



## **Development of Teaching Materials for Dual Visual Work Assessment Parameters : P-Books and E-Books in The Departement of Fine Arts**

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**Abstract:** This study aims to develop assessment-focused teaching materials for dual-dimensional visual works in the form of valid, practical, and effective p-books and e-books for the Department of Fine Arts. Employing the R&D method with the 4D model (define, design, develop, and disseminate), the research used a Likert scale questionnaire as the instrument, with data analysis techniques covering validity, practicality, and effectiveness assessments. The study results indicate that the teaching materials, both p-books and e-books, are highly valid with an average score of 87.8%. Furthermore, these materials prove to be highly practical for students in the Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching courses, with a practicality score of 84.16%. They are also deemed effective, as students' activities (such as reading modules, asking and answering questions, and completing assignments) resulted in an effectiveness score of 85.41%. Thus, the teaching materials are confirmed to be valid, practical, and effective for application in the specified Fine Arts courses.

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## **Introduction**

In our daily lives, we often carry out evaluation activities and use the principles of measurement and assessment. However, many people do not understand the exact meaning of the words evaluation, measurement, and assessment. Many often interpret the three words with the same meaning (Sudiyanto & Mustikasari, 2021). In general, people tend to identify evaluation activities with assessment, because measurement activities are usually included in it. Measurement, assessment, and evaluation are interrelated activities and must be carried out sequentially (Retnowati, 2013). Measurement is the activity of measuring or collecting data about an object or phenomenon using a certain measuring tool or method (Aryani & Kurnianingsih, 2023). An example is measuring the length, weight, or temperature of an object. While assessment is an activity to assess or evaluate an object or phenomenon based on criteria or standards that have been set (Mustika et al., 2021).

Assessment is the most important element in learning activities, because assessment has the purpose of finding out how the process and results of teaching and learning activities are learning (Hasnawati, 2018: 118). Assessment involves the process of collecting data, analyzing, and assigning a value or assessment of the object being assessed (Sidhartani, 2010). Examples are assessing the quality of artwork, employee performance, or student learning outcomes (Endrayanto, 2019). Then evaluation is an activity to evaluate or comprehensively assess an object or phenomenon, including its processes, results, and impacts. Evaluation involves in-depth analysis and providing constructive feedback for further improvement or development. An example is the evaluation of a program, policy, or



project (Muryadi, 2017). In its implementation, measurement, assessment, and evaluation are interrelated and inseparable from each other. Measurements provide data used in assessments, and assessments provide the basis for evaluation (Alhail, Lestari, 2024). These three activities help us in understanding, measuring, and assessing various aspects of daily life, education, business, and other fields (Hasnawati & Yunus, 2018). Therefore, it is often said that the assessment is the next step after the measurement activity, and the evaluation stage is the decision-making step of an assessment (Faiz, 2022: 492).

In the context of education, an evaluation cannot be left out, because the evaluation itself is related to assessment, having an impact on what will be given to students after participating in learning. If this is not done, it will give rise to some discrepancies in the assessment itself (Rahmawati et al., 2021). Through proper evaluation, it can determine the effectiveness of a learning program and the success of students carrying out these activities (Suardipa, 2023: 89).

Based on the importance of the assessment mentioned above, art education is also something that cannot be left out, both in performing arts and in fine arts (Harsono et al., 2022). In this case, the assessment will be seen in the world of art, especially in art education in a university. The absence of assessment parameters in fine arts education can trigger several negative consequences (Hasnawati & Yunus, 2018). Where, if there are no clear assessment parameters, the assessment of art works can be subjective and inconsistent, of course this will be detrimental to other students who do have the opportunity to get good grades because of the skills they have, but in the absence of standard assessment standards, it will stimulate opportunities for subjectivity that only assesses on proximity without looking at the work of the student will free to occur (Bawias, 2016).

However, another thing that can happen is a debate among teachers. In this context, lecturers in charge of courses have a tendency to differ in opinion in inconsistent assessments between different individuals or groups. A lecturer will give a very unequal value with other lecturers. While the two works have the same quality as a whole, but because there is no standard standard in the assessment of the work, there will be very striking differences in making assessments. This will give rise to new arguments that are certainly not good from the students themselves, and will give rise to complaints to the lecturers concerned (Sari et al., 2020).

Assessment is also inseparable from aesthetics, where aesthetics in the assessment of fine arts is a crucial thing that cannot be left out, because it has been integrated in the art itself, without the existence of standard assessment standards that cause a lack of aesthetic considerations (Ernawati, 2020). Assessment parameters help in measuring the beauty and aesthetic value of a work of art (Muryadi, 2017). Without this parameter, aesthetic aspects may not be well considered in the assessment, so that beautiful works will actually get lower values than beautiful works, then this will cause new upheavals among students (Prayitno, 2021).

In the assessment of fine art, there are several parameters that are used to evaluate and provide an assessment of the quality and value of a work of art. The following are some aspects of assessment that are commonly used in the appreciation of works of art, such as the uniqueness of ideas which in this parameter refers to the originality and novelty of the ideas expressed in making works of art (Sudiyanto & Mustikasari, 2021). The uniqueness of an idea can include a concept, theme, or message presented by the artist in conveying the message of the artwork created. Techniques and skills, in this parameter involves an assessment of the artist's technical expertise and skills in applying techniques and media used in artworks.



Given the above explanation, in fine arts, numerous issues can arise in the absence of assessment standards. This suggests that assessment standards within the fine arts evaluation parameters should be established and applied consistently by all lecturers in the Department of Fine Arts. In light of this, the researcher has developed teaching materials on assessment parameters for visual works, designed to measure, assess, and evaluate the visual works of Fine Arts students, in both p-book and e-book formats. While the p-book, or printed book, differs physically from the e-book, or electronic book, their content remains identical. The p-book is tangible, whereas the e-book is digitally accessible.

Azis et al. (2023) conducted research to develop teaching materials on various Batak Toba ethnic ornaments in the form of p-books and e-books, which were subsequently tested for validity, practicality, and effectiveness in the Fine Arts Department. Similarly, Sugito et al. (2023) developed p-book and e-book-based modules for the Nusantara Ornament and Batik Craft Courses, aimed for use by students and lecturers in these courses. However, these studies primarily focus on creating modules and teaching materials centered on specific topics, without addressing assessment parameters or evaluation criteria for fine arts students works. While the development objectives are similar, the content differs, creating a gap between this study and prior research.

This study seeks to create teaching materials focused on assessing dual-dimensional visual works by Fine Arts students, in the form of valid, practical, and effective p-books and e-books. As noted by Sinaga in Azis et al. (2023), p-books and e-books are easy to access, simple to use, cost-effective, and can be accessed on students' computers and smartphones. It is anticipated that these teaching materials will be useful in the learning process for courses like Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching within the Department of Fine Arts.

## Research Method

This study uses R&D methods to validate and develop products (Sugiyono, 2016). Essentially, this approach is used to create a specific product and test its effectiveness (Setyosari, 2010). The design of this study uses a *4-D development* model (*Four-D Models*), which consists of 4 stages, namely: *define*, *design*, *develop*, dan *disseminate* (Okpatrioka, 2023). The research takes place at the Department of Fine Arts, Faculty of Languages and Arts, State University of Medan. The participants are 6th-semester Fine Arts students enrolled in the Dual Matra Fine Arts Course, with a 10% random sampling technique used (Mahmudah, 2020). The selection of the sample was done through a lottery method (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

This study employs a questionnaire as the instrument, structured with a Likert scale. Data analysis includes validity testing along with evaluating the practicality and effectiveness of the teaching materials. According to Setiyorini in Arifudin et al. (2022), validity is assessed using a Likert scale with ratings of 1 (very poor), 2 (poor), 3 (good), and 4 (very good).

$$P = \frac{X}{Y} \times 100 \%$$



Information:

P : Validity Value  
X : Validation Score Acquisition  
Y : Maximum Total Score

**Table 2. Validity Criteria**

Score	Criteria
85,01 – 100,00%	Highly Valid
70,01 – 85,00%	Quite Valid
50,01 – 70,00%	Less Valid
01,00 – 50,00%	Invalid

Source: (Akbar, 2013)

Then the level of practicality is assessed based on a questionnaire given to students, which is designed with the Likert scale and contains positive statements. This technique is arranged in the form of questions with 5 (five) response criteria, namely: Scale 1 (Not Practical), 2 (Less Practical), 3 (Quite Practical), 4 (Practical), and 5 (Very Practical) (Rizaldi & Syahwin, 2023). Rizaldi also said that in the Likert scale, the value obtained from the practicality test, then changed in percent form using the following equation.

$$P = \frac{X}{Y} \times 100 \%$$

Information:

P = The Value of Practicality  
X = Score Acquisition  
Y = Maximum Score

**Table 3. Persentase Scale Likert**

Assessment Score (%)	Category
81 - 100	Very Practical
61 - 80	Practical
41 - 60	Quite Practical
21 - 40	Less Practical
0 - 20	Impractical

Source: Riduwan, in the (Rizaldi & Syahwin, 2023)

Based on the criteria above, thus, the teaching materials for this assessment parameter can be said to be practical if they have an assessment score of 41% - 100%. Furthermore, after being said to be practical, effectiveness is measured from the results of the analysis of student learning achievement on the cognitive aspect. According to Sukmadinata in (Sahida, 2018), the effectiveness of this teaching material is seen by referring to the achievement of the KKM that has been set, namely if the student learning outcomes have reached  $\geq 70$  of the learning objectives that have been prepared. To analyze it, a descriptive analysis proposed by Arikunto (2010) is used, namely with the following equation.

$$KI = \frac{SB}{SM} \times 100 \% \qquad KK = \frac{JT}{JS} \times 100 \%$$

Information:

KI = Individual thoroughness ; SB = Correct score obtained ; SM = Maximum Score  
KK = Classical thoroughness ; JT = Number of students who complete ; JS = Total number of students

**Table 4. Knowledge Competency Assessment Criteria**

Value	Criteria
$\geq 70$	Complete
$< 70$	Not Finished

## Results and Discussion

### 1) Define Phase

#### a) Curriculum Analysis

The curriculum analysis focused on examining the Competency Standards and Basic Competencies for courses in Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching, all within the Dual Matra Course category. This process led to the creation of the subsequent learning indicators:

- 1) Understand the essence of Shape Drawings, Illustration Drawings, Visual Communication Design (DKV), Graphic Arts, and Sketches;
- 2) Knowing the meaning and role of Shape Drawings, Illustration Drawings, Visual Communication Design (DKV), Graphic Arts, and Sketches;
- 3) Know the types of Shape Drawings, Illustration Images, Visual Communication Design (DKV), Graphic Arts, and Sketches;
- 4) Know the functions of Shape Drawings, Illustration Images, Visual Communication Design (DKV), Graphic Arts, and Sketches; and
- 5) Understand the elements and principles of Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching.

The created indicators serve as the foundation for learning objectives, which are a planned framework students need to meet for effective learning (Shodiq, 2019). These learning objectives encompass the ability to comprehend Shape Drawings, Illustration Images, Visual Communication Design (DKV), Graphic Arts, Sketches, and related topics.

#### b) Concept Analysis

The cover is created to engage students in exploring the teaching materials. Its colors complement those of the images and content within. The cover design is shown in figure 2.

#### c) Student Analysis

Examining students allows for the identification of their characteristics, such as age, motivation, background knowledge, academic abilities, and skills. Educational theory divides an individual's competencies into three domains: cognitive, affective, and psychomotor (Suwarna, 2016). The study revealed that students at this level can think abstractly and scientifically, understand complex concepts, apply formal theories, form hypotheses, and solve problems systematically through practice or creative activities.

### 2) Design Phase

The cover is created to engage students in exploring the teaching materials, with colors matching the images and content within. The cover design is shown in figure 1:



**Figure 1. Teaching Materials Cover Display**



### 3) Develop Phase

The development phase includes expert validation and trials of the p-book and e-book-based teaching materials to evaluate their validity, practicality, and effectiveness. Two experts, one in design and one in content, validate the materials. Students assess the practicality of the materials, which are deemed practical if they meet the "good" criteria in the learning process (Santi & Santoso, 2016). Effectiveness is tested by evaluating student learning outcomes and activities.

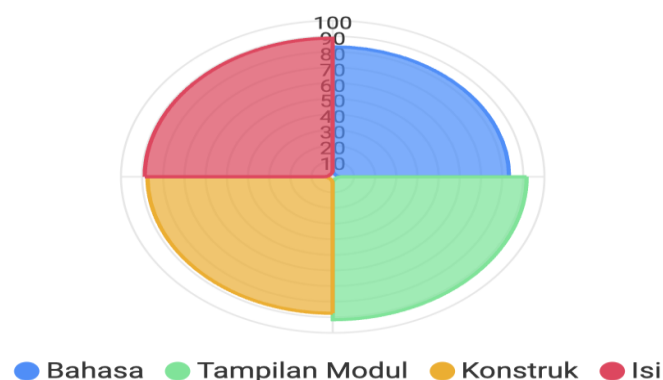
#### a) Validation

Expert validation consists of two steps: 1) validating the questionnaire used by the validator to assess the teaching materials, and 2) validating the materials using the updated questionnaire, with scoring to evaluate the content. The goal is to refine the assessment criteria, with revisions made by two experts, one in design and the other in content/materials.. In the initial stage, certain parts of the validation sheet were updated. These revised sheets were then evaluated by the experts, who assigned scores. The design expert focused on the layout, while the linguist expert reviewed the grammar. After scoring, the data were analyzed, and the results based on the expert assessments are shown in the table below:

**Table 4.** Validator Assessment Results

No	Variable	Achievement Rank (%)	Category
1.	Fill	88.8%	Highly Valid
2.	Construction	87.5%	Highly Valid
3.	Display of Teaching Materials	91.6%	Highly Valid
4.	Language	83.3%	Quite Valid
	Average	87.8%	Highly Valid

The analysis of the validator scores, presented in Table 4, covers four variables: 1) Content, with a score of 88.8%, rated as Very Valid; 2) Constructs, scoring 87.5%, also Very Valid; 3) Display of the teaching materials, with a score of 91.6%, categorized as Very Valid; and 4) Language, scoring 83.3%, categorized as Quite Valid. The overall average validity of the materials is 87.8%, placing them in the Very Valid category (Akbar, 2013). A detailed comparison of the scores for each variable can be seen in the figure below:



**Figure 2.** Validator Assessment Results

#### b) Practicality

The practicality of the p-book and e-book-based materials is assessed by students from the Department of Fine Arts who are taking courses in Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching, which are also the subjects for testing these materials. After the students evaluate the materials' practicality, data analysis is performed, and the results are shown in the following table:

**Table 4. Results of Practicality Assessment by Students**

No	Variable	Score Achievement Rate (%)	Kategori
1.	Convenience for Users ( <i>Learnability</i> )	84.37	Very Practical
2.	Usability ( <i>Efficiency</i> )	84.79	Very Practical
3.	Time Effectiveness ( <i>Effectiveness of Time</i> )	83.33	Very Practical
	Average	84.16	Very Practical

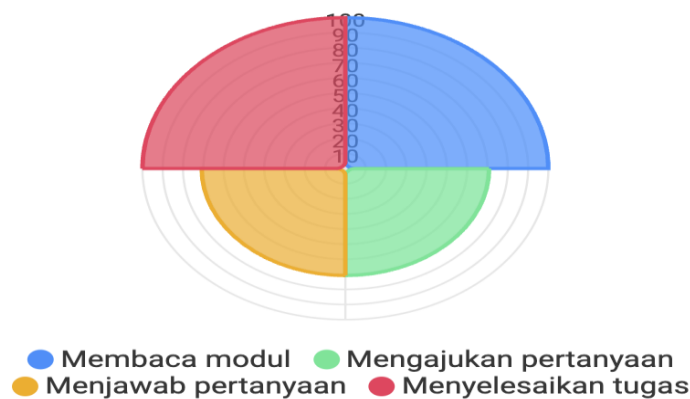
The practicality assessment data from students in the Department of Fine Arts, who also participated in the trial of the p-book and e-book-based teaching materials, resulted in scores across three variables: 1) Ease of use (*Learnability*), with 84.37%, categorized as practical for users; 2) Efficiency, with 84.79%, categorized as practical for learning; 3) Time effectiveness, with 83.33%, showing that the p-book and e-book-based materials are practical and effective in the learning process. The overall average practicality score was 84.16%, placing the materials in the practical category. A detailed comparison of the practicality scores is shown in the following image.



**Figure 3. Results of Practicality Assessment**

#### c) Effectiveness

Effectiveness measures the influence of teaching materials on learning. As stated by Granberg in (Azis et al., 2023), to evaluate the effectiveness of these P-Book and E-Book materials, observations of student activities and learning outcomes are carried out. The average student activity across the four sessions for each category is shown in the figure below:



**Figure 4. Results of Student Activity Scores**



The analysis of the data showed that all 12 students successfully passed, with no failures. The pass rate was 100%, and none failed. According to the effectiveness and evaluation criteria stated earlier, the learning process was considered successful ( $\geq 70$  is categorized as complete) since all students passed in the Department of Fine Arts, Faculty of Languages and Arts, Universitas Negeri Medan.

The research findings indicate that the teaching materials are in line with the validity of their content. They are considered valid, with content scoring 88.8%, construct at 87.5%, display at 91.6%, and grammar at 83.3%. The overall average validity score is 87.8%, placing the materials in the valid category. The content and structure are well-organized, making it easier for users to grasp the material on Shape Drawings, Illustration Images, Visual Communication Design (DKV), Graphic Arts, and Sketches. As for practicality, the materials received an average score of 84.16%, classifying them as practical. They are designed as a complete learning unit, starting with content presentation, followed by usage instructions and evaluation tools. The materials are suitable for the students' abilities. In terms of learnability, the materials scored 84.37%, making them practical for lecturers to guide students effectively. The language used is appropriate for students, allowing for individual use, and exercises are included to support lecturers in helping students understand the concepts. These teaching materials are tailored to assist lecturers in facilitating learning in courses like Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching.

The teaching materials are deemed practical, scoring 84.79% in efficiency, as they help students grasp and articulate concepts effectively. Well-designed materials are meant to assist lecturers in guiding students through the learning process. The p-book and e-book-based teaching materials were rated practical with a time efficiency score of 83.33%, as they help lecturers guide students efficiently, achieving maximum results in minimal time. All 12 students passed, with a 100% success rate, indicating the materials' effectiveness. The materials proved practical with 100% completion among the students in courses such as Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching. Observations also showed active student participation, confirming that these materials are both practical and effective in enhancing learning outcomes, aligning with findings by Sung et al. (2022) and Delita et al. (2022). The development of this teaching material demonstrates how digital technology can improve both the quality and accessibility of art education. P-books and e-books offer flexible resources that students can access anytime and anywhere, facilitating independent learning.

## **Conclusion**

From the data and discussion, the following conclusions can be made: a) P-book and e-book-based teaching materials have been developed for the Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching courses in the Department of Fine Arts, which are valid, practical, and effective; b) The materials have a validity score of 87.8%, classifying them as valid, and a practicality score of 84.16%, which categorizes them as practical for the learning process; c) The average student engagement score across various activities (reading, asking questions, answering, and completing assignments) is 85.41%, showing active participation and making the materials effective. Therefore, these teaching materials are valid, practical, and effective for the courses mentioned in the Department of Fine Arts.





## Recommendation

The recommendations submitted based on the results of this research include: (1) For lecturers, the teaching materials for this assessment parameter can be used in the process of measuring, assessing and evaluating students' dual-dimensional visual works in the Course of Shape Drawing, Illustration Drawing, Visual Communication Design (DKV), Graphic Arts, and Sketching; (2) For future researchers, it is expected to be able to develop and design p-book and e-book-based teaching materials in other courses as well.

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