

# The Development of Teaching Materials for Technology- Assisted Procedure Text in Vocational High School

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**Abstract--** The purpose of this study is to produce technology-assisted procedure text teaching material. The method adopted is the *Research And Development (R&D)* study based on Borg and Gall. The development stage includes initial study, initial product development and product trial. The research result shows the material validation result includes content eligibility with an average of 88,93% in “very good” criteria, presentation eligibility with an average of 88,46% in “very good” criteria and language assessment with an average of 86,5% in “very good”. The effectiveness of the teaching material was estimated through the student learning outcomes in pre-test and post-test. The average grade in pre-test is 70,37 and post-test is 80. This result indicate that the developed technology-assisted teaching material gives practicality, especially in the teaching process done by the teachers. This teaching material in the form of a website can be used as additional teaching material to provide convenience in delivering the procedure text material, enriching and improving the student’s knowledge about technology and procedure text. Therefore, the learning process my become more interesting and provide independence pratice for the students

**Keywords :** *teaching material, procedural text, assisted technology, development*

## I. INTRODUCTION

The development of technology in this era of globalization seems to be unbearable in terms of human life in the 21st century. The rapid movement of this technology can be clearly observed in the fields of business, economics and government with the emergence of concepts and applications in the form of e-government, e-commerce, e-community and so forth. This phenomenon has become a trend and shifts conventional methods. Likewise in the world of education, along with the rapid development of technology, the term E-learning is currently emerging, online learning, web based training, online courses, web based education and so on, and there are also

many educational institutions that utilize E-learning systems such as home learning websites created by the Ministry of Education and Culture (<https://belajar.kemdikbud.go.id/Dashbord/>) in order to improve the effectiveness and flexibility of learning.

The 2013 curriculum in class XI Indonesian subjects has several basic competencies about producing text skills both written and oral. One of the text competencies learned in Indonesian language is the competence to produce procedural texts.

Formulation of the problem in this study is how is the process of developing teaching materials for technology-assisted text procedures in class XI student class xi school of tritech informatics Medan ? , What is the feasibility of the technology-assisted procedure text learning module for the 11th grade student class xi school of tritech informatics Medan? and How is the effectiveness of the development of technology-assisted procedural text teaching materials for class XI student class xi school of tritech informatics Medan? Based on the formulation of the above problem, the aim to be achieved in this research is to describe the process of developing technology-assisted procedural text teaching materials for class XI student class xi school of tritech informatics Medan, Describing the feasibility of developing technology-assisted procedural text teaching materials for class XI students of Tritech Medan Vocational High School and describing effectiveness. development of teaching materials for technology-assisted text procedures for student class xi school of tritech informatics Medan.

In line with the research of Roni Sulistiyonod in his research journal explained that [1] One of the problems that the teacher did not do in learning was the skill to use technology.

The technology used is only material in powerpoint. Even if the teacher has creativity in using technology, then the teacher can make it himself or utilize the technology around him, for example television shows, internet (websites, blogs, etc.).

From previous research, it can be seen that a teacher should develop teaching materials that are tailored to the characteristics, skills of students and environmental conditions. This is the reason researchers do on the grounds that Tritech Vocational Schools are vocational high schools characterized by informatics and to internalize technological science to students, besides that because the facilities at Tritech Vocational Schools are also very supportive because students are required to have laptops in learning activities and are supported by their availability Wi-fi is so researchers are very interested in developing technology-assisted teaching materials (material content) that are produced with the theme of technology and learning as well as using technology (Laptops, HPs, internet, Youtube, and interactive web / portals).

## II. LITERATURE REVIEW

### TEACHING MATERIALS

[2] Teaching materials are all forms of material used to help teachers / instructors in carrying out teaching and learning activities. competencies that will be mastered by students and used in the learning process with the purpose of planning and reviewing the implementation of learning. For example, textbooks, modules, handouts, worksheets, audio teaching materials, integrative teaching materials, and so on.

### PROCEDURE TEXT

[4] Explaining the procedure is a text that explains the steps in a complete, clear and detailed way of doing things. [5] states that the procedure text is a text that contains steps or steps that must be taken to achieve the goal.

### TECHNOLOGY ASSISTED

[6] Stating that there are four types of technology-assisted learning, namely:

#### 1. Model Drills

The drills model is a model in learning by training students in the material that has been given. Through the drills model, certain habits will be instilled in the form of training.

#### 2. Tutorial Model

The tutorial program is basically the same as the guidance program, which aims to provide assistance to students in order to achieve optimal learning outcomes.

## III. METHOD

This research used *Research and Development* method (*R & D*) [ 7 ] explain the research and development method is a research method used to produce a particular product and test the effectiveness of the product.

Research instruments for validators and individual tests, small groups and limited field groups are made in the form of a *Likert scale* that has been given a score as shown in Table 3.1

TABLE 1 Validation Instrument Item Answer Criteria With Likert Scale and Score

No.	Answer	Score
1.	Very good	4
2.	Good	3
3.	Less good	2
4	No good	1

From the results of the calculation of the formula above, a number is generated in percent form. The classification of scores is then converted into classifications in the form of percentages (Sugiyono, 2011: 118), then interpreted with qualitative sentences listed in table 3.2.

TABLE 2 Percentage Criteria for the Appearance of Indicators in Instructional Materials for Technology Assisted Procedure Texts

Criteria	Percentage
Very good	$81\% \leq 100\%$
Good	$61\% \leq 80\%$
Medium	$41\% \leq 60\%$
Less Good	$21\% \leq 40\%$
Very Less Good	$0\% \leq 20\%$

## IV. RESULTS AND DISCUSSION

Assessments made by material experts on teaching materials for technology-assisted procedure texts consist of three assessment specimens, namely aspects of content eligibility, language presentation eligibility and assessment. The assessment results on the feasibility aspect are stated "Very Good" with an average percentage of 85.93%. Assessment on the presentation aspect is stated as "Very Good" with a total percentage of an average of 88.46%. The results of language assessment according to material experts are declared "very good" with the total percentage is an average of 86.5%.

The results of the validation by design experts were declared "very good" with a total percentage of an average of 89.1%. The stages of the trial of teaching materials were carried out with 3 processes, namely individual trials, small group trials and limited field trials.

The results of individual trial testing are stated in the category "very good" with a total percentage of an average of 86.1 %. Individual trials are carried out to find out the students' initial responses to teaching materials before conducting small

group trials. The results of the assessment of material indicators are categorized as "very good" with an average percentage of 81.66 %. Language indicators 87.5 % with the category "very good" and an indicator of interest 90% with the category "very good". This means that the instructional material for technology-assisted procedure texts is in accordance with the needs of students.

The results of the small group trial evaluation were conducted to find out the students' responses to the instructional material for technology-assisted procedures and weaknesses after an individual trial. The results of the small group trial evaluation obtained an average percentage of 91.2 % with the category "very good". The results obtained are better than individual tests because improvements have been made to the module. Assessment results on material indicators were 88.33 % with the category "very good", language indicators 87.5 % with the category "very good" and an indicator of interest 94.4 % with the category "very good". thus, the next stage is to conduct limited field trials.

Limited field trials were conducted to determine the extent to which the usefulness of technology-assisted procedural text teaching materials for students. The results of the study materials obtained an average percentage of 88.9% with the category "very good". The results of the assessment of teaching materials on the material indicators received an average percentage of 88.2% with the category "very good", the language indicator gained an average percentage of 88.2% with the category "very good" and an indicator of interest 90% with the category "very good". This means that the instructional material for technology-assisted procedures has met the needs of learning.

Feasibility of teaching materials contains four assessment components, namely content feasibility, presentation feasibility, language feasibility and graphic feasibility. The components of content feasibility, presentation feasibility and language feasibility were obtained based on material expert validation, while the graphic feasibility was obtained based on the results of expert website design validation.

In the first sub-component, the total percentage of 75% obtained with the "good" category in the second sub-component obtained a total percentage of 87.5 % with the category "very good". The third sub-component obtained a total percentage of 92.5 % with the category "very good" and the last in the fourth sub-component obtained a total percentage of 75% with the category "good". The overall percentage results from the sub-components in the content feasibility aspect were 85.93 % with the category "very good".

The results of the assessment of the first sub-component are declared "very good" with a percentage of 100 %. The results of the assessment of the second sub-component are stated as "very good" with a percentage of 91.6 %. The results of the assessment of the third sub-component are stated as "Good" with a percentage of 80%. Finally, the results of the assessment of the fourth sub-component are declared "very good" with a percentage of 87.5%.

The pretest was carried out to obtain data that the students' scores before using teaching materials had not yet reached

their completeness. It is known from the average value that the average value obtained is 70.37 k in the "enough" category. When viewed individually from the 32 students, only 12 received complete scores in the "good" category and the remaining 20 students got grades under completeness with enough categories.

First, there were 12 students who received grades 75-84. The details of the students' scores are 3 students get a score of 78 with a good category and 9 students get a score of 75 with a good category. When there are 12 students who get grades 65-74. The details of the student's score is 1 student gets a score of 65 with a pretty good category, 4 students get a score of 68 with a pretty good category, 7 students score 73 with a pretty good category. Third, there are 8 students who get a score of 55-64. The details of the students' scores are 3 students who get 60 with enough categories and 5 students get 63 with enough categories.

Postes that are carried out obtain student value data after using instructional materials have reached completeness. This is known from the average value obtained by 80 in the good category. When viewed individually from the 32 students there were 7 students who got complete grades in very good categories. The remaining 25 students got grades under completeness with good categories.

First, there are 7 students who get a score of 85-100. The details of the student's grades are the seven students who get 85 grades with very good categories. Secondly there are 25 students who get a score of 75-84. The details of the students' scores were 2 students scored 83 with a good category, 6 students got a score of 80 with a good category, 8 people got a score of 79 with a good category, 4 people got a score of 78 with a good category, and 5 people got a score of 75 with a category good.

Student learning outcomes experienced a significant increase after using teaching materials with technology-assisted procedures in learning activities. It is known the average value of students before using teaching materials (pretest) is 70.37 and at the time after using teaching materials (posttest) that is 80. Based on these data obtained a significant difference in the increase of 9.63%.

Improving learning outcomes is proof that technology-assisted teaching materials will be effective if used by students and teachers in learning thus, there are differences in student learning outcomes using technology-assisted teaching materials using the website: [novaandarini.com](http://novaandarini.com). it can be concluded that the instructional material for the technology-assisted procedure text is feasible and effective to be used in learning Indonesian language in the procedural text material.

## V. CONCLUSION

Based on the rumors of the problem, the purpose of the study, the results of the research and discussion in the research on the development of technology-assisted teaching materials in the material of this procedure text can be summarized as follows:

1. In the initial product development stage, product design and product validation were carried out to 2 material experts and 2 media design experts . In the third stage, product trials were carried out in three ways, namely individual trials, small group trials and limited field trials. Individual trials received an average percentage of 86.1 with the category "very good", the small group trial received an average percentage of 91.2 with the category "very good". Limited field trials obtained an average percentage of 88.99 with the category "very good". Based on these data, it is obtained the appropriate teaching materials for teachers and students to use in learning.

2. Results of validation of material experts and design experts on teaching materials. The results of the validation of material experts on the feasibility of the content obtained an average of 85.93% with very good category, the aspect of presentation feasibility obtained an average of 88.46% with very good category and language assessment gained an average of 86.5% with very good category . For the grading assessment by design experts, an average of 89.1% was obtained with a very good category.

3. At the time of the pretest, an average of 70.37 was obtained and at the time of post-test there was an average of

80. The difference from pretest and posttest was 9.63% which indicated that learning by using technology-assisted text teaching procedures became better than before.

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