

# The Development of a Guidebook for the Preparation of Teaching Materials in Learning Physical Education, Sports and Health of SMA in Medan 2022

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**Abstract:** *Physical education, sports and health (PE) as an integral part of education as a whole has an important position in the educational process because of its unique contribution to children's growth and development. Taking attention into the various problems that exist in learning Physical Education of Senior High School, the researcher considers it necessary to pay attention for the development of guidelines to prepare teaching material books that are in accordance with the curriculum in schools. This study aims to: (1) develop an instrument of curriculum analysis as praxis for Physical Education subjects with three factors: (a) the philosophical foundation of the curriculum (philosophy, value orientation, goals, and curriculum containing curriculum content/models, learning methods, and evaluation systems quality) in accordance with the first element of the curriculum as praxis, (b) development of discourse or narrative (using quality curriculum standards, providing guidelines for use, and conducting socialization and testing) in the development process in accordance with the stages of the second element of the curriculum as praxis, (c) implementing actions (implementation of planning, implementation, evaluation of quality curriculum in schools) according to the three elements of the curriculum as praxis; (2) validating and testing curriculum analysis as a guide for high school physical and education subjects. (3) Curriculum analysis instruments are arranged as praxis and implementation guidelines. Data analysis was carried out using qualitative data analysis techniques, while questionnaire analysis, product validation, and testing of athletes the steps included: converting qualitative data to quantitative, tabulating all data obtained in each aspect, calculating the average score, and changing the average score into categories. The results showed that the quality of the learning modules developed was based on the assessment of material experts "good", media experts "good", linguists "enough". The average score on the material expert's assessment is 3.93; the average score on the media expert's assessment is 3.81, while the average score of the linguist is 3.33. While the overall assessment of the learning module is included in the good criteria, namely with a value of 3.86.*

**Keywords:** R&D, Physical Education, Books, Guide, SMA

## 1. Preliminary

Physical education, sports and health (Penjasorkes) as an integral part of education as a whole has an important position in the educational process because of its unique contribution to the growth and development of children. Sukintaka (2004: 21) states that Physical Education is an integral part of total education that tries to achieve the goal of developing physical, mental, social, and emotional fitness within the framework of becoming a complete Indonesian human being with a vehicle for physical activity.

Physical education focuses more on physical development and skills for students by using sports to achieve the goals of national physical education. The subjects taught at each school level will be different from one another. The purpose of physical education and health is basically no different from education in general, namely to be able to improve cognitive, affective, psychomotor abilities and also social values in students (Sukadiyanto, 2011).

One of the important foundations in curriculum design is curriculum theory. In the perspective of curriculum design, curriculum theory has at least four perspectives, namely curriculum as a field of science, curriculum as a product, curriculum as a process, and curriculum as practice.

These four views have consequences on the results of the curriculum design obtained. This assumption is not the best, but rather the advantages that each approach has, at least four perspectives, namely curriculum as a field of science, curriculum as a product, curriculum as a process, and curriculum as practice. These four views have consequences on the results of the curriculum design obtained. This assumption is not the best, but rather the advantages that each approach has.

The various problems identified are (a) Physical Education and Health is experiencing a scientific struggle for an agreement which is still ongoing. (b) Physical education practices experience ups and downs and need to be advocated so that it remains one of the mandatory subjects at all school levels. (c) There is a gap between curriculum planning and curriculum implementation in the field which causes the quality of Physical Education and Health still needs to be improved. (d) Implementers in the field do not fully understand the concept of the 2013 Physical Education and Health curriculum. (e) By design, Physical Education in schools practices the curriculum as a practice with standards set nationally, but the practice has not been analyzed empirically.

Taking into the various problems that exist in Elementary, Middle, and High School Physical Education, the researcher considers it necessary to only pay attention to the

development of guidelines for the preparation of teaching material books that are in accordance with the curriculum of Senior High School in Medan City.

## 2. Research Methods

Research data collection was carried out on 23 May – 15 June 2022 at several high school schools in Medan City. The numbers of subjects in this study were nine high schools in the city of Medan. The research and development design used is the 4D model suggested by Thiagarajan, Semmel, and Semmel (1974). Trianto (2014: 232) explains “This 4D model consists of four stages of development, namely define (determination), design (design), develop (development) and disseminate (dissemination). This model was chosen because it is in accordance with the research objective to produce a product in the form of a curriculum analysis instrument as praxis.

The method used in this research is research and development. The model used is the development of a 4-D model. The 4-D development model (Four D) is a learning device development model. This model was developed by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel (1974: 5). Trianto (2014: 232) explains “This 4-D model consists of four stages of development, namely define (determination), design (design), develop (development) and disseminate (dissemination). Validation is done to find out how to produce a valid learning module. Guidebook will validation was carried out by three experts, namely linguists, media experts and material experts (PE). The validator will fill out the instrument in the form of a validation questionnaire that has been provided by the researcher as input to the module to be developed. According to (Sugiyono, 2014) the measurement scale for the validation of the teaching materials used in this study is the Likert Scale. To determine the validity of the resulting product, a Likert model scale calculation is used which can be seen in Table 1.

**Table 1: Model Likert Scale Variable Indicators**

No	Score Indicator	Score
1.	Strongly Agree	5
2.	Agree	4
3.	Neutral	3
4.	Disagree	2
5.	Absolutely not agree	1

The analysis technique in this study is to convert quantitative data into percentages in which to test the feasibility of the module to be developed. If the results of the analysis of the module show valid results, then the module is feasible to use. However, if the results of the analysis are invalid, it is necessary to make further revisions or improvements until they become valid. In this data analysis, the equations that will be used in quantitative analysis are used as follows:

$$P = \frac{\sum x}{\sum xi} \times 100\%$$

Information:

P = Percentage

x = Number of respondents' answers in 1 item

xi = The number of ideal scores in the item

100% = Constant

(Arikunto, 1997:146)

To find out the value and category of practicality of the products produced, it can be seen in Table 2.

**Table 2: Guidebook Categories**

No.	No Achievement (%)	Category
1.	81-100	Very Good
2.	2. 61-80	OK
3.	3. 41-60	Enough
4.	4. 21-40	Less
5.	5. 0-20	Very Poor

## 3. Results and Discussion

The following are the results of the validation of the Guidebook for Preparation of Teaching Materials in High School Physical Education Learning, according to experts or validators.

### Material Expert Validation

The Material Expert who became the validator in this study was Dr. Imran Ahmad, M.Pd. Data collection was obtained by providing an initial draft of the Guidebook for Preparation of Teaching Materials in High School Physical Education Learning along with an evaluation sheet in the form of a questionnaire. Researchers and material experts discuss about the quality of the Handbook for Preparation of Teaching Materials in High School Physical Education Learning which is being developed. Material experts assess and provide input both written and oral. The questionnaire contains aspects of material quality, content aspects and aspects of the truth of the material and content. The evaluation results are in the form of scores for aspects of the quality of learning materials and content using a scale of five, namely, 1 to 5, while aspects of the truth of learning materials and content are in the form of comments and suggestions for improvement. The evaluation of the material expert is carried out in two stages. The description of the data can be seen in Table 3.

**Table 3: Material Expert Validation Results**

No.	No. Category	Scale	Aspect
1.	Truth of content/concept	4	Good
2.	Material Depth	4	Good
3.	Material achievement for achievement of Competency	4	Good
4.	Clarity of material/concept	4	Good
5.	Material Actualization	3	Enough
6.	Logical presentation system	4	Good
7.	Material according to Student needs	4	Good
8.	The accuracy of image selection for explain Material	3	Enough
9.	Material is presented simply and clear	4	Good
10.	Material is presented individually	4	Good

If it is made in the form of a frequency distribution for the assessment of learning aspects by material experts, it will be shown in Table 4.

**Table 4:** Frequency Distribution by Material Expert

Criteria	Frequency	Percentage (%)
Very good	0	0.00
Good	8	80.00
Just	2	20.00
Less	0	0.00
Very Less	0	0.00
Quantity	10	100.00

Table 4 shows that in the questionnaire used to measure the learning aspects developed based on the results of material expert validation, the module is included in the good category with the percentage value reaching 80%, and the sufficient category is 20%.

### Media Expert Validation

Media experts who become validators in this study are Irfan, M.Pd. Data from media experts was obtained by giving a questionnaire containing the display aspect. The questionnaire is given at the same time by submitting the initial product of the manual under development. Furthermore, media experts assess and provide suggestions for improvements to the guidebook being developed. According to (Mufidah, 2014) that the implementation of the learning process also requires the availability of learning tools, teaching materials and scenarios required by the teacher. Learning tools can be in the form of student books, student worksheets, lesson plans (RPP), assignment books, and so on. Teaching materials can be in the form of visuals, modules, media, and so on. Results validation by media experts in the manual can be seen in Table 5.

**Table 5:** Media Expert Validation Results

No.	Category	Scale	Aspect
1.	The accuracy of the cover color selection	5	very good
2.	Color compatibility of writing on Cover	3	Good
3.	The attractiveness of the selection of cover	4	very good
4.	Image size accuracy	4	Good
5.	Image clarity	4	Good
6.	Pictures in the Interesting module	4	Good
7.	Relevance of the image to the material(contextual)	5	Very Good
8.	Real pictures according to Concept	3	Very Good
9.	Image placement	4	Good
10.	The accuracy of the font selection	4	Good
11.	The suitability of the type and size of the letters	4	Good
12.	Font size consistency	4	Very good
13.	The type and size of the font is Easy to read and in accordance with Student characteristics	5	Very Good
14.	Text placement accuracy	3	Good
15.	Module size	3	Good

According to (Sungkono, 2012), media evaluation is grouped into two types, namely formative evaluation and summative evaluation. Table 6 forms of frequency distribution for the assessment of the feasibility of the guidebook based on the assessment aspect of media experts.

**Table 6:** Frequency Distribution By Material Expert

Criteria	Frequency	Percentage (%)
Very good	3	40.00
Good	12	60.00
Enough	0	0.00
Less	0	0.00
Very Less	0	0.00
Quantity	15	100.00

Tables 5 and 6 show that the modules made based on the final validation of media experts included in the good category (60%), very good (20%). (Hamdi, Halim, & Pontas, 2015) states that if the results obtained from the validation of media experts are included in the good category, it is declared feasible and tested on a limited scale trial.

### Linguist Validation

The linguist who became the validator in this study was Trisnawati, M.Pd. Data from media experts was obtained by giving a questionnaire containing aspects of readability. The questionnaire was administered simultaneously with the submission of the initial product of the learning and wrestling training modules that were being developed. The results of validation by linguists can be seen in Table 7.

**Table 7. Linguistic Expert Validation Results**

Category	Scale	Aspect
Using good and correct language rules	3	enough
Using terminology which is in accordance with The concept of language	4	Good
The language used is simple and easy to understand	3	Enough
The language used is already communicative	4	Good
Selection accuracy language in describing material	3	Enough
Sentences used to represent the content of the message Or information to be conveyed	4	Good
The sentences used are simple and direct to goal	3	Enough
Spelling accuracy	3	Enough
Consistency in the use of terms	3	Enough
Consistency of using symbols or icons	3	Enough

If combined with the overall assessment of media, language and material experts, the quality of the module is in the good category. The description by aspect can be seen in Table 8.

**Table 8:** Assessment Aspects of the Handbook for the Preparation of High School Physical Education Teaching Materials

Aspects of Assessment	Average Score	Criteria
Media Aspect	3.81	Good
Material/content Aspect	3.93	Good
Aspect Language	3.33	Enough
Average	3.86	Good

If it is made in the form of a frequency distribution for the assessment of learning aspects by material experts, it is in Table 9.

**Table 9:** Frequency Distribution By Material Expert

Criteria	Frequency	Percentage (%)
Very good	0	0.00
Good	3	30.00
Just	7	70.00
Less	0	0.00
Very Less	0	0.00
Quantity	10	100.00

Tables 7 and 9 are based on the results of the validation of linguists, the guidebook when viewed from the results of the frequency distribution it can be concluded that the guidebook is included in the 70% sufficient category and 30% good category.

The form of the guidebook after being validated by linguists, media and materials is shown in Figures 1 and 2 below.

**Picture 1:** Cover book

DAFTAR ISI	
KATA PENGANTAR .....	1
DAFTAR ISI .....	2
BAGIAN I .....	3
PENYUSUNAN BUKU AJAR .....	3
1.1. Latar Belakang .....	3
1.2. Pengertian Buku Ajar .....	4
1.3. Buku Ajar yang Ideal .....	6
1.4. Landasan Penyusunan Buku Ajar .....	6
1.5. Format Penulisan Buku Ajar .....	8
1.6. Menulis Buku Ajar .....	8
1.7. Aspek Penulisan Buku Ajar .....	9
1.8. Struktur Buku Ajar .....	11
BAGIAN 2 .....	14
KURIKULUM PJOK .....	14
2.1. Latar Belakang .....	14
2.2. Standar Kompetensi Lulusan Pendidikan Dasar dan Menengah .....	16
2.3. Penjabaran Kompetensi Inti dalam Kompetensi Dasar PJOK .....	17
2.4. Konsep Dasar Pembelajaran .....	20
2.4.1. Karakteristik Pembelajaran PJOK .....	20
2.4.2. Petunjuk Khusus dan Sistematika Pembelajaran .....	21
2.4.3. Penggunaan Pendekatan Ilmiah (Scientific) .....	23
2.4.4. Penyajian Sarana dan Prasarana .....	24
2.4.5. Keamanan dan Keselamatan dalam Pembelajaran .....	25
2.4.6. Remedial dan Pengayaan .....	25
2.4.7. Penilaian .....	26

**Picture 2:** Table of Contents

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The trial of the developed guidebook was carried out in small groups on 15-30 July 2022 to 9 high schools in Medan City, which involved 9 Physical Education Teachers. This trial aims to identify and identify the various shortcomings in the manual because basically the product developed will be used by teachers of senior high school physical education. The data obtained from the results of this trial will be used as the basis for revising the manual product.

Conditions during the small group trial when filling out the questionnaire the teacher paid attention to the explanation of the procedure for filling out the questionnaire and filled it out carefully. The results of the questionnaire test of learning modules and wrestling exercises on small-scale trials can be seen in Table 10. Table 10, based on the results of the questionnaire on the development of this guidebook and shows that for the assessment of 3 teachers in the "Good" category and 6 teachers in the "Very Good" category. "

**Table 10: Small-Scale Trial Questionnaire Results**

No. Response	Score obtained	Percentage (%)	Category
1	39	75.00	OK
2	45	86.53	Very Good
3	49	94.23	Very Good
4	47	90.38	Very good
5	48	92.30	Very Good
6	51	98.07	Very Good
7	49	94.23	Very Good
8	39	75.00	OK
9	39	75.00	OK
Total Score	406	86.74	Very Good

The total assessment of the small group test according to the trainer respondents was 86.74% categorized as "Very Good" which means that the product is very good and continued with large group trials. So it can be concluded that the manual that was tested on a small scale on physical education teachers is included in the very good category, so that the module can be tested on groups with an even larger scale.

### Large Group Trial

A large-scale trial was carried out in small groups carried out on August 2-12, 2022 to 15 high schools in the city of Medan involving 15 physical education teachers. Conditions during the large group trial when filling out the trainer's questionnaire pay attention to the explanation of the procedure for filling out the questionnaire and fill it out carefully.

The large group trial aims to identify and identify various deficiencies in the book after the revision of the small group test because basically the products developed will be used by athletes. The results of the large-scale trial questionnaire on physical education teachers can be seen in Table 11 very well and can be used as a guidebook for preparing senior high school physical education teaching materials.

**Table 11: Results of the Large-Scale Trial Questionnaire**

No. Respondent	Score obtained	(%)	Category
1	51	98.07	OK
2	50	96.15	Very Good
3	44	84.61	Very Good
4	50	96.15	Very Good
5	49	94.23	Very Good
6	52	100	Very Good
7	49	94.23	Very Good
8	52	100	Very Good
9	52	100	Very Good
10	50	96.15	Very good
11	48	92.30	Very Good
12	47	90.38	Very Good
13	52	100	Very Good
14	50	96.15	Very good
15	47	90.38	Very good
Total score	966	92.88	Very good

Table 11 shows that the results of the questionnaire regarding the development of the guidebook show that the "Good" category is only respondent 1 and respondent 14. with the "Very Good" category. The total test group for the development of this guidebook with a percentage of 92.88% categorized as "Very Good" means that the product.

**Table 12: Guidebook t-test results**

Class	Mean	Variance (SP)	D (s)	t-hit	t- table
Experiment	80.97	84.28	5.8	4.39	1.57
Control	71.74	45.11	8.4		

In Table 12, it can be seen that there was an increase in the average pre-test and post-test from the control class which was initially 110.19 percent to the experimental class, an increase of 132.05 percent. While in table 13, the results of the learning module test where the t-table on the module development is 1.57. This means that the development of a guidebook for the preparation of teaching materials for Senior High School Physical Education has an effect on increasing the ability of Physical Education teachers in Medan City.

## 4. Conclusions and Suggestion

### 4.1 Conclusion

Based on the results of research and product development guidebooks, it can be concluded as follows:

- 1) The quality of the guidebook developed is based on the assessment of material experts "good", media experts "good", linguists "enough". The average score on the material expert's assessment is 3.93, the average score on the media expert's assessment is 3.81, while the average score of the linguist is 3.33. While the overall assessment of the learning module is included in the good criteria, namely with a value of 3.86.
- 2) Products resulting from this research: The product in the form of a Handbook for the Preparation of Physical Education Teaching Materials for SMA as a learning resource that can assist physical education teachers and further researchers in compiling physical education teaching materials at the high school education unit level.

#### 4.2 Suggestion

After the development of this manual, it is hoped that efforts will be made to produce quality physical education teaching material books and can be useful for the physical education teaching and learning process.

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