AUGUST 18, 2021 MALANG INDONESIA





# PROCEEDING BOOK

International Conference on Education, Teacher Training, and Professional Development

"Global Inspiration of Teacher Professional Development"



# PROCEEDING OF International Conference on Education, Teacher Training, and Professional Development

"Global Inspiration of Teacher Professional Development"

Malang, 18 August 2021





Penerbit Universitas Muhammadiyah Malang

# Proceeding of International Conference on Education, Teacher Training, and Professional Development

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Cetakan Pertama, Desember 2021

ISBN 978-979-796-665-2 e-ISBN 978-979-796-666-9

x; 140 hlm.; 21 x 29,7 cm

Setting Layout : Ahmad Fauzi Design Cover : Rizal Dian Azmi Online Version : Husamah Editor : Ahmad Fauzi, Siti Khoiruli Ummah, M. Wahyu Kurniawan, Eggy Fajar Andalas, Dwi Setyawan, Alimin Adi Waloyo, Husamah

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## Welcoming Speech of Dean Faculty of Teacher Training and Education International Conference on Education, Teacher Training, and Professional Development (ICE-TPD) Wednesday, August 18, 2021 at 09:00 A.M. Aula of GKB III

#### The Honorable:

Our Keynote Speakers: Prof. Dr. Muchlas Samani, M.Pd. (Chairman of the National Committee for Competence Test of Teacher Profession Education, Republic of Indonesia) Associate Professor Tony Loughland (University of New South Wales, Australia) Dr. Norhaida Aman (National Institute of Education, Singapore) Prof. Dr. Ana Belen Mansilla Perez (Universidade de Murcia, Spain) Rector of University of Muhammadiyah Malang Vice Rectors of University of Muhammadiyah Malang Vice Deans of Faculty of Teacher Training and Education University of Muhammadiyah Malang Heads of Department Guest Speakers International and domestic participants and all audiences

#### Assalamu'alaikum Wr. Wb.

All praise be upon Allah, for the endless blessing and guidance, Faculty of Teacher Training and Education, University of Muhammadiyah Malang (FTTE, UMM), today, could organize an **International Conference on Education**, **Teacher Training**, and **Professional Development (ICE-TPD)**.

#### Ladies and gentlemen,

This International Conference is aimed at providing an arena to share experiences among researchers, professional educators, education policy makers, and education practitioners from various parts of Indonesia and the world to discuss various educational themes within the frameworks of latest development, current issues, challenges, theories, and best practices on improving the quality of teachers. Working collaboratively, professional educators, the improvement of instructional quality, and becoming professional teachers are the driven objectives derived from today's International Conference.

Faculty of Teacher Training and Education, University of Muhammadiyah Malang has committed to be an institution with the spirit of continuously developing teaching and education knowledge. This effort is executed to facilitate ideations, both spoken and written ones, about education and teacher professionalism quality improvement.

### All happy participants,

This Conference is also held for sharing and exchanging experiences or educationrelated issues in regional, national, and international scopes. FTTE UMM has also been inspired by the accomplishment of some faculty members who have finished their





Doctorate Program to disseminate their expertise in front of academic public. This forum is also to acknowledge their accomplishment.

A high appreciation is directed to the committees for their hard work and dedication to organize today's event. I, on behalf of Faculty of Teacher Training and Education, as the Dean, would like to also express great support to all participants.

Happy participating in this International Conference. The sharing of ideations and experiences will bring about the improvement of teacher professionalism in the areas where all participants reside.

Happy joining this program.

Wassalamu'alaikum Wr. Wb. Dr. Poncojari Wahyono, M.Kes. Dean of the Faculty of Teacher Training and Education Universitas Muhammadiyah Malang





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UMM Press (Anggota APPTI) Jl. Raya Tlogomas 246 Malang 65144 Telp. (0341) 464318 psw 140 Email: ummpress@gmail.com http://ummpress.umm.ac.id





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# Marine edutourism based on local wisdom of Bajo Tribe in Wakatobi National Park as an environmental education alternative

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KEYWORDS	ABSTRACT
Marine Edutourism Local Wisdom Environmental Education Bajo Tribe Wakatobi	Indonesia is an archipelagic country with potential as a world maritime axis. One of Indonesia's marine potentials is Wakatobi National Park, which is known as a world biodiversity hotspot and an underwater paradise for tourists. In the coastal area of Wakatobi live the Bajo Tribe who have an emotional closeness to the sea which is shown in their caring attitude towards the sea. The local wisdom of the Bajo Tribe can be used as a learning resource for environmental education to improve students' marine environmental literacy. One of the uses of this potential can be through marine edutourism which is a tourist trip with the aim of learning the local wisdom of the Bajo Tribe in environmental management through direct observation. The purpose of this study was to develop a marine edutourism learning model based on the local wisdom of the Bajo Tribe in Wakatobi National Park to improve students' environmental literacy. This research is a development research using the Design and Developmental Research (DDR) method. This research resulted in a learning model called Experiential and Joyful Learning-Marine Edutourism (EJoy-ME) and its components for high school students of Grade X with material about marine and its conservation. The resulting learning model components include learning syntax, social systems, reaction principles, support systems, instructional impacts, and accompaniment impacts. In conclusion, this development research has produced a marine edutourism learning model based on local wisdom of the Bajo Wakatobi tribe named EJoy-ME which is ready to be tested and can be used as an environmental education alternative for students.

#### **INTRODUCTION**

Indonesia is an archipelagic country that has a wealth of marine resources and cultural diversity. Indonesia has a sea area of 7.9 million km<sup>2</sup> which unites 17,504 islands with 95,161 km of coastline (Tahara, 2014). Indonesia has seven marine national parks, one of those is Wakatobi National Park. Wakatobi National Park is a natural marine ecosystem that functions as a nature conservation area, managed with a zoning system for research, education, cultivation, culture, and tourism purposes (Adimu, Boer, Yulianda, & Damar, 2018). Wakatobi has an area of 1,390,000 ha, the second largest area in Indonesia (Coles, Polandb, & Clifton, 2015). Wakatobi is also a district administrative area consisting of 43 islands with 97% sea and 3% land (Firmansvah et al., 2017). Wakatobi has the highest marine biodiversity in the world and is referred to as a world biodiversity hotspot which functions to supply larvae for fish resources and marine biodiversity (Haapkylä et al., 2009). Wakatobi also recorded has 396 species of hard coral, 31 species of fungi, 31 species of foraminifera, 34 stomatopods, and 942 species of reef fish (WWF, 2012). This wealth of resources is due to the fact that Wakatobi is in the center of the world's Coral Triangle area. Wakatobi also has a variety of tribes and cultures. One of the tribes known as Sea Nomads is the Bajo tribe. The Bajo tribe live in the coastal area of Wakatobi and have local wisdom in managing the marine environment. Local wisdom is the idea of the local community that has good values, can be in the form of views of life, norms and customs such as myths and rituals (Hasrawaty, Anas, & Wisudo, 2017). The Bajo tribe has a tradition looking for fish which shows local wisdom to protect the sea. The Bajo tribe inherits the principle of their ancestors to stay alive in the sea or the coast, doing all the activities of life in the sea (Uniawati, 2011). The Bajo tribe understands the importance of the sea as an ecosystem that must be protected, this encourages the emergence of local wisdom in the form of values, actions, and myths to protect the sea. The potential of natural and cultural resources makes Wakatobi a world marine tourism destination which is known as an underwater paradise.





The potential of Bajo natural wealth and cultural resources can be packaged as a learning resource for environmental education through tourism activities called marine edutourism. Tourism can involve a learning process between tourists and local communities and attractions that will increase knowledge, skills, and internalize values that develop in tourist attractions. Tourist attractions are able to improve the quality of life of tourists by cultivating the power of reason, rationality, and a critical attitude to information and knowledge that they have not mastered independently or in groups through what has been seen, felt, and experienced in tourist areas. Edutourism is a travel activity to enjoy tourist objects and attractions with the aim of learning about these tourist objects and attractions. This term is often used in tourism to integrate educational values into tourism. (Hayati, 2017) reveals that tourism activities can be used as a technique to develop scientific attitudes. The strategy is to prepare and create a set of rules that can influence and support the formation of scientific attitudes at the location and or around the tourist area. Based on these considerations, the tourist area can be used as a place for the formation of scientific attitudes and as a laboratory for the learning process for students, so that the term marine edutourism appears which is learning based on the local potential of marine tourism. The local wisdom of the Bajo Tribe can be a tourist attraction as well as a source of learning that can improve students' environmental literacy. So far, there is no learning model that has been specifically developed from the local marine potential of Indonesia. Therefore, this study aims to develop a marine edutourism learning model based on local wisdom of the Bajo Tribe, Wakatobi National Park. The model is expected to improve students' environmental literacy so that it can be an alternative to environmental education.

#### METHOD

This research is a development research. The product of this research is the marine edutourism learning model. The development of learning model uses the Design and Developmental Research (DDR) instructional design approach. DDR consists of at least three stages, namely design, development, and evaluation (Richey & Klein, 2014). J. Ellis & Levy, (2010) detailed the stages into 6 phases which will also be used in the development phase of the EJoy-ME model, namely (1) identify the problem; (2) describe the objectives; (3) design & develop the artifact; (4) test the artifact; (5) evaluate testing results; (6) communicate the testing results. At the identify the problem stage, a study of the potential of local wisdom of the Bajo tribe is carried out to develop learning resources. At this stage, in-depth interviews with the Bajo people, literature study, and observing the life of the Bajo Tribe were carried out in Bajo Village on the three major islands of Wakatobi, namely Wangi-wangi, Kaledupa, and Tomia. In the describe the objectives stage, an analysis of the biology curriculum is carried out to determine the basic competencies related to environment and their conservation materials. Meanwhile, in the design & develop the artifact stage, formulate the components of the learning model include learning syntax, social systems, reaction principles, support systems, instructional impacts, and accompaniment impacts. This development research has reached the design and development stage of the marine edutourism learning model.



Figure 1. DDR Stages (J. Ellis & Levy, 2010)

#### **RESULTS AND DISCUSSION**

#### The Potential of Local Wisdom of the Bajo Tribe

The Bajo tribe has an emotional closeness to natural resources which gives birth to real behavior considering ecology in their daily lives. The proximity of the Bajo people to the sea and the coast allows them to have a variety of local knowledge about natural phenomena as provisions when going to sea. They learn self-taught from their predecessors (Artanto, 2017). It can be interpreted that the Bajo Tribe has wisdom in the form of traditions, rules or taboos that are passed down from generation to generation which are practiced, maintained and obeyed by the Bajo people in maintaining and utilizing coastal areas in a sustainable manner. The system of ethics, customs, and culture of the Bajo Tribe has proven to be able to make the Bajo community able to survive and live in harmony with the coastal and ocean areas that have been their livelihoods until now. The following are some of the local wisdom of the Bajo Tribe in managing the marine environment.

A. The Meaning of the Sea for the Bajo Tribe

Bajo fishermen understand the sea from various perspectives, namely: (1) the sea as a *sehe* (friend); (2) sea as *tabar* (medicine); (3) the sea as *anudinta'* (food); (4) the sea as *lalang* (transportation





infrastructure); (5) the sea as *pamunang ala 'baka' raha'* (source of good and evil); and (7) the sea as an *patambangan umbo ma'dilo* (the ancestral place of the Bajo people who ruled the sea).

B. Non-Destructive Diving Skills

Ilardo et al., (2018) said that the Bajo Tribe has the ability to freely dive without the help of tools for 13 minutes to a depth of 70 meters to catch biota armed with only spears, without destructive tools.

C. Pamali Tradition

There are restrictions on the fishing activities of the Bajo tribe that must be considered and not violated, including: (1) not catching marine products on coral, on sandy soil in the form of a delta (2) prohibiting catching animals that are considered to be the embodiment of *Mbo* (God for Bajo people), such as octopus, turtle, mermaids, dolphins and sharks; (3) maintain attitudes and actions that can make *Mbo* angry

D. Traditional Fishing Tool

In fishing they use traditional fishing rods such as *rompoh, pempeso,* and *bhala* (Ode & Basri, 2011). This equipment pays attention to coral reef conservation.

E. Utilization of Mangroves Wisely

Divert the use of wood from mangrove areas. Take firewood from dry branches. In making boats, the Bajo people use wood that they grow themselves (Indrawasih & Antariksa, 2003).

F. Ongko

Ongko is Bajo local wisdom in structuring places or fishing locations based on the habits of a person or group of people. With this system the Bajo people do not seize each other's catch locations.

G. Eco-Friendly Houses Construction

The pillars of the house and bridge were built using wood from a water-resistant plant species (local name *Gopasa*) taken from outside the mangrove area.

H. The Law of the Bajo Sea

*Mamia kadialo* is a tradition of grouping people when they go to sea for a certain period of time and the boat used. During *Mamia Kadialo* there are taboos that must not be followed, including being prohibited from throwing garbage into the sea, eating turtle meat, catching fish and other biota around the coral cluster (*pangroak sappa*) which is believed to be a *jage*'s house (guard post), a place for spirits (Indrawasih & Antariksa, 2003).

I. Parika's Social Structure

*Parika* for group members is *henangkara*, meaning someone who is followed or a role model because he has the ability to determine when to install the equipment or the size of the fishing gear to be used. *Parika* provides space for fish to lay eggs and give birth and limits fishing based on a certain time period agreed upon by traditional leaders and community leaders in the community (Marlina, Sumarmi, & Astina, 2020).

J. Sangal Traditional Ceremony

This traditional ceremony is carried out during the famine season for fish and other marine species. They will release species whose population is declining, for example, they will release turtles when the turtle population decreases and they will release tuna when tuna decreases. This ritual is also often carried out before harvest as an effort to reject reinforcements.

K. Sacred Site

The existence of local wisdom in the form of sacred sites also supports the preservation of conservation areas. The Bajo people hold sacred natural sites in conservation areas. This sacrament has been passed down from generation to generation and is still ongoing today.

#### **Developed Competencies**

Developed competencies arrange from biology curriculum analysis. It's consist of basic competencies and indicator. The basic competenses are:

- 2.1 Behave environmentally friendly
- 3.11 Analyzing the local wisdom of the Bajo Tribe and their impact on the environment
- 4.11 Formulating the form of local wisdom of the Bajo Tribe as a solution to problems that occur in the marine environment

Indicators of competence achievement are:

- 2.1.1 Have a good environmental sensitivity to the sea
- 2.1.2 Have a good environmental attitude towards the sea
- 2.1.3 Have a good concern for the marine environment
- 2.1.4 Have a good locus of control/self-efficacy towards the marine environment
- 2.1.5 Have good intentions towards the marine environment
- 3.11.1. Identifying the local wisdom factor of the Bajo Tribe in environmental management
- 3.11.2. Predict the impact of the local wisdom of the Bajo Tribe on the marine environment





3.11.3. Explaining the practice of local wisdom of the Bajo Tribe which can be an alternative solution to marine environmental problems

Note: Number in front of competencies is based on National Biology Curriculum in Indonesia Marine Edutourism Learning Model

The learning model that will be developed in this research is called EJoy-ME, which stands for Experiential and Joyful Learning-Marine Edutourism. This learning model is a marine edutourism which was developed from the experiential learning model and the joyfull learning learning strategy. This model utilizes local wisdom of Bajo Tribe in Wakatobi for environmental education that aimed to improving marine environmental literacy. The development of the syntax of the EJoy-ME model refers to the theory of constructivism which emphasizes providing new learning experiences for students while still paying attention to students' prior knowledge and the context of students' daily lives. In addition, there are three important concepts that are used as the basis for development, namely indigenous education (education based on potential and local wisdom), environmental education, and marine ecotourism.

Experiential learning or experimental learning was born from Kolb's theory. Experiential learning involves an active and purposeful process that is contextualized in direct or simulated 'real worlds' activities where students have the opportunity to build and organize their own personal and professional learning. Kolb in (Husin, 2013) states that experience is all the things we have done, felt, believed, enjoyed, saw, imagined, etc. Experience can be defined as the act of generating, creating, and discovering knowledge for future effect. Educational psychologists such as John Dewey, Carl Rogers, and David Kolb have provided the basis for this learning theory. John Dewey in (Breunig, 2017) distinguishes between primary and secondary experiences. Primary experiences are incidental activities or engagements. Secondary experience is undergoing a process of regulated reflective inquiry that is integrated with past experience and in the consideration of future experiences in a directed manner. Experiential learning is also referred to as learning through action, learning by doing, learning through experience, learning through discovery, and exploration. Experiential learning is a philosophy and methodology in which educators deliberately engage with learners in direct experience and focused reflection to increase knowledge, develop skills, and clarify values (Husin, 2013).



Figure 2. Development Components of EJoy-ME Learning Model

Fun and enjoyment in learning is an important part of the learning process. Learners who learn in a fun way will stimulate creativity because the brain is in a relaxed state, not much pressure (Lucardie, 2014). Fun learning is not necessarily easy and comfortable for students. As stated by Beret in Lucardie (2014) that learning can be fun because it is difficult and challenging for students, pleasure in fun is fun with laughter, freedom, creativity, and enjoyment.

The joy of learning has a positive influence on students. First, excitement can increase intrinsic motivation. Second, the joy of providing a positive educational experience through positive emotions. Third, people who feel happy tend to function better in life (Lucardie, 2014). The EJoy-ME learning model seeks to provide an aspect of fun during learning. Students will interact with the marine environment that amazes him and the diversity of marine tourism attractions such as canoing, snorkeling, diving, taking photos with marine life, and so on.

Bajo Tribe local wisdom can be used as a learning resource for environmental education based on experiential learning through the EJoy-ME model. Environmental education and experiential learning are closely related. Methods such as case studies, observation, discussion, debates, and guided inquiry facilitate learning and support students in understanding real-world problems (Koutsoukos, Fragoulis, & Valkanos, 2015). In addition, experiential learning facilitates students to open their senses to nature and bond with nature to increase their acceptance of environmental realities. Maloof in Koutsoukos et





al. (2015) said that experiential learning-based environmental education has been widely accepted, this method seems to be more appropriate, more effective and more useful for students.

The marine edutourism syntax was developed from the syntax of experiential learning learning model integrated with a joyful learning strategy. The syntax can be seen in Figure 3.



Leisure "Fun"

Figure 3. EJoy-ME Syntax

- 1. Leisure "Fun". In the early stages of learning, this awakens the enthusiasm of students in studying the marine environment and Bajo Tribe local wisdom. Ecotourism objects and attraction in Bajo Village are a fun means for students to interact with Bajo society. The diversity of marine ecotourism attractions such as canoing, snorkeling, photos with Bajo society or with Bajo Village background, and others can be an alternative to provide a fun atmosphere for learning.
- 2. Experiencing "Doing". In this second stage, students are given a learning experience. Students learn about Bajo Tribe local wisdom, so it is hoped that from this activity students will have environmental literacy. Learning experiences can be provided in the form of case studies, observations, deep interview, interactions with tourist objects and discussions with guides.
- 3. Reflecting "What Happened?". Students share the results of their learning experiences with their friends. Between one student and other students exchange experiences and discuss the feelings resulting from their experiences. The results of this reflection will determine the views and actions of students on Bajo Tribe local wisdom.
- 4. Processing "What's Important?". Students analyze the results of reflection to form new abstract concepts in their minds. Understanding this new concept will influence it in making decisions related to Bajo Tribe local wisdom.
- 5. Generalizing "So What?". Learners connect experiences with real-world examples. Students are given example of Bajo Tribe local wisdom, and then students make generalizations and predict the impact to marine environment.
- 6. Testing in New Situation. Students apply pro-environmental actions in daily life. In EJoyME, it may not be seen directly how students apply it in everyday life, but it can be started by looking at the pro-environmental attitude of students while at marine ecotourism sites. Students can also be asked to formulate pro environmental action to overcome environmental problems that exist in day life.

#### 7. CONCLUSION

Wakatobi National Park has potential of Bajo Tribe local wisdom for environmental education resources. This development research has succeeded in compiling a marine edutourism learning model based on Bajo Tribe and develop from experiential learning model and a joyfull learning learning strategy, so that the learning model product is named Experiential and Joyful Learning- Marine Edutourism (EJoy-ME). The EJoy-ME model is ready to be tested at the implementation stage.





#### ACKNOWLEDGMENT

Thank you to the Directorate of Higher Education, Ministry of Education, Culture, Research, and Technology for funding this research from DIPA for Fiscal Year 2021

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