THE DEVELOPMENT OF TEACHING MATERIAL OF WRITING COMPLEX-PROCEDURE TEXT BASED THINKING MAP ON X GRADE STUDENTS OF STATE VOCATIONAL SCHOOL 7 MEDAN

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ABSTRACT: *This research aims to know the result of teaching material development of writing complex-procedure text based thinking map on X grade students of State Vocational School 7 Medan. The used method is Research and Development (R&D) proposed by Sugiyono refered to Borg & Gall model. The trial subject consists of 3 students for individual tria, 9 students for small group trial and 32 student for limited field trial. Data collection technique uses observation, interview, questionaire, and writing test of writing explanation text. The research result shows that: (1) validation of material expert includes contents expediency gets the average 87.5% on very good criterion, presenting expediency obtains the average 85.57% on very good criterion, and the language aspect has the average 88.46% on very good criterion, (2) design expert validation has the average 85.41% on very good criterion, (3) the teacher's response gets the average 86.03% on very good criterion, (4) the individual trial has the average 78.47% on good criterion, (5) small group tria has the average 82.41% on very good criterion and (6) limited field trial on the average 85.54% on very good criterion. The result of writing complex-procedure text before using module gets 71.09 while learning test result of writing complex-procedure text after using module increases 86.71 %. The different is 15.62% before and after using module. This proves that teaching material of developed writing complex-procedure text can increases student's learning result by using learning method based thinking map.*

KEYWORDS: Learning Material, Module, Complex Procedure Text,Thinking Map

INTRODUCTION

Writing is a language skill that is used to communicate indirectly to the other people. Writing is a productive and expressive activity. This is agreed by Nurgiyanto (2001:271) He states in writing activity, writer must function structure of language and vocabulary skilfully. Therefore, writing activity is not an easy activity because it needs much practise and training. Based on the statement above , Slamet (2008:104) state that writing skill has meaningful function where it can improve brightness, develop initiative energy and creativity, grow braveness in expressing idea.

The goverment has reformed school-based curriculum to be curriculum 2013 to develop science and technology. In curriculum 2013, Indonesia language learning tends to focus on text that is called as text based learning. Text based learning has implication to learning application that is not seperated from text in form both oral and written. Text based learning proses is undertaken scientifically integrated by 4 step activities such as (observating, asking, thinking, presenting, trying, creating,). Text based learning is undertaken by applicating principles that

language should be viewed as text, it is not only as word collection or langue principle. The Regulation of National Education Minister number 60 of 2014 explains that curriculum of senior high school/ vocational school on Indonesia language lesson for X grade about compex-procedure text is base competency 3.1 to understand stucture and principle of compex-procedure text both oral and written; base competency 3.3 to analyse compex-procedure text both oral and written; base competency 4.1 to interprete the meaning of complex-procedure text both oral and written; and base competency 4.1 to produce complex-procedure text both oral and written. The decided Regulation of National Education Minister explains that Indonesia language lesson is not only about language science or literature but also Indonesia language lesson that also has role in improving the ability in interacting effectively with social environment and universe which is able put itself as nation reflection. The low level of student's graduation about writing of complex-procedure text is obtained from interview result with one of Indonesia language teacher in State Vocationa School 7 Medan influenced by the low of student's curiousity in writing complex-procedure. The students do not understand fully what is named complex-procedure text, the element of writing complex-procedure text and the most dominant is that the students do not understand what is meant by structure and the language feature of complex-procedure text.

The using of text book should be able to motivate and attract student's interest. Student will be easier in learning by using text book, when students do not understand the teacher's explanantion, the one way that they can do is to read the book. In fact, the text book that is used by student all this time still make them confuse in comprehending complex-procedure text. This case is stated by Wena (in Lubis and friends, 2015:18) that the equipping of the quality text book is still lack. The used text book emphasizes on mission of knowledge and fact. The writer of text book is still lack in thinking how the book is understood easily and fun, so student's motivation is lack, the task is not finished on time and the score that is obtained is low. Therefore, it is important to create a teaching material that is easy to be understood and attrack for students. It is agreed by Sumiati and Asra (2016:149) that book is a reference, it means that it is not good if the learning only depends on the text book as the only teaching material source.

The teaching material development like learning module is one of supported innovation that support indonesia language learning because of having adventage such as by using module, student can follow learning activity based on speed and self ability, module can be used everywhere, so learning activity can be increased, by using teaching material, student can know learning result themselves. If the sucess level is still low, student can learn the material that is understood yet. the module will be concepted with thinking map. The general problem of this reseach and development can be formuated as follow. How is the teaching material expediency of writing compex-procedure text based thinking map on X grade student State Vocational School 7 Medan?. Furthermore, the general aim of this research is to know the teaching material expediency of writing complex-procedure text based thinking map on X grade student State Vocational School 7 Medan.

The adventages of development research of this reading teaching material are (1) Theoritical function of this research is to add knowledge about the need of teaching material development and as independent media learning used by student with/without teacher based on learning ability. (2) Practice function of this research for students is expected that this research will facilitate the student in writing complex-procedure text and function developed teaching material in this research as independentb teaching material. For teacher, giving information

indirectly to teacher, so that s/he uses teaching materia of writing compex-procedure text based thinking map to improve students' learning result and facilitate teacher in giving learning material. For schoo, it is to encourage the school in creating various teaching materials to support learning process in the school.

RESEARCH METHODOLOGY

The main aim of this research is to produce teaching material like learning module of writing complex-procedure text based thinking map for X grade of State Vocationa School 7 Medan. The used development design is research and development (R &D), The development of Brog and Gall is used for developing a product. The product of developed learning module is the material of writing procedure text of X grade students State Vocational School 7 Medan. This research and development tend to theory of teaching material development proposed by Borg and Gall. Sugiyono (2008: 409) proposes the research steps and the development of Borg and Gall as follows:
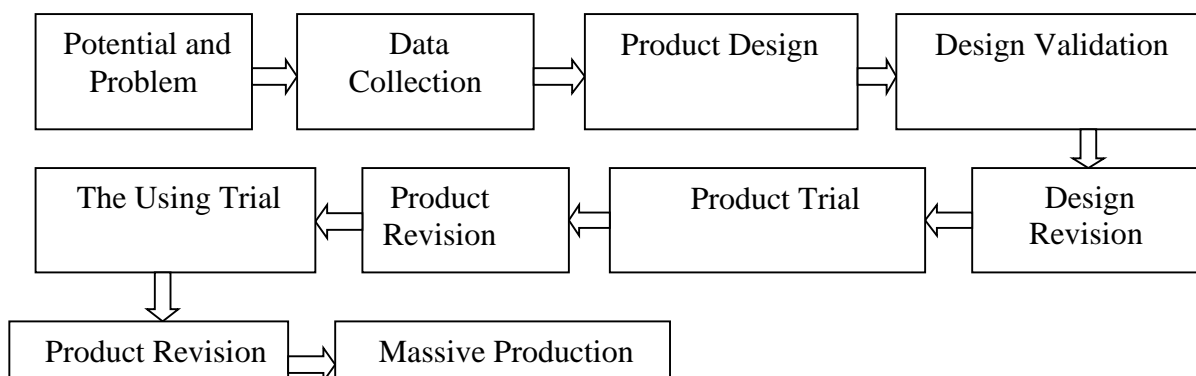
(Sugiyono, 2008: 409)

Research and Development are the effort to develop and produce a product such as material, media, tool and/or learning model used to handle the learning in the class, and not to investigate the theory. It is agreed by Sugiono (2008:407) the research and development method is research method used to produce certain product and examine the effective product. The development procedure can be undertaken by procedural steps as follow, 1) potential and problem; the existed potential in this research is the existance of curriculum of Indonesia language subject in State Vocational School 7 Medan, so it has potential in developing module of writing complex-procedure text based thinking map as teaching material with learning process in the school. The other potetntial is teacher and school that has knowledge about thinking map theory. All potential can be problem if it is not used and developed. The problem is deviation and can be the used potential. The identification of problem through observation and interview as the main observation. The found problem in functioning teaching material is form of unexisted module. Besides that, The learning activity is not variation because it is dominated by language activity such as in exercise and demonstration. This problem can be solved by using module of writing complex-procedure text based thinking map. (2) Data collection, the obtained data from the result of potential identification and problem is continued by collecting data related by ways; a) the module development of writing complex-procedure text based thinking map. Data collection is undertaken by by doing learning observation and interview with teachers and students about problem in learning activity of complex-procedure text material. b) Analyzing curriculum 2013, edition of revision 2014 and the need of teaching material of syllaby and lesson plan supporting module making as teaching material

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accompanied learning process, (c) deciding learning theme that will be undertaken into the module and, Finding and collecting information activity, exercise, material, and compiling material of instrument such as lesson plan, syllaby, instrument of assessment, questionnaire of validation expert, and questionnaire of teachers and students. (3) Product Design, module design is begun from title, competency standard, base competency, learning aim, learning materia, learning application based on thinking map are based on curriculum 2013 of edition of revision 2014. (4) validation design, designed module is validated by experts that has competent in their field (lecturer and teacher). Validated competent is content expediency, language expediency and presenting expediency. (5) Revision design, validated module will be vaidated and revised and complicated based on suggestion of expert/ validator before the tria, so the produced module is appropriate to be used. (6) the trial of small scale product; the module will be examined for the first time with the small scale to 3 students considered to present 3 cognitive levels of low, middle, and high. Data collection uses student's respose questionnaire continued by small group trial that has tota 9 students, The trial of small scale product aims to know the product's readiness by using student's response questionnaire. (7) Revision of product; this revision of product is small scale undertaken is based on the result of teacher and student's response questionnaire, so the module can be correted and compecated. (8) Big scale trial, revised product and it is stated valid that means that it is ready to be examined in big scale. In this research, module that is given to X grade students of State Vocational School 7 Medan consists of 32 students (9) Revision of product, this revision of product has big scale based on student's response questionnaire to know the weakness of module, so it can be corrected and ready to be implemented in the learning. (10) Massive product; in this research, it is after the product is revised last, the product becomes last product in the form of module of writing complex-procedure text based thinking map to know the effectiveness of module through writing complex-procedure text test based thinking map.

RESULT AND DISCUSSION

The assessment of teaching material of writing complex-procedure text based thinking map, it is assessted by two material experts and two design experts to be validated before trial in the field. The assessment result of teaching material of writing complex-procedure text based thinking map follows

a. The assessment by material expert includes in very good criterion with the average score of content expediency aspect 87.5%, presenting expediency is 85.57%, and language expediency aspect is 88.46%

b. The assessment by design expert on very good criterion is the average score 85.41%. module measure aspect has the average score 87.5%, cover design module has the average score 85.93% and module design has the average score 84.86%.

Teaching material in form of teching material is validated and assessted by material and design expert and stated valid, so the teaching material is responded by 2 Indonesia language teachers and 31 students of X grade State Vocational School 7 Medan. The response of teachers and students to teaching material of writing complex-procedure text based thinking map is as follow:

a. Teacher's response to teaching material in form of developed module gets the average score 86.03% on very good criterion

b. Student's response to teaching material in form of developed module on the small scale tria (3 students) with the average 78.47% good criterion, small group trial (9 students) gets the average score 82.41% very good criterion, and big scale trial (32 students) gets the average 85.54% with very good criterion.

The result of teaching material development of writing complex-procedure text based thinking map is the result of assessment and validation by material expert and design expert on every assessment aspects wholly that is decide by the average score from each criteria. The result of obtained assessment aspect will be descibed as follow;

Validation Result of Material Expert

The assessment undertaken to get information teaching material in module form that is developed for improving learning quality in State Vocational School 7 Medan on material of writing complex procedure text. Based on the assessment result on expediency aspect of material content that teaching material of writing complex procedure text based thinking map developed on the average percentage total 87.5% with "very good" criterion. The validation data result of material expert to content expediency can be seen on the table 1 as follow:

Table 1: The assessment of Teaching Material Expert of Writing Complex-Procedure Text Based Thinking Map for Content Expediency

Sub Component	Indicators	Average (%)	Criteria
A. The material suitability with base competency and core competency	1. Material Completeness	100	Very Good
	2. Material width	100	Very Good
	3. Material depth	87,5	Very Good
B. The material accurate	4. The accurate of concept and definition	87,5	Very Good
	5. The accurate of fact and data	75	Good
	6. The accurate of example and case	75	Good
	7. The accurate of picture, diagram and illustration	75	Good
	8. The accurate of terms	100	Very Good
	9. The accurate of notation, symbol and icon	75	Good
	10. The accurate of references	100	Very Good
C. The progression of material	11. The suitability of material and science development	100	Very Good
	12. Using example of case in daily life	75	Good
	13. Pictures, diagram, and illustration in daily life	87,5	Very Good
	14. Progression of reference	100	Very Good
D. Encouraging the curiousity	15. Encouraging the curiousity	87,5	Very Good
	16. Creating ability in asking	75	Good
Total		**87,5**	**Very Good**

The average percentage result of every content expediency aspect is the component of material suitability with core competency and base competency, accurate of material , material and encourage curiosity can be seen on the table 2 as follow:

Table 2: The assessment percentage of material expert to content expediency

No.	Sub Component	Average (%)	Criteria
1	The material suitability with base competency and core competency	95,83	Very Good
2	The material accurate	83,92	Very Good
3	The progression of material	90,62	Very Good
4	Encouraging the curiosity	81,25	Very Good
	Average	**87,5**	**Very Good**

Based on percentage result from material expert about content expediency above, sub component of assessment obtains material suitability with base competency and core competency having average percentage 95.83%, material accurate has the average 83.92%, the progression of material has average 90.62% and encouraging the curiosity has average 81.25%. The percentage result of all sub component of assessment aspect of content expediency is 87.5 with "very good" criterion. The assessment of presenting expediency according to material expert with the total of average percentage is 85.57% with very good criterion. Validation data result to presenting expediency can be seen on the table 3 as follow

Table 3: The Material Expet Essessment of Teaching Material of Writing Complex-Procedure Text Based Thinking Map for Presenting Expediency

Sub Componen	Indicators	Average (%)	Criteria
A. Presenting Technique	1. The systematic presenting consistency in learning activity	75	Good
	2. The concept steps	75	Good
B. Presenting of Learning	3. Students involvement	75	Good
	4. Student Centre	75	Good
	5. Stimulateing student's ability in every learning activity	75	Good
C. Presenting Equipment	6. The example of question on every learning activity	75	Good
	7. Exercise on evey last learning	87,5	Very Good
	8. Answer key of question	75	Good
	9. Introduction	100	Very Good
	10. Content	100	Very Good
	11. Glossary	100	Very Good
	12. Reference	100	Very Good
	13. Summary	100	Very Good
Total		**85,57**	**Very Good**

The result of average percentage of presenting expediency aspect from sub component of presenting technique assessment, presenting of learning, and presenting equipment can be seen on the table 4 as follow.

Table 4: The assessment percentage of material expert to presenting expediency

No.	Sub Component	Average (%)	Criteria
1	presenting technique	75	Good
2	presenting of learning	75	Good
3	presenting equipment	92,18	Very Good
Total		**85,57**	**Very Good**

Based on the percentage result of material expert about presenting expediency above, sub component of research obtains presenting technique having average percentage 75, the presenting of learning has average 75, and presenting equipment has the average 92.57. The average percentage result from whole sub component of assessment aspect of expediency aspect of presenting expediency is 85.57 with very good criterion. The assessment of language aspect according to materia expert with the percentage total has average 88.46% with very good criterion. Validation data result of material expert to language aspect can be seen on the table 5 as follow:

Table 5: The Material Expert Assessment of Teaching Material of Writing Compex-Procedure Based Thinking Map for Language Aspect

Sub Component	Indicators	Average (%)	Criteria
A. Clearness	1. The exactness of sentence struture	75	Good
	2. The effectiveness of sentence	75	Good
	3. The formal term	75	Good
B. Communicative	4. reading ability to message	87,5	Very Good
	5. The exactness in using language	100	Vey Good
C. Dialogic and Interactive	6. The ability in motivating message and information	75	Good
	7. The ability in encouraging critical thinking	87,5	Very Goods
D. The Suitability with student level	8. The suitability of intelectual student development	100	Very Good
	9. The suitability with emotional students level	87,5	Very Good
E. Steps and unification of thinking flow	10. The steps and unification between learning activity	100	Very Good
	11. The steps and unification amaong paragraph	87,5	Very Good
	12. consistency of using term	100	Very Good
	13. Consistency of using symbol and icon	100	Very Good
Total		**88,46**	Very Good

The average percentage result from language assessment aspect from sub component of assessment of cleareness, communicative, dialogic, and interactive, The Suitability with student level, the using terms, symbol, and icon can be seen on the table 6 as follow.

Table 6: The percentage of material expert assessment to language aspect

No.	Sub Component	Average(%)	Criteria
1	Clearness	75	Good
2	Communicative	93,75	Very Good
3	Dialogic dan interractive	81,25	Very Good
4	The Suitability with student level	93,75	
5	Steps and unification of thinking flow	93,75	Very Good
6	The using of term, symbol, and icon	100	Very Good
	Average	**88,46**	**Very Good**

Based on the percentage result from material expert about language assessment above, the sub component of assessment obtains has average percentge 75% of efficiency, communicative has the average 93.75%, dialogic and interactive has the average 81.25%, suitability to student development level is on 93.75%, dialogic and interactive has the average 81.25%, suitability of student development level has 93.75%, steps and unification of thinking flow gets the average 93.75% as well as using symbol term, and icon with word gets 100%. The percentage result of all sub component of assessment of language aspect is 88.46% on "very good" criterion.

The Validation Result of Design Expert

Based on validation result of teaching material like module by lay out design module and learning design, it can be concluded that learning design developed with average percentage total 85.41 % "very good" criterion.validation data result of expert can be seen on the table 7 as follows:

Table 7: The Assessment of Teaching Material Design Expert

Components	Indicators	Average (%)	Criteria
A. Module Measure	1. The suitability of module with standard ISO (A4, A5, dan B5)	75	Good
	2. The suitability of size with content material of module	100	Very Good
B. Cover Design of Module	3. The presentation of disposition element on infront cover, behind cover and bone that have cadence and consistence unity	87,5	Very Good
	4. Showing good center point	87,5	Very Good
	5. Color of dispoint element and clearing function	75	Good
	The used letter is interesting and easy to read		

	6. Composition and size of disposition (title, author, illustration, logo etc) proportional, balance of disposition (based on pattern)	75		Good
	7. Title letter size of module is more dominant and proportional that module size and author name	75		Good
	8. Colour of module title is contrast to background	100		Very Good
	9. No using to mucg combination of letter type	100		Very Good
	Illustration of module cover			
	10. Cover describes content/teaching material and express the object character	87,5		Very Good
	11. Form, colour, size, proportion of object are based on reality	87,5		Very Good
C. Module Content Design	**Disposition Consistency**			
	12. The placement of the consistency element is based on pattern	87,5		Very Good
	13. The separation of clear inter paragraph	87,5		Very Good
	Harmony disposition element			
	14. Printed field and proportional margin	100		Very Good
	15. The margin of two pages is accompanied by proportional	75		Good
	16. The space of inter text and illustration is appropriate	87,5		Very Good
	The complete disposition element			
	17. The title placement of learning activity, sub title of learning activity, and page number	87,5		Very Good
	18. The illustration placement and correct caption	87,5		Very Good k
	The disposition of page acceleration			
	19. The placement of illustration as background does not disturb title, text and page number		75	Good
	20. The disposition of title, sub title, illustration, and picture describtion do not disturb the comprehension		75	Good
	The typography of module content			
	21. No using letter too much	87,5		Very Good
	22. the using letter variation (*bold, italic, all capital, small capital)* is not too much	100		Very Good
	23. The width of text structure is normal	87,5		Very Good
	24. The inter line space of text structure is normal	100		Very Good
	25. The inter letter space is normal	75		Good
	The typography of content module facilitates the comprehension			

	26. The stages of title clearly, consistently and proportionally	75	Good
	27. *hyheonation*	75	Good
	The Content Illustration		
	28. Able expressing meaning of the object	87,5	Very Good
	29. The accurate form and proportional as real	75	Good
	30. Creative dan dynamic	100	Very Good
	Total	85,41	Very Good

The average percentage result is obtained based on sub component of assessment such as teaching material measure, cover design of teaching material, and content design of teaching material. The percentage for sub component can be seen on the table 8 as follows:

Table 8: The Percentage of Design Expert Assessment

No.	Sub componenf os Assessment	Average (%)	Criteria
1	Module Measure	87,5	Very Good
2	Module Cover Design	85,93	Very Good
3	Module Content Design	84,86	Very Good
	Average	**85,41**	**Very Good**

Based on the result of the average result shown on the table above that sub-component of assessment on module measure has the average percentage 87.5%, module cover design has the average 85,93% and module content design has the average 85.41%. The result of all sub components of presenting expediency assessment is 85.41% with "very good" criterion. This means that teaching material like module of writing text complex-procedure text based thinking map developed can fill the demand of learning need.

 Teacher's Response Result of Teaching Material
The Assessment of teaching material o writing complex procedure text based thinking map developed for getting information that will be used for improving developed product quality. The assessment result is score form to learning component based on Indonesia language learning especially on material of writing complex procedure text. Response result undertaken by Indonesia language teacher is concludes that teaching material of writing of complex procedure text based thinking map with percentage total 86.03% with "very good" criterion. Response result from Indonesia language teacher to teaching material of complex procedure text based thinking map can be seen on the table 9 as follows:

Table 9: Indonesia language teacher's response data to teaching material of writing complex-procedure text based Thinking Map

No.	Indicators	Average (%)	Criteria
1	Overall module is attractive	87,5	Very Good
2	The using guideline of module is delivered clearly	87,5	Very Good
3	The used language in the module can be understood	75	Good
4	The presenting meterial in the module is compiled sistematically	100	Very Good
5	Material in the module is appropriate with learning aim	100	Very Good
6	The using of picture in the module is clear	87,50	Very Good
7	Learning activity stimulates critical thinking ability	75	Good
8	Types of the activity in the module is various	87,50	Very Good
9	The newest information in the module is appropriate with technology and science development	87,50	Very Good
10	The using of symbol is appropriate with the existing regulation	75	Good
11	Module helps students to understand material of complex-procedure text	87,50	Very Good
12	Module is usually difference from teaching material	100	Very Good
13	Module can be studied independently by student	87,50	Very Good
14	Module trains student to enrich student's knowledge	87,50	Very Good
15	Module facilitates teacher in evaluating students	75	Good
16	Module facilitates students in conveying idea in oral and written form	75	Good
17	Module facilitates students in concluding material of writing complex-procedure text	87,50	Very Good
	Average	**86,03**	Very Good

The result of teacher's response to teaching material of complex procedure text based thinking map developed has average percentage total 86.03 % with " very good" criterion.

Student's Response Result of Teaching Material
From assessment result of smal scale terial above, it is concluded that teching material developed with the percentage total is 78.47 on "good" criterion. the individual tria is undertaken to know the first student's response todeveloped teaching material and to identify the product weakness to developed product before undertaking small group trial. The trial result of small group to developed teaching material shows the average percentage 82.41% with "very good" criterion. This result is obtained after there is revision of small scale trial, so teaching

material is rerevised from material stucture and the language usage to be undertood easier by students. Big Scale tria about student's perception to developed teaching material shows the average 85.54% on "very good" criterion. This means that developed teaching material has development raising and fi need in learning. The assessment of big scale trial become the last step of product trial of teaching material in form of writing complex-procedure text based thinking map in X grade. The obtained average percentage based on assessment indicators such material, language, interested to developed teaching material can be seen on the table 10 as follow:

Table 10: The percentage of Obtained Big Scale Trial

No	Indicator of Assessment	Average (%)	Criteria
1	Material	`	Very Good
2	Language	87,50	Very Good
3	Interested	84,77	Very Good
Average		**85,54**	**Very Good**

Based on the average percentage result shown above, the assessment to materil has the average percentage 85.42%, language gets 87.50% and interested has 84.77%. The average percentage result of all trials is 85.54% with "very good" criterion. This means that teaching material of writing complex-procedure text based thinking map developed is stated suitable and based on need.

Student's Learning Result

Student's learning result after using teaching materia in module form of writing complex-procedure text based thinking map is undertaken by X grade student State Vocational School 7 Medan. The test result of writing complex-procedure text based thinking map is undertaken by X AP 2 class that has 32 students.

a) Pretest data of learning result of writing complex-procedure text

Based on analysis data that is undertaken about learning result before using teaching material of writing complex-procedure text based thinking map obtains the average score 71.09% with "good" criterion, it means the score gotten by students on the material of writing complex-procedure text has got expectation but it still need improvement. The frequency of distribution of pretest score of learning result of writing complex-procedure text before using module can be seen on the table 11 as follow:

Table. 11: Frequency Distribution of *Pretest* score of writing compex-procedure text

Interval	Frequency	Percentage
60-63	2	6,25%
64-67	5	15,62%
68-71	14	43,75%
72-75	7	21,87%
76-79	0	0%
80-83	3	9,37%
84-88	1	3,12%
Total	**32**	**100%**

The students who have score 60-63 are only 2 students or 6.25%, and getting score 64-67 is 5 students or 15.62%, there are 14 students or 43.75% get score 68-71, 7 students or 21.87% get score 72-75, 3 students 9. 37% get score 80-83, and there is 1 student or 3.12% who get score 84-88.

b) Posttest Data of writing complex-procedure text

Based on the data analysis undertaken about learning result after using teaching material of writing complex-procedure text based thinking map obtains average score 86.71% with "very good" creterion. The frequency distribution of post test score of learning result of writing compex-procedure text after using module can be seen on the table 12 as follows:

Table 12: Frequency Distribution of Posttest score of Writing Complex-procedure Text

Interval	Frequencies	Percentages
80-82	7	21,87%
83-85	11	34,37%
86-88	0	0%
89-91	11	34,37%
92-94	0	0%
95-97	2	6,25%
98-99	0	0
100-102	1	3,12%
Total	**32**	**100%**

There are 7 students or 21.87% who get score 80-82, 11 students or 34.37% get score 83-85, 11 students or 34.37% get score 89-91, 2 students or 6.26% get score 95-97 and 1 student or 3.12% get score 100-102.

After obtaining learning result by sing module of writing complex-procedure text based thinking map on X AP 2 students, student's learning result gets improvement 15.62%. The average score before using module is 71.09 and after using module is 86.71%. The comparison of pretest and posttest score can be seen on the table 13 as follow:

Table 13: The Comparison between Pretest and Posttest score

No.	Group	Average	Different
1	*Pretest*	71,09	15,62
2	*Posttest*	86,71	

The table above explains that the comparison of average score from pretest to posttest that is obtained is 15.62% with the average of pretest 71.09% with the "good" criterion and the average of posttest is 86.71% with "very good" criterion. It can be concluded that the module of writingcomplex-procedure text based thinking mapcan increase student's learning result.

CONCLUSION

The obtained conclusion based on formulation, aim, result and discussion in the research and development of teaching material of writing complex-procedure text based thinking map on X grade students of State Vocational School 7 Medan is described as follow (a) The product in the module form of writing compex-procedure text based thinking map developed is titled "

Teaching material of writing complex-procedure based thinking map for X grade student of State Vocational School 7 Medan" validated and stated appropriate to be examined by material expert and design expert. The material expediency by material expert in included in very good criteria with average score of expediency aspect 87.5%, presenting expediency 85.57%, and language aspect expediency 88.46%. The design expediency by design expert in very good criterion with the average score 85.41%. Module measure aspect has average score 87.5%, cover design module has the average score 85.93%, and module design has average score 84.86%. (b) student's learning by using module of writing complex-procedure text increases 15.62% with learning result of pretest or before using module as much as 71.09 while learning result of posttest or after using module as much as 86.71.

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