijaya, 2006).

i. *Kacar kucur*

The *kacar-kucur (tampa kaya)* procession is pouring ingredients or goods from the groom's cloth bag to the bride. The bride receives the groom's gifts using a *sindur* cloth placed on her lap (Rohman, 2015). The groom will stand and pour out grains wrapped in cloth consisting of rice (*Oryza sativa* L.), peanuts (*Arachis hypogaea* L.), black soybeans (*Glycine max* (L.) Merr.), then green beans (*Vigna radiata* L.), and several corn seeds (*Zea mays* L.) as well as several coins which were previously placed in a cloth/pouch. The *kacar-kucur* ceremony

symbolizes providing support from the husband. This procession also contains the meaning that the husband is able to fulfill the needs of the household (Akhsan *et al.*, 2022). The results of work can be in the form of agricultural products or money. Handing over "*tampa kaya*" from a red velvet bag in the form of farm products and money (Bratawijaya, 2006). In Surakarta tradition, the husband carries out the *kacar-kucur* by giving grains which are a symbol of the husband's livelihood to his wife (Hamidin, 2012).

Based on the procession that has been described, it can be seen that the use of plants in the wedding procession is a hope that the wedding event can run smoothly. There are 17 similar processions between the Magelang and Surakarta Regencies. The procession consists of the procession of *nontoni*, *pasang tarub*, *gendongan*, breaking jugs during *siraman*, *ngerik rikma*, *adol dawet*, *midodareni*, *nebus kembar mayang*, *pasrahan*, *wiji dadi*, *sindur binayung*, *timbang*, *nandur*, *kacar-kucur*, *dahar klimah*, *mapak besan* and *sungkeman*. There are nine similar processions between Magelang and Yogyakarta Regencies which consist of the *ngelamar* procession, *pasang tarub*, the number of *siraman* in the *siraman* procession, *ngerik rikma*, *midodareni*, *balangan gantal*, *wiji dadi*, *mapak besan* and *sungkeman*. Based on this, it can be concluded that Magelang Regency in its wedding processions is influenced by the traditions of Yogyakarta and Surakarta with cultural patterns that tend to follow Surakarta culture. This is reinforced by the statement that after the split, Magelang was the area of the great state of one of the heirs of the Islamic Mataram Kingdom, namely the Kasunanan Palace of Surakarta (Surono, 2000).

The results of research that has been carried out regarding ethnobotanical studies on marriage in Magelang Regency, will be analyzed to determine its potential use as a biology learning resource for class X high school students on *Plantae* material, by analyzing the research in accordance with the learning resource requirements. The conditions for research results to be used as a learning resource according to Djohar (Suhardi, 2012) are:

a. Clarity of Potential, Availability of Objects and Issues Raised

The clarity of potential is largely determined by the availability of the object being raised. In this research, the objects raised are plants used in wedding traditions in Magelang Regency and their meaning in the procession. The problem raised to explain the clarity of its potential as a learning resource is the limited use of materials and media with local potential in biology learning.

b. Conformity to Learning Objectives

The facts obtained are that there are 25 types of *Spermatophyta* plants, all of which include *Angiospermae* plants with the most plants used coming from the *Fabaceae* tribe, namely 6 plants. The plant parts used are 13 leaves, 6 stems, 4 seeds, 6 flowers, 3 fruits and 1 shoot which are used by the people of Magelang Regency to carry out weddings. Based on these results, the learning objective that can be achieved is only in the material "Relating the Role of *Spermatophytes* in Life" with the sub-material "The Role of *Angiosperms*".

c. Clarity of Material and Its Purpose

Based on the research results, the clarity of the material target that can be achieved is "Relating the Role of *Spermatophytes* in Life" especially in the sub-material "The Role of *Angiosperms*". The target audience is Class X SMA students.

d. Clarity of Information Disclosed

Clarity of information from research results is a research product in the form of scientific facts and concepts. The fact from the results of this research is that there are 25 types of *Spermatophyta* plants, all of which are closed seed plants (*Angiospermae*). Most plants used come from the *Fabaceae* tribe, namely 6 plants. The plant parts used are 13 leaves, 6 stems, 4 seeds, 6 flowers, 3 fruits and 1 shoot which are used by the people of Magelang Regency to carry out weddings. The concept from the results of this research is the role of *Spermatophyta* plants, especially the role of *Angiosperms* which are used along with the meanings and symbols that represent each procession at the Magelang Regency wedding.

e. Exploration Clarity

The research results obtained were based on work procedures and exploration guidelines that were coherent and clear. The work procedure starts from selecting the place and time of research, selecting research subjects and objects, determining data collection techniques and instruments, determining validity, data analysis and drawing conclusions. The results of this research will be analyzed for its potential to support the achievement of learning objectives in KD. 3.8 "Applying Classification Principles to Classify Plants into Phyla Based on Observations and Plant Metagenesis and Relating Their Role in the Sustainability of Life on Earth to *Plantae* Material". However, based on the research results, the only material that can be achieved is "Relating the Role of *Spermatophytes* in Life" with the sub-material "The Role of *Angiosperms*".

f. Clarity of the gains achieved

The clarity of the expected gain is the achievement of learning objectives in accordance with KD 3.8 which improves cognitive, affective and psychomotor aspects. However, based on the data obtained, the results of this research did not improve the cognitive, affective and psychomotor aspects of students because the material achieved was not in accordance with KD 3.8. The only material covered is the sub-material "The Role of *Angiosperms*".

Plantae material for class 10 and the role of plants in everyday life (Rumiyati et al., 2016). Based on the research results, all the plants resulting from ethnobotanical research on wedding traditions in Magelang Regency are *Spermatophyta* plants and all of them are *Angiospermae* plants, so the scope of the material achieved is only "Relating the Role of *Spermatophytes* in Life" with the sub-material "The Role of *Angiosperms*". This fact shows that the scope of the material achieved is very limited and is not in accordance with KD 3.8 "Applying Classification Principles to Classify Plants into *Phyla* Based on Observation and Plant Metagenesis and Relating Their Role in the Sustainability of Life on Earth to *Plantae* Material".

This research would be more suitable to be used as a medium to expand and deepen *Plantae* material as enrichment material for students who have exceeded the assessment standards in *Plantae* material. This research would be more suitable to be used as a medium to expand and deepen *Plantae* material as enrichment material for students who have exceeded the assessment standards in *Plantae* material. Enrichment activities are a form of service to students who learn very quickly. They need planned additional assignments to increase and expand the knowledge and skills that students already have in previous learning activities (Prayitno, 2008).

CONCLUSION

Based on the analysis of research results, the traditions of wedding processions in Magelang Regency are influenced by the customs and traditions of Surakarta and Yogyakarta style weddings. With a cultural style that tends to follow Surakarta culture. This is because there are 17 wedding processions that are the same in the traditions of Magelang and Surakarta Regencies, as well as 9 processions that are the same in the wedding traditions of Yogyakarta and Magelang Regency. There are 20 series of wedding processions in Magelang Regency. However, not all Magelang Regency residents use the entire procession for reasons of practicality and financial problems. The plants used are 25 types of *Spermatophyta* plants and all of them are *Angiosperms* with the most plants used coming from the *Fabaceae* tribe, namely 6 plants. The plant parts used are 13 leaves, 6 stems, 4 seeds, 6 flowers, 3 fruits and 1 shoot which are used by the people of Magelang Regency to carry out weddings. The meaning of all the plants used is the hope that the wedding event can run smoothly without any obstacles. Based on the research results, research has the potential to be a source of learning but cannot be linked to the *Plantae* material in KD. 3.8 and is more suitable as enrichment material.

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