



# The Ornament of the Malay Keris Hulu “*Tumbuk Lada*” as a Medium for Student Creativity in Fine Arts

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## ABSTRACT

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This study aims to develop and evaluate teaching materials in the form of printed books and e-books for the *Ornamen Nusantara* course, focusing on the ornamental design of the *Hulu Keris Melayu Tumbuk Lada*. The development process employed the Research and Development (R&D) method using the 4D model (Define, Design, Develop, Disseminate). The results indicate that the teaching materials are valid (78,75%), practical (82,15%), and effective (88,53%). Their use has been shown to enhance students' understanding of traditional ornamental richness; particularly the *Melayu Tumbuk Lada* ornament; and to encourage the preservation of local cultural values. More broadly, the findings contribute to strengthening cultural identity in art education and support the development of creative industries based on cultural heritage.

**Keywords:** teaching materials; ornaments; hulu keris; Melayu

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## I. INTRODUCTION

Indonesia possesses a diverse cultural heritage that has been recognized worldwide and must be preserved as a form of respect for existing cultures (Gunada & Pramana, 2021). This cultural heritage includes ornaments or decorative motifs, one of which can be found on cultural objects such as the keris, including the *Hulu Keris Melayu*. When discussing the cultural heritage of the *keris*, researchers aim to explore the placement of ornaments on the *keris*, specifically the Malay *Keris*. Considering the importance of this cultural heritage, especially the keris and its ornaments, to prevent it from fading in contemporary society, preservation efforts must be undertaken. These ornaments reflect the richness of culture and the diversity of ethnic groups in Indonesia, and by preserving Nusantara ornaments, we also strengthen our identity and pride as an Indonesian nation (Rezeki & Fatria, 2021).

However, while existing literature has acknowledged the importance of these ornaments, research has generally focused on documenting their aesthetic and symbolic meanings (Ave et al., 2008; Sunaryo, 2007; Mustika, 2020), rather than developing concrete strategies to transmit this cultural knowledge to younger generations through formal educational frameworks. Despite a growing awareness of the urgency to preserve traditional art forms, there remains a gap in how this cultural heritage; particularly the ornamentation of traditional weapons such as the *Hulu Keris Melayu*; can be transformed into meaningful, creative, and contextually relevant learning tools for art students. Most preservation efforts



have yet to be linked with curriculum development or pedagogical innovation, especially in the field of visual arts education.

This study responds to that gap by proposing a novel approach: the development of culturally-rooted instructional materials based on the ornamentation of the Malay *Hulu Keris Tumbuk Lada*. Given the importance of this cultural heritage, especially the *keris* and its ornaments, preservation efforts must be undertaken not only to keep the tradition alive but to make it part of an engaging and creative learning experience for the students. According to Gustami (2008), ornament is a component of an art product added or intentionally created for decorative purposes, and ornament is part of Indonesia's cultural heritage that must be preserved (Andriyanti et al., 2022). Sunaryo (2007) further defines Nusantara ornaments as various forms of decoration spread throughout the archipelago, generally traditional in nature, with each region having its own unique characteristics and diversity. Mustika (2020) affirms that each country has its own ornaments, including Indonesia, which reflect local people's taste. Pranoto (2023) reveals that Nusantara ornaments represent the diversity and richness of Indonesian cultural expressions, composed of thousands of island and dozens of ethnic groups speaking hundreds of regional languages.

Ornaments also serve to add detail to an artwork or make it more appealing (Saragi, 2018), and are closely related to aesthetics in human life. Aesthetics pertains to beauty; not just in form but also the essence within (Kattsoff, 1986:381). In addition to aesthetic functions, ornament also serve symbolic purposes, often reflecting the culture, customs, beliefs, and religions of a community, such as on traditional objects like *keris*, sword, or staffs (Hendro, 2020).

Through the development of teaching materials based on the ornamentation of the *Hulu Keris Melayu Tumbuk Lada*, this research aims to serve as a reference and enrichment material for students studying Nusantara ornaments. The novelty of this study lies in its integration of cultural preservation and pedagogical design, with the ultimate goal of strengthening students' appreciation for national culture and enhancing their creativity in understanding and working on coursework; particularly in the *Nusantara Ornament* course. In addition, the instructional materials will be evaluated in terms of validity, practicality, and effectiveness, to ensure their pedagogical contribution to the learning of cultural heritage through fine arts.

## II. LITERATURE REVIEW

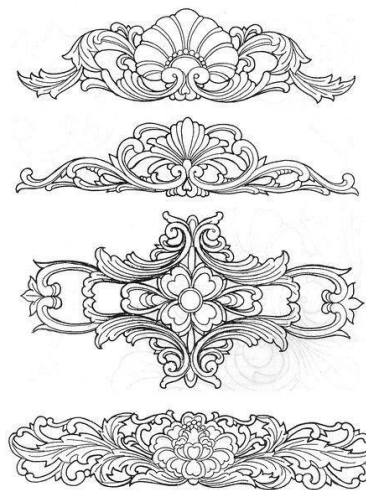
Essentially, the art of ornament prioritizes beauty as it underpins the cultural development of ornamentation and fulfills humanity's need for aesthetics. According to Soegeng (1987), Indonesians have historically shown more talent in decorative arts than architectural arts, with various ornaments manifesting as visual expressions of emotions.

One of the ornaments or decorative motifs on cultural objects is the *keris*, and one of its notable features is the *Hulu Keris Melayu*. A.J. Barnet Kempers (1954) in (Endrawati, 2015) stated that the *keris* is a developed form of a weapon from the Bronze Age, with a hilt shaped like a small statue that merges with the blade. The *keris*, available in various forms, is divided



into several parts, including the hilt, sheath, and guard (Ibrahim, 2012). The handle for holding the keris is referred to as the *Hulu Keris* (Darmojo, 2014). Also known as *ukiran* or *deder*, the *Hulu Keris* is the section that serves as the handle for the user (Izzati & Mulyana, 2024). Each part of the *keris* carries its own philosophy, such as determining the placement of the hilt when tucked at the wearer's waist (SAMIAN, n.d.). However, this study focuses solely on the visual aspects of the *Hulu Keris*.

The *Hulu Keris* Melayu is the hilt or handle of the traditional Malay weapon known as the *keris* (Wibowo, 2013). It plays a crucial role in defining the beauty and uniqueness of a *keris* (Yusof et al., 2022). The carvings on the *Hulu Keris* Melayu showcase the craftsmanship and meticulous attention of the Malay community in the art of carving and metalworking. These hilts are crafted from three types of metals: iron, steel, and *pamor* material (Harsrinuksmo, 2004). The *Hulu Keris* Melayu comes in various distinctive shapes and motifs, which often indicate the origin of the *keris*. The designs vary between regions. The ornamentation on the *Hulu Keris* Melayu frequently depicts traditional Malay motifs, such as plant, animal, or characteristic geometric patterns (Darmojo, 2014). Moreover, these ornaments often carry symbolic meanings that reflect the culture, customs, or beliefs of the Malay community.



**Figure 1.** Ornament Motifs  
(Source: Azis, 2023)



**Figure 2.** The Malay *Hulu Keris* Ornament  
(Source: Azis, 2023)



When discussing the *Hulu Keris Tumbuk Lada*, it is important to first understand that the *Keris Tumbuk Lada* is a type of short blade or knife recognized by the Malay community (Amelia, 2023). The *Keris Tumbuk Lada* is considered distinctively Malay, as it is only found in the Malay region. Some neighboring ethnic groups, such as the Karo and Simalungun ethnicities in North Sumatra, also adopted this weapon, calling it *Pisau (Piso) Tumbuk Lada*, although there are some specific differences in its body structure. Additionally, the name *Keris Tumbuk Lada* varies across regions. In Aceh, it is called *Sewah* (Syam & Syam, 2015, p. 11), while in North Sumatra, Riau, and Minangkabau, it is referred to as *Pisau Tumbuk Lada* (Danumurti & Harianto, 2019, p. 15). In Bengkulu, Palembang, and Lampung, it is called *Siwar*, and in Malaysia, it is known as *Badik Tumbuk Lada* (Abdullah, 2007:35).

Historically, the *Keris Tumbuk Lada* is an important symbol reflecting the agrarian prosperity of the Malay people in Sumatra, particularly through the trade of pepper, which was a major commodity from the 15th to the 20th century. The name “*lada*” (pepper) refers to international trade, and the weapon's name is associated with the hot and spicy nature of pepper, symbolizing the prowess of the Malay people in cross-national agriculture (Masindan et al., 1985:75; Syauqii et al., 2022:95). John Anderson was the first to document the *Pisau Tumbuk Lada*, referring to it as a short sword unique to the Malay communities on the east coast of Sumatra (Anderson, 1826, p. 266). The prosperity of pepper plantations in Sumatra was also noted by explorers such as Admiral Cheng Ho, Tome Pires, William Marsden, and John Anderson, who described the region as the main producer of pepper from Aceh to Lampung (Reid, 2011:16; Pires, 2016:183-189; Marsden, 2013:151-168). The symbolism of pepper through the *Pisau Tumbuk Lada* reflects the close relationship between agrarian history and Malay culture, where pepper represents both the economic success and the national identity of the Malay people.

When discussing the hilt or handle of the *Keris Tumbuk Lada*, it is divided into three types (Amelia, P., Lukitaningsih, L., & Purnamasari, 2023), namely: (1) The round plain hilt, which is a prototype found in archaeological discoveries in Sumatra, such as the Pasemah Site and Bongal Site (8th–10th century AD). Although simple in design, this hilt prioritizes ergonomic function and is sometimes adorned with carvings of ships, symbolizing the Malay maritime culture; (2) The *carang (simbar)* hilt, featuring floral motifs like tendrils and including various ornament patterns such as the *Maha Risi*, *Bunga Kukur*, and *Pucuk Rebung*. This hilt refers to various characteristic plants, including pepper plants, symbolizing the agrarian success of the Malay people, and holds sacred and symbolic values in Malay society; and (3) The bird-head *tumbuk* hilt, which combines a bird-head carving with tendril patterns to adhere to Islamic art principles. Its variations reflect local cultural influences, such as the difference in motifs between the Malay and Karo people, where the Malay design is dominated by plant motifs, while Karo uses characteristic motifs like Gerga Simarogung Ogung.



**Figure 3.** Round Plain Type of *Hulu Keris Tumbuk Lada*  
(Source: Amelia, 2023)



**Figure 4.** Carang (Simbar) Type of *Hulu Keris Tumbuk Lada*  
(Source: Amelia, 2023)



**Figure 5.** Bird-Head Tumbuk Type of *Hulu Keris Tumbuk Lada*  
(Source: Amelia, 2023)

Overall, the design and motifs on the *Hulu Keris Tumbuk Lada* reflect the interaction between functionality, aesthetics, and Malay cultural values. Therefore, this insight needs to be introduced to students of the Fine Arts Department at Universitas Negeri Medan, so that this heritage can be preserved. This is in line with the campus location, which is also within the Malay cultural area.

With the aforementioned characteristics, the *Hulu Keris Melayu Tumbuk Lada* is used by the researcher as teaching material to be implemented for students in the Fine Arts Department. This research is a form of development of teaching materials in the form of p-books and e-books. Physically, p-books or printed books differ from e-books or electronic books, although their content is the same. While p-books are physical, e-books are digital-based. This is similar to the research by Azis et al., titled "Digitalisation of Teaching Materials for Toba





Batak Ethnic Decorative Variety with Procreate Media Based on p-Books and e-Books,” where they developed teaching materials on Batak Toba ethnic decorative varieties based on p-books and e-books, which were then tested for validity, practicality, and effectiveness in the Fine Arts Department (Azis et al., 2023). Similarly, Sugito et al. conducted research titled “Development of p-Book and e-Book Based Modules in *Batik* Creation in Fine Arts Department,” where they developed p-book and e-book-based modules for the *Ornamen Nusantara* and *Batik* Craft courses, so that these modules could be used by both students and lecturers (Sugito et al., 2023) (Sugiyono, 2015). Thus, there is a research gap between this study and previous studies, which in this study focused on ornaments in *Hulu Keris Melayu Tumbuk Lada* as a staple in the development of teaching materials in the form of p-books and e-books.

### III. METHOD

This research uses the 4-D development model. As stated by Sugiyono (2015:407), this research is a type of research and development or Research and Development (R&D). This method is used to produce a specific product and test the effectiveness of the product (Setyosari, 2010). The 4-D development model consists of the following stages: define, design, develop, disseminate (Thiagarajan, 1974: 05). This model can be adapted into 4-P, which stands for definition, design, development, and dissemination. This approach was chosen based on its advantages, including: (1) it is more suitable as a basis for developing teaching materials, (2) its description is more comprehensive and systematic, and (3) in its development, it involves assessments from experts, so before being tested in the field, the teaching materials are revised based on expert evaluations, suggestions, and inputs (Setyosari, 2010).

In the define stage, the researcher collects information. In the design stage, the product is designed. In the development stage, the designed product is then developed and validated by material and media experts to test its validity, effectiveness, and practicality before being disseminated in the disseminate stage. The population used in this study is all Fine Arts students who have taken the *Ragam Hias Etnis Sumatera Utara* course. In line with the opinion of Arikunto (1996:120), who states that if the population is more than 100, a sample can be taken from 10% - 15% or 20% - 25%, depending on the researcher's capacity. Therefore, the researcher uses random sampling for sampling. Considering the large population, to save time and simplify the large number of populations, a 10% sample is taken (Mahmudah, 2020). The sample is selected randomly using a lottery technique (Danianto & Pranata, 2019).

**Table 1.** Population and Sample

No	Class	Population	Sample (10%)
1	A	30 people	3 people
2	B	30 people	3 people
3	C	30 people	3 people
4	D	30 people	3 people
Total		120 people	12 people



To determine the media validation, the researcher uses a Likert scale (Sudjana, 2002: 69), which is based on a validation sheet with the following steps: 1) Assigning scores to each item with answers as follows: very good (4), good (3), poor (2), very poor (1); 2) Summing the total score for each validator for all indicators; and 3) Assigning a value to the validator. For the validity data analysis, the formula used is:

$$\text{Validity} = \frac{\text{A Score Earned}}{\text{Maximum Score Count}} \times 100\%$$

For the level of achievement in the validation category of teaching materials, the classification is based on the following Table 2, and it is considered valid if the validation level exceeds 80%.

**Table 2.** The Category of Validity and Teaching Materials

No	Attainment Rate (%)	Category
1	85.01 – 100.00	Very Valid
3	70.01 – 85.00	Quite Valid
4	50.01 – 70.00	Less Valid
5	01.00 – 50.00	Invalid

Source: (Akbar, 2013)

The practicality level of the teaching materials is analyzed based on the questionnaire given to the students. The questionnaire is then structured using a Likert scale with categories for positive statements. Positive statements receive high scores with the following details:

**Table 3.** The Acquisition of Statement Weights on the Likert Scale

No	Letter	Degree of Practicality	Quality
1	SB	Very Good	5
2	B	Good	4
3	C	Quite Good	3
4	K	Less Good	2
5	J	Bad	1

In this case, the formula modified from (Lubis, 2009: 87).

$$\text{Derjat Pencapaian} = \frac{\sum X}{n \times \sum \text{Item} \times \text{Skala Tertinggi}} \times 100$$

Modified to:

$$\text{Derjat Pencapaian} = \frac{\sum \text{Masing} - \text{Masing Item}}{\sum \text{Skor Tertinggi}} \times 100\%$$

The level of achievement in the practicality category of the teaching materials is determined using the classification in the table below, and it is considered practical if it reaches a practicality level above 80%.

**Table 4.** The Acquisition of Practicality Statement Scores

No	Achievement Degree (%)	Category
1	90 – 100	Very Practical
2	80 – 89	Practical
3	65 – 79	Quite Practical
4	55 – 64	Less Practical
5	0 – 54	Extremely Impractical

Next, the effectiveness test is observed from the analysis of student learning outcomes, specifically the learning outcomes in the knowledge domain. The determination of student learning completeness can be calculated using the following formula.

$$KB = \frac{T}{Tt} \times 100\%$$

Description:

KB = Learning Completeness

T = Complete

Tt = Total Score

According to the Ministry of Education and Culture (1996), a student is considered to have completed their learning if the proportion of correct answers is  $\geq 65\%$ , and a class is considered to have completed its learning if  $\geq 85\%$  of the students pass (in Trianto, 2012: 241). Teaching materials are considered effective if the learning outcomes meet the standard, where  $\geq 85\%$  of the students have completed their learning. Then, data on student activity in learning activities is analyzed using percentages (%).

$$P = \frac{F}{N} \times 100\%$$

Description:

P = Percentage of Student Activities

F = Frequency of Active Students

N = Total Number of Students

Teaching materials can be considered effective if students meet the criteria of 41 – 100%. The percentage data of student activities obtained are grouped according to the following criteria.

**Table 5.** The Acquisition of Statement Weights for Activities.

No	Achievement Degree (%)	Category
1	81 – 100	Very Active
2	61 – 80	Active
3	41 – 60	Quite Active
4	21 – 40	Less Active
5	0 – 20	Extremely Inactive





## IV. RESULTS AND DISCUSSION

### 4.1 Define Stage

The define stage is the stage of establishing and defining the learning requirements, and it is at this stage that the analysis of the objectives and limitations of the teaching materials to be developed is conducted (Guswita, 2021). The first thing to be done is to analyze the curriculum, as stated by (Jundi & Solong, 2021), which includes the Standard Competencies and Basic Competencies in the Nusantara Ornaments course. The result of the analysis of the Standard Competencies and Basic Competencies forms the learning indicators, which are: (a) Understanding the essence of Nusantara Ornaments; (b) Knowing the definition and role of Nusantara Ornaments; (c) Identifying the types of Nusantara Ornaments; (d) Understanding the functions of Nusantara Ornaments; (e) Understanding the elements and principles of Nusantara Ornaments.

The indicators that have been developed are formulated as the basis for learning objectives (Kuntoro & Wardani, 2020). Then, the learning objectives that students must master during the learning process are established as follows: Students are expected to recognize Nusantara Ornaments and all its supporting materials. Next, a concept analysis is conducted. This analysis aims to establish the main concepts that students must master during the learning process. In the concept analysis, the main concepts to be included in the teaching materials are identified and formulated.

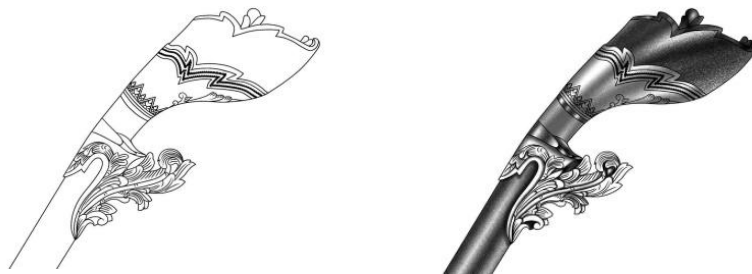
The next analysis is a student analysis, which is conducted to understand the characteristics of the students. As stated by (Prayitno, 2004), student analysis can be done using problem disclosure tools, which are standard instruments used to understand and anticipate the problems faced by students. The characteristics of the students include age, motivation, background knowledge, academic abilities, and skills. The students are at a stage of cognitive, affective, and psychomotor development, where they are beginning to think abstractly and behave scientifically. Therefore, they are able to understand the meaning and principles based on formal concepts and theories, as well as formulate patterns and think systematically when facing problems and finding solutions through theory and practice.

### 4.2 Design Stage

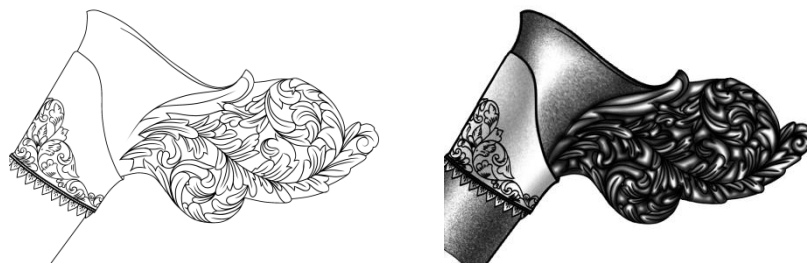
Based on the results from the define stage, the instructional design of the product to be developed in the form of teaching materials (Guswita, 2021) based on p-book and e-book is produced. The first thing done in this stage is to design the cover of the teaching materials. The cover design is crafted in such a way that it invites students to engage with the content of the teaching materials. The color combination of the cover is harmonized with the colors of the media images and the content inside the teaching materials. Below is the cover design of the teaching materials and an example of the ornament design of the *Hulu Keris Melayu Tumbuk Lada*.



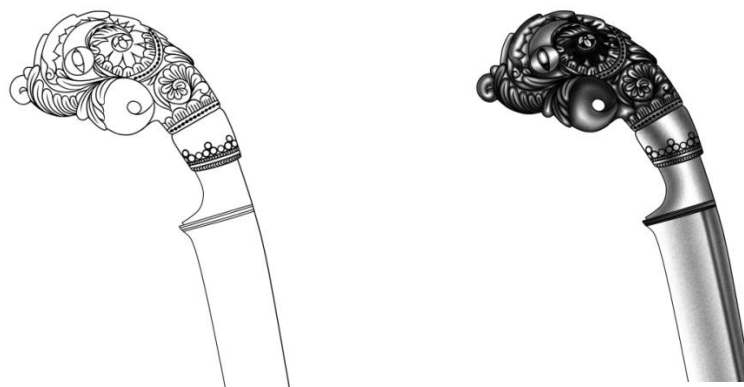
**Figure 6.** The Cover Display of the Teaching Materials  
Source: (Azis, 2024)



**Figure 7.** The design of the ornament on the *Hulu Keris Melayu Tumbuk Lada*, Type *Bulat Polos*  
Source: (Azis, 2024)



**Figure 8.** Design of the Nusantara Ornament on the *Hulu Keris Melayu Tumbuk Lada Carang (Simbar)* Type  
Source: (Azis, 2024)



**Figure 9.** The design of the ornament on the *Hulu Keris Melayu Tumbuk Lada*, Bird Tumbuk Type  
Source: (Azis, 2024)



#### 4.3 Develop Stage

The development stage includes expert validation and trial testing of the teaching materials based on p-book and e-book to assess the validity, practicality, and effectiveness of the developed teaching materials. The materials that have been prepared are then validated by two validators, consisting of one expert in design and one expert in content. As stated by (Gustiawati et al., 2020), expert validation, whether in content or design, is necessary as an evaluation of the content and presentation of the developed product. The practicality assessment is carried out by the students. The teaching materials are considered practical if they help students understand the developed content. The effectiveness of the teaching materials is assessed through tests to evaluate students' learning outcomes and activities during the learning process.

Expert validation consists of two stages: 1) Validating the validation questionnaire, which will be used by the validators to assess the teaching materials, and 2) Validating the teaching materials using the revised validation questionnaire and assigning scores to assess the teaching materials. Validating the validation questionnaire is useful to determine and revise the aspects to be evaluated in validating the teaching materials. The results of this questionnaire serve as the basis for making improvements to the developed materials (Husada et al., 2020). The validation questionnaire is revised by two experts according to their respective fields. The names of the validators can be seen in Table 6 below.

**Table 6.** Validators Name

No	Name	Skill
1.	Raden Burhan SND, S.Pd., M.Ds.	Design
2.	Adek Cerah Kurnia Azis, S.Pd., M.Pd.	Content

Next, each validator assigned scores. The design expert validator assessed the layout of the teaching materials, while the content expert validator evaluated the entire content. After the scoring process, data analysis was conducted. The results of the data analysis from the validator's assessment scores can be seen in Table 7 below:

**Table 7.** Result of Validators Evaluation

No	Variabel	Achievement Degree(%)	Category
1.	Content	77.7%	Quite Valid
2.	Construction	79.1%	Quite Valid
3.	Teaching Materials View	79.1%	Quite Valid
4.	Language	79.1%	Quite Valid
	Average	78.75%	Quite Valid

The analysis of the validator assessment scores in Table 4.3, which consists of 4 variables, is as follows: 1) content with an achievement level of 77.7%, categorized as sufficiently valid; 2) construct with an achievement level of 79.1%, categorized as sufficiently valid; 3)



presentation of teaching materials with an achievement level of 79.1%, categorized as sufficiently valid; and 4) language with an achievement level of 79.1%, categorized as sufficiently valid. Overall, the average validity of the teaching materials with an achievement level of 78.75% is categorized as sufficiently valid.

The practicality of the p-book and e-book-based teaching materials was assessed by students from the Fine Arts Department who were taking the Nusantara Ornaments course, and who also served as the trial subjects for this study. As Maskar and Dewi (2020) said that practicality is a measure of how usable the product is for users, and the practicality of a product can be assessed based on its ease of use and presentation by the user. After the practicality assessment of the p-book and e-book-based teaching materials was carried out by the students, data analysis was conducted. The results of the analysis can be seen in Table 8 below.

**Tabel 8.** The Results of Practicality Assessment by Students

No	Variabel	Achievement Degree (%)	Category
1.	Learnability	82.08	Practical
2.	Efficiency	82.29	Practical
3.	Effectiveness of Time	82.08	Practical
Average		82.15	Practical

The results of the practical evaluation data by the students of the Fine Arts Department, who were also the subjects of the trial for the p-book and e-book teaching materials, consist of three variables: (1) ease of use for the user (Learnability) with an achievement level of 82.08%, categorized as practical for users, (2) usability (Efficiency) with an achievement level of 82.29%, categorized as practical for use in the learning process, (3) effectiveness of time (effectiveness of time) with an achievement level of 82.08%, categorized as practical in saving time during the learning process. The average practicality score from the students was 82.15%, and the teaching materials were categorized as practical.

Effectiveness functions to observe the effectiveness of the teaching materials used in the learning process. To obtain the effectiveness of these p-book and e-book teaching materials, the students' activities during the learning process and their learning outcomes were observed. During the student activities, the trial of the teaching materials was conducted over four meetings, each observed by one observer, Drs. Gamal Kartono, M.Si., a lecturer in Fine Arts Education. The following is the data on the students' activities.

The first activity was reading the teaching materials and completing the exercises given by the lecturer. The percentages of students' activities in reading the teaching materials and completing exercises from the first to the fourth meeting were 100%, 100%, 100%, 100%, with an average of 100%, categorized as very active. Students who were absent or on leave were considered to have not participated. Throughout the observation, students attended 100% of the time. Based on the observations, it can be stated that the students were very



active in reading the teaching materials and completing the exercises provided by the lecturer.

The second activity was asking questions during the learning process. The percentages of students' activity in asking questions from the first to the fourth meeting were 66.66%, 88.33%, 88.33%, 88.33%, with an average of 79.16%, categorized as active. Based on the data above, it can be stated that there was an increase in the number of students asking questions from the first to the second meeting. There was also variation in the number of students asking questions in each meeting. This shows that the use of the teaching materials motivated students in the learning process.

The third activity was answering questions from the lecturer or other students. The percentages of students' activity in answering questions across four meetings were 58.33%, 66.66%, 83.33%, 91.66%, with an average of 74.99%, categorized as active. Based on the data, it can be stated that the students' responses to questions from the lecturer or other students increased in each meeting.

The fourth activity was completing assignments. The percentages of students' activity in completing assignments during the four meetings were 100%, 100%, 100%, 100%, with an average of 100%, categorized as very active, as completing assignments at the end of each lesson is the responsibility of each individual student. Therefore, the average result of all four student activity categories by the observer was 88.53%, categorized as very active.

Based on the research findings, the presentation of the teaching material, according to its validity level, places the content of the material in the fairly valid category with a score of 77.7%, the construct in the fairly valid category with a score of 79.1%, the presentation in the fairly valid category with a score of 79.1%, the language in the fairly valid category with a score of 79.1%, and the average result of this teaching material validation is in the fairly valid category with a score of 78.75%. The content of the teaching materials is presented systematically, allowing users to easily understand the ornament image material. As for the practicality level of the teaching materials, with an average score of 82.15%, it is categorized as practical. The teaching materials are formulated in a clear unit of learning, starting from the material presentation, usage instructions, and evaluation tools. This formulation is in line with the students' abilities.

The ease of use (learnability) of the teaching materials, as assessed by the lecturers guiding the learning process, received a score of 82.08%, categorized as practical for users. This is because the teaching materials use language suited to the students' characteristics, can be used individually, and the exercises help the lecturer direct the students in understanding the concepts. The teaching materials are designed to facilitate the lecturer in guiding the students during the learning process in the Nusantara Ornaments course.

The usability of the teaching materials for students (efficiency), with a score of 82.29%, is categorized as practical. This is because the teaching materials help students explain the





concepts. Good teaching materials are expected to assist the lecturer in guiding students during the learning process.

The teaching materials are practical in terms of time efficiency (effectiveness of time), with a score of 82.08%, categorized as practical. The p-book and e-book teaching materials developed are practical for lecturers to use in guiding students during the learning process. As a result, lecturers can maximize the outcome with minimal time.

In the evaluation of student learning outcomes, none of the 12 students failed. The percentage of students who passed was 100%, and 0% of students were declared to have failed. The practicality of the teaching materials proved that 100% of the 12 students using the p-book and e-book teaching materials in the learning process of the Nusantara Ornaments course passed. Furthermore, based on observations by one observer, the students were generally active during the learning process. The above activities emphasize active learning, this step is proven to increase students' involvement and understanding directly on the teaching materials delivered, namely Ornamental on the Hulu keris. In addition, Ariawan & Winoto (2021) explained this. It can encourage students to actively identify authentic information, ask about unfamiliar terms, then answer reflectively so that their critical thinking, analytical, and creativity skills improve. This indicates that the p-book and e-book teaching materials are practical and effective for use in the learning process of the Nusantara Ornaments course.

## V. CONCLUSION

The application of local culture in teaching materials proved to support contextual preservation and learning. Such as the ornament of *Hulu Keris Melayu Tumbuk Lada* which uses as a medium for creativity for students in the Fine Arts Education program through the development of teaching materials. This teaching material, which highlights one of the distinctive ornaments of the archipelago, has been tested for its validity, effectiveness, and practicality to assess the success of its implementation in helping students achieve learning objectives. Based on the research results, this teaching material is categorized as fairly valid, practical, and effective for use in teaching. One of its effectiveness aspects is seen in the students' learning achievements, which show very active participation, with no students failing the final evaluation. Further research is recommended to expand the scope to include other Nusantara ornaments to enrich the material and strengthen students' understanding of local cultural decorative arts. Additionally, more in-depth studies on the impact of teaching materials that potentially enhances students' creativity in a broader context could be the focus of future research.



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