Teaching Materials Development Of Contextual Based Entrepreneurship For Vocational High School Students

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Abstract
Development using the Borg and Gall product model combined with Dick and Carey's learning design model became one of the most interesting research. That is because it will produce materials that are worthy of use, easy to learn, can be used for individual learning, and to know the effectiveness of teaching materials developed on entrepreneurship subject with contextual based entrepreneurship subjects. Data collection using the quasi experimental method. This method consists of two phases, namely phase I to develop teaching materials and trials, and phase II to test product effectiveness. Data obtained from class X students majoring in fashion of Public Vocational High School Medan, with research samples of 47 students consisting of 24 students as an experiment class and 23 students as a control class. The hypothesis test results proved that there was a significant difference between student learning outcomes taught using contextual-based teaching materials with student learning outcomes using textbooks. This is indicated by the result of data processing obtained $t_{count} = 2.35 > t_{table} = 1.68$, with $dk = (n_1 + n_2-2)$ at a significant level of $\alpha = 0.05$. It was concluded the effectiveness of contextual-based teaching materials was 27.37% while textbooks were at 23.60%.

Keywords: teaching materials, entrepreneurship, contextual, vocational high school students

INTRODUCTION

Education becomes a means of maturity for students in order to develop the talents, potentials, and skills possessed in living life (Daryanto, 2012). In accordance with the purpose of education of Vocational High School (SMK) in Indonesia, namely to improve intelligence, knowledge, personality, noble character and skills to live independently and follow further education in accordance with the vocational (Regulation of National Education Ministry number 22 year 2006). So that the vocational curriculum emphasizes the provision of capabilities that are oriented to the needs of employee (demand driven). Vocational Education Unit Level Curriculum is developed in accordance with the relevance of each group or unit of Education and school committees.

In this process, Public Vocational High School 10 Medan has been working to improve the quality of education in schools through improved learning process, increasing the competency of teachers, activating discussion of teacher subjects, cooperation with the industry and improvement of facilities and infrastructure. Therefore, it is necessary to design a quality Learning program (Ball 1998,

122). New concepts and insights about school learning continue to emerge and evolve with the rapid development of science and technology. So teachers as educators occupy a very important position. Teachers should be able to make learning through instruments, technology and comparisons (Ozga 2014). The problems that exist today are the low level of mastery of entrepreneurial material, and the student's interest in learning. This is due to teacher teaching materials only student Worksheets (LKS), so teachers are not accustomed to designing their own teaching materials.

Therefore, the need for entrepreneurial subjects to support the skills of Vocational High School students. So that students can learn the context of entrepreneurial theory and can apply it with entrepreneurship (Welter, 2016). The entrepreneurial textbooks used are now not well organized, as they tend to pay attention to the child's cognitive development structure. The weakness of entrepreneurial learning outcomes is due to the teaching materials used less to give students the opportunity to be active, observe, seek, find and communicate the teaching materials used.

Entrepreneurial skills can be trained through learning involving cooperation among students. An important factor in achieving entrepreneurial learning outcomes can be through contextual-based entrepreneurship teaching materials by relating the material students learn to real life. The availability of contextual-based student teaching materials is meaningful in optimizing student learning in order to achieve optimal learning outcomes. The use of contextual based teaching materials will explain the real phenomenon and solve problems in everyday life. As with the attitude and behavior in entrepreneurship, being able to identify an entrepreneurial attitude and behavior, understand the factors that affect the success and failure of entrepreneurial and entrepreneurial skills. The use of contextual materials comes from models designed to be effective for use in teaching (Ampa, 2013). In addition, with contextual learning based on

lesson study, is expected also improve learning communication (Sutama, 2013).
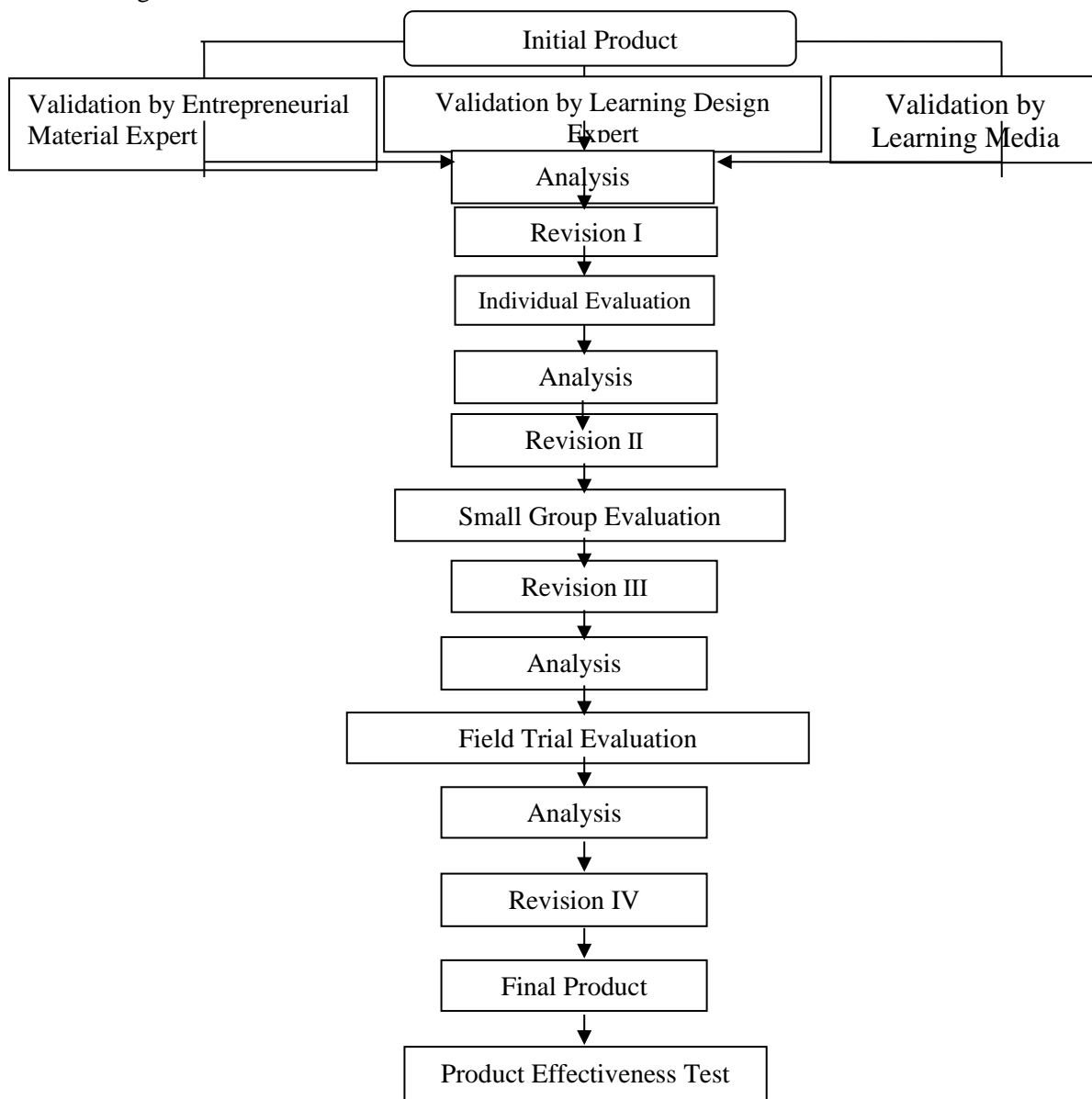
RESEARCH METHOD

This development research referred to the steps of Borg and Gall research, and the development of the teaching materials referred to Dick and Carey. The steps involved in the Borg and Gall development were the needs analysis phase, the teaching materials design phase, and the trial (validation) phase. The Borg and Gall theory generally has four phases, preliminary study, model planning and development, trials and revisions, and module validation (Sukmadinata, 2006). This study was conducted with a wider trial phase with the resulting teaching materials product and continued until testing the results.

The product developed was a teaching book product that is easy to understand and interesting. In this study and development study will be combined with the instructional development of model Dick and Carey (2005) with the stage of identification of learning needs and determining the standards of subjects ' competence, conducting a learning analysis, identifying the characteristics and behaviors of the students, writing basic competencies and indicators, writing benchmark reference tests, crafting learning strategies, and developing learning materials. Dick and Carey's model of development was chosen because it had a programmatic learning format.

The development procedures that resulted in the entrepreneurial teaching book on the standard of competency actualize entrepreneurial attitudes and behavior for Vocational High School X class which consisted of validation by entrepreneurial material expert, validation by learning design expert, validation by the learning media experts, conducting analysis of material expert validation results, design experts, and media experts, revision I, individual evaluation/one-on-one, analysis of individual evaluation results, revision II, small group evaluation, analysis of small group evaluation results, revision III, field trials, analysis of limited field trial evaluation, revision IV, and final product

continued with product effectiveness. The test stages of product development were contextual based on learning entrepreneurship, as in the following illustration.

Illustration 2. Stages of Trial of Contextual Based Entrepreneurship Teaching Material Development Products

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                        ┌─────────────────────┐
                        │   Initial Product   │
                        └─────────────────────┘
┌──────────────────┐  ┌──────────────────────┐  ┌──────────────────┐
│ Validation by    │  │ Validation by        │  │ Validation by    │
│ Entrepreneurial  │  │ Learning Design      │  │ Learning Media   │
│ Material Expert  │  │ Expert               │  │                  │
└──────────────────┘  └──────────────────────┘  └──────────────────┘
                        ┌─────────────────────┐
                        │      Analysis       │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │     Revision I      │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │ Individual Evaluation│
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │      Analysis       │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │     Revision II     │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │ Small Group Evaluation│
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │    Revision III     │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │      Analysis       │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │ Field Trial Evaluation│
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │      Analysis       │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │     Revision IV     │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │    Final Product    │
                        └─────────────────────┘
                        ┌─────────────────────┐
                        │ Product Effectiveness Test│
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The teaching materials test on basic competencies in identifying entrepreneurial attitudes and behavior for Vocational High School X grade was by validating material experts on entrepreneurship subjects, validation of learning experts, validation of media experts, development revision (stage I), based on feedback, criticism or advice from three experts, design and media materials, individual trials by three students (one-on-one trials), nine students ' trial (small group Trials) , Phase II revision, based on feedback, criticism or suggestion from individual and small group trials, product revision III based on inputs and suggestions on small group trials, field trials on 24 students on the assessment of the appeal and product eligibility, phase III revision, on the basis of feedback, criticism or suggestion of field trials, final product revision for refinement , and continued by testing the effectiveness of the product in the learning process.

The product development of contextual-based teaching materials required feedback in order to achieve the expected outcome. The

feedback was obtained from two learning media experts and the product users were a grade X student consisting of 3 students (individual trials), 9 students for small group trials and 24 for field trials. This product test was carried out through the following steps: (a) The first step, determining the test goal was learning media experts, learning instrument design experts, learning media experts and students as users. Input from the respective experts was the suitability of learning materials, learning design, and media design data, then done improvement (revision I). While from students as users were expected input of the quality of display, presentation of the material, ease, and benefits of the resulting product, (b) The second step, set a test subject based on educational criteria, expertise, also the availability of time and energy to provide the necessary data, (c) The third step, the implementation of expert review prior to individual and field trials, first the product was given to experts for advice and feedback with their respective skills , (d) The fourth step, individual trials, products that have been fixed in revision I were given to 3 students studying entrepreneurship for the purpose of knowing the product's validity after being improved based on expert review. The feedback from this trial was used as the basis for making improvements to the product (revision II), (e) The fifth step, a small group trial conducted to find out if there was still a deficiency that needs to be improved from the product developed after discussing either based on expert review or individual trial. If there was a shortcoming then conducted improvement (revision III), (f) Step six, the field trials conducted to determine if there was still a deficiency that needs to be repaired from the product developed after being discussed either in an expert review or in individual and small group trials. If there was still a deficiency, based on input obtained will be done improvement (revision IV). If there was no input given, the product can be declared worthy as a valid Learning resource.

Data collected from product test results were used as the basis for establishing the feasibility and attractiveness of the product developed before use in field. In accordance with the design of the development done, the type of data excavated that was the aspect of learning and conformity of content obtained from the material experts and design of learning, the media aspects of learning obtained from the media experts, and the quality of display and presentation of materials derived from the learning outcomes on the basic competencies when identifying attitudes and behavior of entrepreneurship using contextual based teaching materials. Data obtained adapted to the design of the development used, the type of data collected in this development was quantitative descriptive data as the underlying data, then this data should be expressed in a predicate indicating the state statement, and the size of the quality accumulated through a poll with a scale of judgment 1 to 5 (Arikunto, 1990). The respondents gave an assessment number on each item based on the criteria set. In addition, the type of data collected was qualitative data in the form of suggestion and written input by respondents as additional data.

The data collection instruments in this study were assessment instruments to assess the products that have been developed. The underlying instruments used based on theoretical studies to gather data in this development were tests. The test is a student learning test that is based on a basic competency of attitude and behavior in entrepreneurship. This test of learning results using the student learning assessment sheet which is the teacher's guide in assessing student learning outcomes. Test to learn the students ' learning outcomes on attitudes and behavioral competence in entrepreneurship by pretests and Post-test. Pretest and Post-test were given before and after students has used contextual-based teaching books.

The assessment aspect of the test results in the competency of attitudes and behaviors in entrepreneurial covering cognitive aspects including C1 to C4. The assessed aspect was only in the field of cognitive. The spread of the number of test items in the instrument can be

seen in the test lattice of the learning outcomes. The product effectiveness test was conducted at Public Vocational High School (SMK) 10 Medan in the Major of Fashion. The effectiveness test was performed on class X TB 1 as an experiment class and class X TB 2 as the control class. The implementation of product effectiveness test was carried out in the learning activities with 4 meetings (8 x 45 minutes each meeting). The population in the effectiveness of development products was the all-grade X students of fashion major (90 students), of the entire population determined by 2 classes of sample X TB1 as the class to be given learning using contextual-based teaching materials and X-grade TB2 that will be given learning using the textbook.

Data collection was conducted on students of the semester 2018/2019 school year by involving 2 classes with the characteristics and treatment of contextual learning strategies. Class X TB1 as a class that used contextual-based teaching materials. Class X TB2 as a class that used textbooks. In order to get results from learning, given the pretests and post-test in both classes with the same instrument was the test of learning outcomes. In this

effectiveness test, the data obtained was the learning outcomes of students from classes using contextual-based and class-grade teaching materials using textbooks. The analytical techniques used were descriptive techniques.

RESULT AND DISCUSSION

Result

The process of developing contextual based entrepreneurship teaching materials was done gradually. The first process of analyzing students ' needs by elaborating the definition from contextual-based entrepreneurship teaching materials on the poll so that the respondents had an overview of the question. The search results of a stocked poll found 100% of teachers stated in need of teaching materials in the learning process so that the learning process runs more effectively and 100% of students said they needed learning media so they could make learning facilities individually. Analysis Data needs were shown in the following table.

Table 1. Data Needs Analysis

No	Type of Information	Answer	Frequency			Percentage
			Teacher	Students	Total	
1.	Already know or not with instructional media for teaching materials	Yes	2	0	2	4%
		No	8	40	48	96%
2.	Use or not use instructional media for teaching materials in the learning process	Yes	0	0	0	0%
		No	10	40	50	100%
3.	Requires or does not require learning media teaching materials in the learning process	Yes	10	40	50	100%
		No	0	0	0	0%

According to table 1 it can be explained that most teachers and students were not familiar with the media and learning materials. In addition, all teachers and students expressed the need for learning media in the form of teaching

materials in the learning process. From the analysis of the need to conclude that the developed learning media in the form of teaching materials are needed by teachers and students in the learning process. After obtaining

a series of development processes, the next step was to design and develop learning media in the form of teaching materials. The initial product was a contextual-based entrepreneurial teaching material for the X-grade vocational high school that outlines the following:

1) Material

The material presented in this contextual based teaching material was the competency-standard entrepreneurship subject for Vocational High School grade X even semester based on curriculum 2013. This teaching material was used for independent study and classifications in class. The competency standards found in these teaching materials were actualizing entrepreneurial attitudes and behaviors.

2) Presentation Components

The presentation components in these materials were preface, table of contents, competency standards, book usage instructions, competency standards, book position map, learning flow diagram, learning concept map, material description, summary, training question, glossary, and library list. The initial product of contextual-based teaching materials was then tested and tried and revised. Aspects that become material for revising include the components of content worthiness, presentation, graph, and flexibility to produce a proper teaching materials product for students.

Assessments were conducted to obtain information that will be used to improve the quality of learning at the standard of competency to actualize entrepreneurial attitudes and behavior. The assessment results of material experts on the feasibility aspect of this contextual based entrepreneurial teaching material are stated to be valid with a percentage score of 87.50% (very good). Then in the presentation aspect of the material percentage percent 89.58% (very good), the linguistic aspect of the percentage of scores 91.66% (very good) and the graphic aspect of the percentage of scores 88.23% (very good) with an overall average amount of 88.23 (very good). The results of a material expert assessment of the feasibility aspect of the content, the feasibility of the presentation of the linguistic aspect, and the overall graphic (100%) Indicated "excellent" criteria, this can be summarized in the following table.

Table 2. Expert assessment of material on contextual based for teaching materials

No	Categorization	Score Range	Frequency	Percentage
4	Very good	75% ≤ X ≤ 100%	2	100,00%
3	Good	55% ≤ X < 75%	0	0,00%
2	Less good	40% ≤ X < 55%	0	0,00%
1	Bad	X < 40%	0	0,00%
Total			**2**	**100%**

The validation of the product was intended to know the opinion of a expert of learning design for contextual-based entrepreneurship learning teaching material. Assessments were conducted to obtain information that will be used to improve the quality of learning in Public Vocational High School 10 Medan on competency standards to actualize entrepreneurial attitudes and behaviors. Based on the results of the assessment of the learning design expert on the feasibility aspect of contextual-based entrepreneurship teaching materials, it was valid with a percentage score of 87.50% (very good). Then in the presentation aspect of the material percentage of the scoring 78.75% (very good), and the aspect of the graphed percentage of scores 87.50% (very good) with an overall average amount of 88.23% with excellent criteria. The assessment was conducted by two design experts covering aspects of content feasibility, presentation eligibility and graphic appropriateness on the standard of competency to actualize entrepreneurial attitudes and behavior. The

result of the assessment of the appropriateness aspect, the linguistic aspect, and the overall graphic (100%) Indicates "excellent" criteria, this can be summarized in the following table.

Table 3. Design expert assessment of contextual based entrepreneurship teaching materials.

No	Categorization	Score Range	Frequency	Percentage
4	Very good	$75\% \leq X \leq 100\%$	2	100,00%
3	Good	$55\% \leq X < 75\%$	0	0,00%
2	Less good	$40\% \leq X < 55\%$	0	0,00%
1	Bad	$X < 40\%$	0	0,00%
Total			2	100%

Data of Learning Media Expert

Validation of the product was intended to know the opinion of the learning media expert on the entrepreneurship learning materials of contextual based. Assessments were conducted to obtain information that is used to improve the quality of developed learning media. Based on the results of a media expert on the feasibility aspect of this contextual based entrepreneurial teaching material was stated to be valid with a percentage score of 91.60% (very good). Then in the presentation aspect of the percentage of the scoring was 85.00% (very good) and the graph aspect of the scoring percentage was 77.08% (very good) with an overall average amount of 83.55% with excellent criteria. Overall the tendency level of the media expert assessment of the feasibility aspect, presentation feasibility, linguistic, and image selection have excellent criteria, this can be seen in the table below.

Table 4. Media Expert assessment of contextual based entrepreneurship teaching materials

No	Categorization	Score Range	Frequency	Percentage
4	Very good	$75\% \leq X \leq 100\%$	2	100,00%
3	Good	$55\% \leq X < 75\%$	0	0,00%
2	Less good	$40\% \leq X < 55\%$	0	0,00%
1	Bad	$X < 40\%$	0	0,00%
Total			**2**	**100%**

a. Data of Individual Test Results

Individual tests were carried out at Public Vocational High School 10 Medan on three grade X students TB1. The purpose of this individual test was to identify product deficiencies and students ' responses to products that have been developed. The assessment of this test was about students ' perception of the product that has been developed. The results of individual student tests on contextual-based entrepreneurship teaching materials on standard competency actualize entrepreneurial attitudes and behaviors for Vocational High School X grade developed with individual test. That the material of contextual entrepreneurship on the feasibility aspect of the content percentage of the scoring was 93.33% (very good), the feasibility aspect of the presentation percentage of the scoring 87.50% (very good), the aspect of the percentage linguistic of scoring percentage 95.83% (very good) and the aspect of the image selection percentage 100% (very good), with an overall average amount of 92.94% with excellent criteria. Assessment results in individual tests on the feasibility aspect of the content, presentation, linguistic

and image selection of entrepreneurial materials can be summarized in the table below.

Table 5. Individual test assessment of contextual based entrepreneurship teaching materials

No	Categorization	Score Range	Frequency	Percentage
4	Very good	$75\% \leq X \leq 100\%$	3	100,00%
3	Good	$55\% \leq X < 75\%$	0	0,00%
2	Less good	$40\% \leq X < 55\%$	0	0,00%
1	Bad	$X < 40\%$	0	0,00%
Total			**3**	**100%**

It was concluded that there was no need to be revised again, so it continued to the next test stage, which was a small group trial. A small group trial was conducted against nine students. This small group trial Data to rediscover students ' perception of contextual based entrepreneurial teaching materials. The results of small group trials on contextual-based entrepreneurial materials on competency standards actualize entrepreneurial attitudes and behaviors developed with small group trials that the contextual entrepreneurship teaching materials were seen on the appropriateness aspect of the content percentage of 94.44% (very good), the feasibility aspect of the presentation percentage of 97.91% (very good), the linguistic aspect of the percentage of scores 95.44% (very good) and the aspect of the selection of the figure percentage of scores 95.83% (very good) , with an overall average amount of 95.72% (very good). Assessment results in small group trials on aspects of content eligibility, presentation feasibility, linguistic and image selection of contextual-based entrepreneurial materials can be summarized in the table below.

Table 6. Small group trial assessment of contextual based entrepreneurship teaching materials

No	Categorization	Score Range	Frequency	Percentage
4	Very good	$75\% \leq X \leq 100\%$	9	100,00%
3	Good	$55\% \leq X < 75\%$	0	0,00%
2	Less good	$40\% \leq X < 55\%$	0	0,00%
1	Bad	$X < 40\%$	0	0,00%
Total			**9**	**100%**

Based on the results above, it can be concluded that there was no need to be revised again, so that it can continue to be further trial of the limited field trial. Limited field trials generated data that will be used to determine how the product benefits the users. The results of limited field trials on contextual-based entrepreneurship teaching materials on the standard of competency actualize entrepreneurial attitudes and behaviors, developed with limited field trials that the contextual entrepreneurship teaching materials are seen on the feasibility aspect of the contents of the percentage of 94.16% (very good), the feasibility aspect of the presentation percentage of scores of 94.01% (very good), the linguistic aspect of the percentage rate of 96.87% (very good) and the aspect of the figure selection of the percentage scores 97.91% (very good) , with an overall average amount of 95.10% (very good). Assessment results of limited field trials on the aspect of content eligibility, presentation feasibility, linguistic and image selection of entrepreneurial materials can be summarized in the table below.

Table 7. Inclination rate of limited field trial assessment of contextual based entrepreneurship teaching materials

No	Categorization	Score Range	Frequency	Percentage
4	Very good	$75\% \leq X \leq 100\%$	24	100,00%
3	Good	$55\% \leq X < 75\%$	0	0,00%
2	Less good	$40\% \leq X < 55\%$	0	0,00%
1	Bad	$X < 40\%$	0	0,00%
Total			**24**	**100%**

Limited field trials to 24 students, generally students have stated that the contextual based entrepreneurship teaching material has "excellent" criteria and there was no problem to improve. Thus there was no revision to the limited field trial stage which also means that this contextual based entrepreneurship teaching material was ready to be tested for its effectiveness. The results of the research by the material experts and the learning design experts on each aspect of the assessment as a whole were determined by the average score in their respective categories. The results of the study were subsequently analyzed to determine the well-deserved contextual-based entrepreneurial teaching materials. The average percentage of material expert assessment results, learning design experts, and learning media experts will be outlined as follows.

The learning material assesses the contextual-based entrepreneurship teaching materials on the standard of competency to actualize the entrepreneurial attitudes and behaviors developed have a feasibility with a percentage of assessment on the four aspects of the feasibility of a contextual based entrepreneurship teaching materials assessment with an average score of 87.50% for aspects of content feasibility, presentation feasibility aspect of 89.58%, linguistic aspect of 91.66%, and graph aspect of 81.25%. This meant that the developed contextual based entrepreneurship teaching materials can fulfill the demands of learning needs. The average percentage of material expert assessment of the teaching materials developed is shown in the following table.

Table 8. Average percentage of material expert assessment on contextual-based entrepreneurship teaching materials

No	Assessment Indicators	Average Percentage	Criteria
1.	Content Feasibility Aspect	87,50%	Very Good
2.	Presentation Feasibility Aspect	89,58%	Very Good
3.	Linguistic Aspect	91,66%	Very Good
4.	Graph Aspect	81,25%	Very Good
Average		**88,23%**	**Very Good**

Material expert assessment of contextual-based entrepreneurship teaching materials showed an average of 88.23% including excellent categories that meant the presentation of material on contextual-based entrepreneurial materials was excellent on the aspect of content feasibility, the aspect of presentation feasibility, the aspect of the linguistic and the aspect of graphic and can be used in the learning process especially on competency standards to actualize entrepreneurial attitudes Based on the expert responses of learning materials, it was stated that this contextual based entrepreneurship teaching material was eligible for field trials with the appropriate proposed revisions developed and acceptable in general.

Instructional design experts assessed contextual-based entrepreneurial materials on competency standards to actualize entrepreneurial attitudes and behaviors that have been developed with a percentage assessment of the feasibility aspect, presentation feasibility, and graphing with an average of 82.89%. This meant that the developed teaching materials can fulfill the demands of the learning needs seen from the valuation indicators of the content feasibility aspect, the presentation feasibility, and the graphic the criteria was "excellent". The average percentage of assessment of a learning design expert on contextual based entrepreneurial teaching materials was seen in the following table.

Table 9. Average percentage of material design expert assessment of contextual-based entrepreneurship teaching materials**.**

No	Assessment Indicators	Average Percentage	Criteria
1.	Content Feasibility Aspect	87,50%	Very Good
2.	Presentation Feasibility Aspect	78,75%	Very Good
3.	Graphic Aspect	87,50%	Very Good
Average		**82,89%**	**Very Good**

The assessment results of a learning design expert on contextual based entrepreneurial teaching materials that were structured to show an average percentage of 82.89% including a very good category that meant from the presentation feasibility aspect of contextual-based entrepreneurial materials can be used in the learning process especially on standard competencies to actualize entrepreneurial attitudes and behaviors. Based on the learning design expert's response, it was stated that this contextual based entrepreneurship teaching material was eligible for a limited field trial with the appropriate proposed revisions and general acceptance. A learning media expert assessed contextual-based entrepreneurial teaching materials on basic competencies to actualize entrepreneurial attitudes and behaviors that have been developed have a feasibility with a percentage of scoring on the graphic feasibility component with an average score of 84.56%. This meant that developed contextual based entrepreneurship materials can fulfill the demands of learning needs for the contextual based entrepreneurial teaching materials that are developed in the following table.

Table 10. Average percentage of Media expert assessment results on contextual based entrepreneurship teaching materials.

No	Assessment Indicators	Average Percentage	Criteria
1.	Content Feasibility Aspect	91,60%	Very Good
2.	Presentation Feasibility Aspect	85,00%	Very Good
3.	Graphic Aspect	77,08%	Very Good
Average		**83,55%**	**Very Good**

The results of the research of media learning experts about contextual based entrepreneurial materials that are organized showed an average percentage of 83.55% including the category "excellent" which meant the aspect of content feasibility, the aspect of the presentation, and the aspects of graphing can be used in the learning process in particular competency standards to actualize entrepreneurial attitudes and behavior. Based on the response from the

learning media experts, it was stated that this teaching material was appropriate for field trials. The results of individual trials on the perception of students on entrepreneurial teaching materials were developed indicating excellent criteria with an average percentage of 92.94%. The implementation of this individual trial aimed to determine the initial opinion of the student as a user prior to the small group trial. Student perception consisted of several categories of valuation indicators, namely aspects of content feasibility, presentation feasibility, linguistic, and image selection. The percentage of student perception in individual trials can be seen in the table below.

Table 11. Percentages results of individual trial scores on contextual-based entrepreneurship teaching materials

No	Assessment Indicators	Average Percentage	Criteria
1.	Content Feasibility Aspect	93,33%	Very Good
2.	Presentation Feasibility Aspect	87,50%	Very Good
3.	Linguistic Aspect	95,83%	Very Good
4.	Image Selection Aspect	100%	Very Good
Average		**92,94%**	**Very Good**

Data Analysis of Small Group Trial Results

Students ' perceptual assessment results in small group trials revealed contextual-based entrepreneurial teaching materials that have been developed were expressed with "excellent" criteria with an average score of 92.94%. In the trial phase of small groups that were very good, there was no need to be revised so that can be continued in field trials. The percentage of student perception in small group trials can be seen in the following table.

Table 12. P ercentage result of small group trial score on contextual based entrepreneurship teaching materials

No	Assessment Indicators	Average Percentage	Criteria
1.	Content Feasibility Aspect	94,44%	Very Good
2.	Presentation Feasibility Aspect	97,91%	Very Good
3.	Linguistic Aspect	95,44%	Very Good
4.	Image Selection Aspect	95,83%	Very Good
Average		**95,72%**	**Very Good**

Data Analysis of Limited Field Trial Results

A limited field trial was conducted on 24 students, obtained students ' perceptions of the developed teaching materials having "excellent" criteria with an average score of 95.11%. This limited field trial assessment was the final stage of the product test of contextual based entrepreneur teaching material for X grade Vocational High School. The results of this assessment concluded that developed teaching materials received excellent responses for students as product users. The percentage of student perception on a restricted field trial can be seen in following table 13.

Table 13. Percentage result of limited field trials score to contextual based entrepreneurship teaching materials

No	Assessment Indicators	Average Percentage	Criteria
1.	Content Feasibility Aspect	94,16%	Very Good
2.	Presentation Feasibility Aspect	94,01%	Very Good
3.	Linguistic Aspect	96,87%	Very Good
4.	Image Selection Aspect	97,91%	Very Good
Average		**95,10%**	**Very Good**

Based on the advice and improvement of material experts, learning design experts and learning media experts, researchers made several revisions to the learning media developed. The revised results were as follows.

1. Material experts were; Improve the font size and should be the same for all chapters except for the title.
2. Learning design experts that added a reading source and map learning concepts.
3. Learning media experts were improving the uniformity of type, font size and enlarged for easy reading. In addition, improve image laying, and the image can be placed in the middle, on the left and on the right. Add a reading source, refine the first by inserting a link sentence, and fixing the problem on the test item.

For the second revision based on the analysis of individual test results conducted on three grade X students TB1 there was no improvement advice on the developed materials. For a third revision based on analysis of small group trial assessments conducted on 9 grade X students TB1 There was no improvement suggestion on developed teaching materials. While the fourth revision based on the analysis of limited field trial assessments conducted on 24 students there was no advice and improvement of teaching book products on the standard of competency to actualize the entrepreneurial attitudes and behaviors developed. The results of posttest to students who were taught using teaching materials obtained the lowest score of 20, the highest score of 34, the average score of 27.37 and the standard deviation 2.84. Post test Data of students who were taught by using teaching materials are listed in the table below.

Table 14. Frequency distribution of post test score of students who were taught using teaching materials

No	Interval Class	Fi	Relative Percentage
1	20 - 22	1	4.16
2	23 - 25	4	16.66
3	26 - 28	12	50
4	29 - 31	5	20.83
5	32 - 34	2	8.35
Total		24	100.00

The Histogram post test score of students taught using the teaching book can be seen in the following illustration.
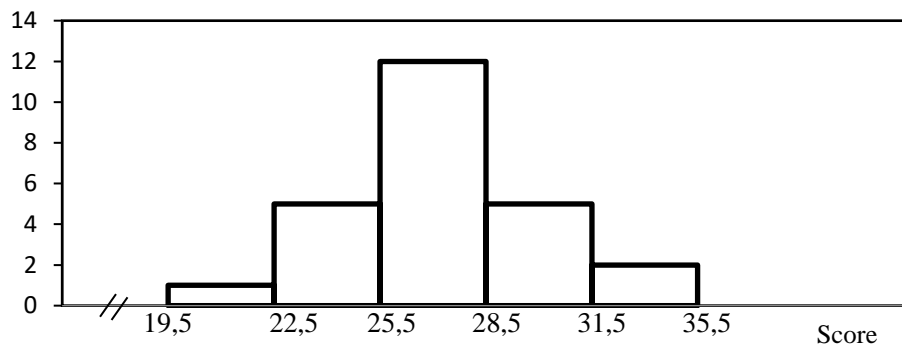
Frequency

Illustration 1. Histogram Post test score students who were taught using teaching materials

The results of post test to students involved an increase in students ' learning outcomes using teaching materials after the development of developed teaching materials. Results of post test to students studying using textbooks obtained the lowest score of 18, the highest score of 29, the average score of 23.6 and the standard deviation of 2.54. Post test Data of students who were taught by using textbooks are listed in the table below.

Table 15. Frequency distribution of Post test score of students who were taught using textbooks

No	Interval Class	fi	Relative Percentage
1	18 - 19	1	4.34
2	20 - 21	4	17.39
3	22 - 23	5	21.73
4	24 - 25	9	39.14
5	26 - 27	2	8.7
6	28 - 29	2	8.7
Total		23	100.00

The Histogram of post test score of students taught using the textbook can be seen in the following illustration.
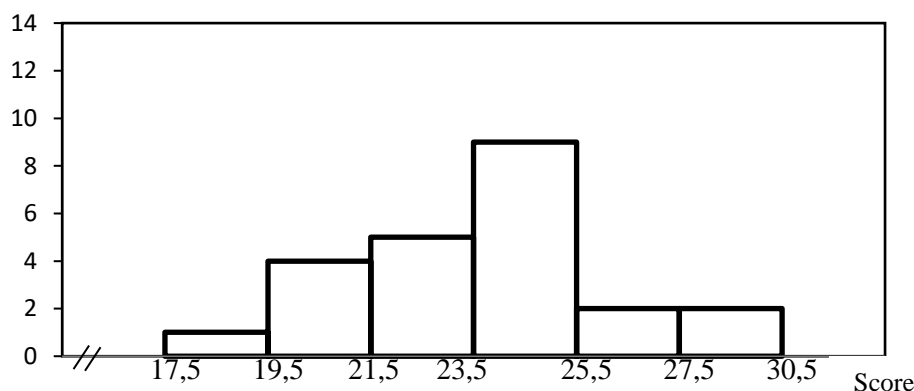
Frequency

Illustration 2. Histogram posttest score of students taught using the textbook

The results of posttest given to students were also seen as an increase in the learning outcomes of students who have been taught by

using textbooks after they are using developed teaching books. Test data analysis requirements were conducted to determine the parametric statistical test of the research hypothesis. Data analysis testing was conducted by testing the normality of research data with Liliefors test. The trial summary of data normality with Liliefors test is as follows,

Table 16. Data normality test summary with Liliefors test

No.	Data	Class	L_{count}	L_{table}	Conclusion
1	Pretest	Experiment	0,087	0,185	Normal
2	Pretest	Control	0,114	0,187	Normal
3	Post test	Experiment	0,172	0,185	Normal
4	Post test	Control	0,111	0,187	Normal

As for testing the homogeneity of the research data used for Fisher test. A summary of data homogeneity tests with Fisher's tests as follows;

Table 17. Summary of research data homogenities test

No	Data	F_{count}	F_{table}	Conclusion
1	Pretest of Experiment Class	1,71	2,07	Homogen
2	Pretest of Control Class			
3	Post test of Experiment Class	1,24	2,07	Homogen
4	Post test of Control Class			

Based on table 16 and table 17 data above, it can be concluded that the research data has fulfilled the requirements to be conducted hypothesis testing. In conducting hypothesis testing obtained empirical evidence that the results of the learning of students using the teaching material can higher than the use of textbooks with the effectiveness of teaching materials of 27.37%. The counting data there was a significant difference between the students ' learning outcomes and the use of teaching materials and students ' learning outcomes by using textbooks. The hypothesis testing used was a different test. From the calculation result $t_{count} = 2.35$ while $t_{table} = 1.68$. Because $t_{count} = 2.35 > t_{table} = 1.68$ then there was a significant difference in the learning outcomes of students who use materials using textbooks in the standard of competence to actualize the attitude and behavior of entrepreneurial class X Vocational High School BM APIPSU Medan. Summary of the hypothesis test as follows;

Table.18. Summary of the Hypothesis Test

Post test Score Average		t_{count}	t_{table}	Conclusion
Using Teaching Materials	Using Textbook	2,35	1,68	There was difference
27,37	23,6			

Research and development was conducted with the aim to produce products in the form of contextual based teaching materials while testing the effectiveness of the products utilized by students as a strategy to improve the quality of learning and learning outcomes. Therefore,

the research and development process was done and began with several stages, among others:

1. Preliminary studies include observation, interviews and library studies. From observation there was a description that students desperately need teaching materials that correspond to students' characteristics.

2. Designing products to produce the original product of teaching materials, these activities include: a) conducting preliminary research that includes identification of the needs and objectives of learning, determining core competencies, mapping basic competencies, mapping indicators, (b) conducting analysis of learning by determining more specialized skills to be learned, (c) identifying the original characteristics and behaviors of students, (d) writing basic competencies and indicators, (e) Drafting benchmark reference test by developing assessment items to measure the ability of students estimated in learning objectives , (f) Develop a learning strategy.

3. Develop teaching materials. These activities include: Foreword, competency standards, basic competencies and indicators of learning outcomes, learning activities and bibliography.

4. Designing learning Activities to cover: learning materials, summaries and tests.

5. Conduct formative evaluation and revision. These activities included product evaluation to determine the advantages, disadvantages, and weaknesses regarding the quality of content and design done by material, design and media experts. From the evaluation result will be made material to be done product revision. Moreover, the formative evaluation can be used as an evaluation program and know the weakness of teaching materials

conducted during the development and production of Belawati teaching materials (2003:105). In the development and production of teaching materials, formative evaluation was often carried out in the form of test-learning activities before use on target.

DISCUSSION

It can be explained that the benefits gained from the development of teaching materials were the concepts presented are easy to learn, easy to understand and systematic. What's more, students will be more accomplished when they are given the opportunity to find concepts from being formally instructed (Leidner and Jarvenpaa, 1995). Contextual-based teaching materials gave students the opportunity to learn according to their respective pace, learn faster, independently and do not cause boredom. Because it came with a map of learning concepts, drawings, easy-to-understand materials, and a variety of exercises. This method will develop a student's commitment to be prepared in problem solving together (Arbauch & Benbunan-Fich 2006; Breslow 2001). The existence of individual duties and group assignments made students better understand the material and participate actively in learning.

Revised and enhanced aspects based on data analysis and trials and input from material experts, learning design experts, and learning media experts. Students as a learning media user in the form of contextual based teaching materials aimed to explore aspects that are prevalent in the process of developing a product. Aspects of the teaching materials have excellent average score. The materials variables assessed include the feasibility of content, presentation, linguistic and graphic.

Subsequent revision results were tested to the students through individual trials, small groups, and limited courses. This trial was expected to get feedback to create a proper teaching material in accordance with the

characteristics of the student as a user. As that development research was oriented to develop and validate the products used in education (Borg & Gall, 1983). After conducting the test and getting feedback from the students as a user, revisions were revised based on expert advice and feedback to produce a proper teaching material. From the overall validation data respondents gained score with excellent criteria and were worth using in learning.

A teaching material was considered final after demonstrating satisfactory results in achieving the specified objectives (Belawati, 2003). It was necessary to test the product in the learning process to determine the effectiveness of the learning. To see the effectiveness of the analysis of learning outcomes on 24 students taught using teaching materials developed, and compared to the student learning outcomes of the class using textbooks. Based on analysis, the average score of basic competencies using contextual-based teaching materials was higher than the average score of students using textbooks. So it can be noted that there was a difference in learning outcomes between classes that use contextual-based teaching materials towards learning outcomes using textbooks.

There were several factors that lead to the difference in the average number of learning outcomes between classes using teaching materials and classes using textbooks. The first development of the teaching materials was based on communication theory, study theory, and learning theory. Communication theory has a major impact on the learning paradigm, i.e. using media or learning resources. Abstract messages or material will be clearer and well-understood with contextual-based teaching materials. Because contextual learning will encourage students to understand the material and be firmly embedded in the student's memory (Nurhadi, 2004:4). Contextual-based teaching materials offer potentially robust learning to improve the quality of human learning. The teaching materials were developed also based on study theory.

The learning process occurred due to the short and long term memory synergy enabled through the creation of external factors i.e. the learning environment, that learning is more meaningful when the material is associated with the real world situation of students and encourages students to make the relationship between his knowledge with his application in their lives. Teaching materials were developed in the theory of learning. The material offerings to the teaching materials were based on Bruner's theory of learning and the learning events according to Gagne. Bruner's theory was used as a material presentation principle that starts easily gradually towards more complex material. On the teaching materials, this presentation was shown in the formulation of indicators that start from easy to difficult. The formulation of indicators as well as reference presented the content of teaching books. By looking at the assessment guidelines and Criteria according to Sugiyono (2011) It can be concluded that from the assessment of the results the study proved that the use of contextual-based entrepreneurship teaching materials is more effective to improve student learning outcomes.

Exposure showed that the use of developed teaching materials provided very significant benefits and added value to students primarily as an independent material and significant added value to students primarily as an independent material (Situmorang, 2015). From the above exposure can be concluded that the development of teaching materials developed using the design of Dick and Carey was worth being used as a learning resource at school.

CONCLUSION

Based on the formulation, objectives, results and discussion of research on the development of contextual-based entrepreneurship teaching materials previously stated. Hence, it can be concluded that contextual-based entrepreneurial teaching products developed for Grade X students are eligible and worthy of use as learning books, expert assessment of

materials, learning design, learning media experts, individual trials, small group trials, and limited field trials. Developed teaching materials belong to the category so good that it is acceptable and worthy to be used as a teaching material. The use of contextual-based teaching materials is more effective in improving learning outcomes, which is demonstrated by the learning outcomes of students who are taught by using higher learning materials than the student outcomes learned using textbooks.

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