

Development of German Grammar Textbook Based on Metacognical Skills

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Abstract. *Strukturen Und Wortschatz* Material (German grammar) is one of the difficult materials for students to understand. Therefore, efforts are needed to improve the quality of learning in these courses so that students can easily understand the material in these courses. The purpose of this study was to determine the validity of the textbook based on metacognitive abilities that had been developed. This study uses a Research and Development approach. Research respondents consisted of expert validators (German lecturers and teachers) and students as user validators. Based on the results of the validity test, the book developed is valid. In addition, based on the public test of the response of students of the German education study program, textbooks have a very positive meaning for students.

Keywords: Textbook Development, German Grammar, *Strukturen Und Wortschatz*, Metacognition Skills.

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INTRODUCTION

German is one of the foreign languages studied in Indonesia, not only in college but also at the high school level. There are several previous studies that examine the teaching of German for Indonesian learners (Mantasiah et al., 2019; Andira et al., 2020; Tonapa et al., 2018; Utami et al., 2021). The research examines various different aspects, namely the development of learning models and methods, the development of teaching materials, and the analysis of errors made by German language learners.

German grammar is one of the basic materials that are difficult for students to understand (Mantasiah et al., 2019a; Ihsan & Al-Ilmul, 2021; Mantasiah et al., 2019b). The main indicator of achievement of the German grammar course is that students are expected to be able to arrange words in German according to the right rules or structures into sentences and discourses. This material is very important for students to understand because it is the initial ability to learn other materials such as writing, speaking, and reading skills. Students who do not understand German grammar material tend to have difficulty in developing a writing and also find it difficult to express their opinions orally. Therefore, German grammar material is considered as basic material that should be well understood by students. On the contrary, this material is considered as difficult and boring material to learn (Ihsan & Al-Ilmul, 2021; Mantasiah et al., 2019).

One of the phenomena obtained in learning German is that students still do not understand what they are learning. Students have not been able to construct their own what they are and will learn. This makes it difficult for students to understand the concept of German grammar. Therefore, one thing that can be done to overcome this problem is to teach German grammar material with a focus on how students can construct their own what they are and will learn. This ability is called the metacognitive ability. This can be integrated into the teaching materials used. Metacognition skills provide space for students to explore their abilities by providing the ability to control what they learn, as well as being able to improve higher-order thinking processes independently so that learning can be more meaningful for students. In addition, learning using metacognitive skills can create a more pleasant atmosphere for students because students can independently find out their weaknesses and strengths and can measure how much ability they have (Ramdoniati et al., 2019; Setiawan & Dores, 2019).

The textbook that was developed aims to improve students' metacognition skills in providing space for finding ideas from a sentence, underlining important words, making margin notes, making concept maps based on their respective understandings, making conclusions from learning materials, and other aspects deemed necessary to improve students' German grammar skills. This textbook is expected to be able to improve the ability to compose good German grammar so that graduates are produced in accordance with the expected competencies based on the Indonesian National Competency Curriculum. Errors in selecting and developing teaching materials certainly have a negative impact on the achievement of learning objectives in this case can affect learning outcomes, students' academic motivation

and several other aspects. Therefore, teaching materials play a very important role in the success of the learning process (Nurohmah et al., 2020; Syamsurijal, 2021).

One of the studies on metacognition has been carried out by Ku & Ho (2010) which states that the use of metacognition is considered effective in the learning process so that it can improve learning outcomes and quality. In addition, Panggayuh's research (2017), shows that metacognitive ability has a positive and significant influence on academic achievement in programming courses. Metacognitive abilities can help develop good thinking management skills so that they show good academic achievement compared to students who have low metacognitive abilities. In addition, according to Rivai (2019), the metacognitive development of students and students is strongly influenced by the ongoing learning process. Many things can be done by teachers to improve students' metacognition, both from teaching methods and learning resources provided. In essence, all students already have metacognitive abilities that have been carried since childhood. Therefore, the need for improving metacognitive skills

RESEARCH METHOD

The type of research used is research and development. This study aims to develop a textbook based on metacognition skills that can be used in German grammar material. This research was carried out for 1 (one) year, starting from February 2020 to November 2020. The research sample was German students at Universitas Negeri Makassar. The research design uses a 4-D development model (Define, Design, Development, Disseminate).

- **Stage 1 (Define):** This stage is the stage to determine and define learning needs by analyzing the objectives in the development of learning. There are 5 activities carried out in the define stage, namely Front and Analysis, Learner Analysis, Concept Analysis, Task Analysis, and Specifying Instructional Objectives.
- **Stage II (Design):** The design stage is carried out for learning devices. At this stage, Media Selection, Format Selection, and Initial Design are carried out.
- **Stage III (Develop):** The third stage aims to produce revised textbooks based on expert input and data obtained from the Expert Appraisal and Development Testing trial.
- **Stage IV (Disseminate):** Disseminate is the stage of applying textbooks based on metacognition skills in lectures

Data was collected through expert validation sheets, teacher response assessment sheets and student responses, and student responses public test results assessment sheets. The research instrument consisted of an expert validation sheet for information on the validity of textbooks, and an assessment sheet for lecturer responses and student responses for information on the practicality of textbooks. The validity of the textbook uses a validation sheet that is assessed by two expert validators. Next, recapitulate the data from the assessment of the validity of textbooks and instruments. The practicality test of textbooks is shown by the ease with which students use textbooks based on metacognition skills in the learning process. Practicality test using student response sheets. Textbooks can be said to be practical if the student response is positive.

RESULT AND DISCUSSION

Results

The results of each stage of the development of textbooks based on metacognition skills are described as follows:

1. Define stage

The definition stage serves to define and define learning needs by analyzing the objectives and limitations of the material. The definition stage consists of five steps, namely front end analysis, student analysis, concept analysis, task analysis and specification of learning objectives

2. Design Stage

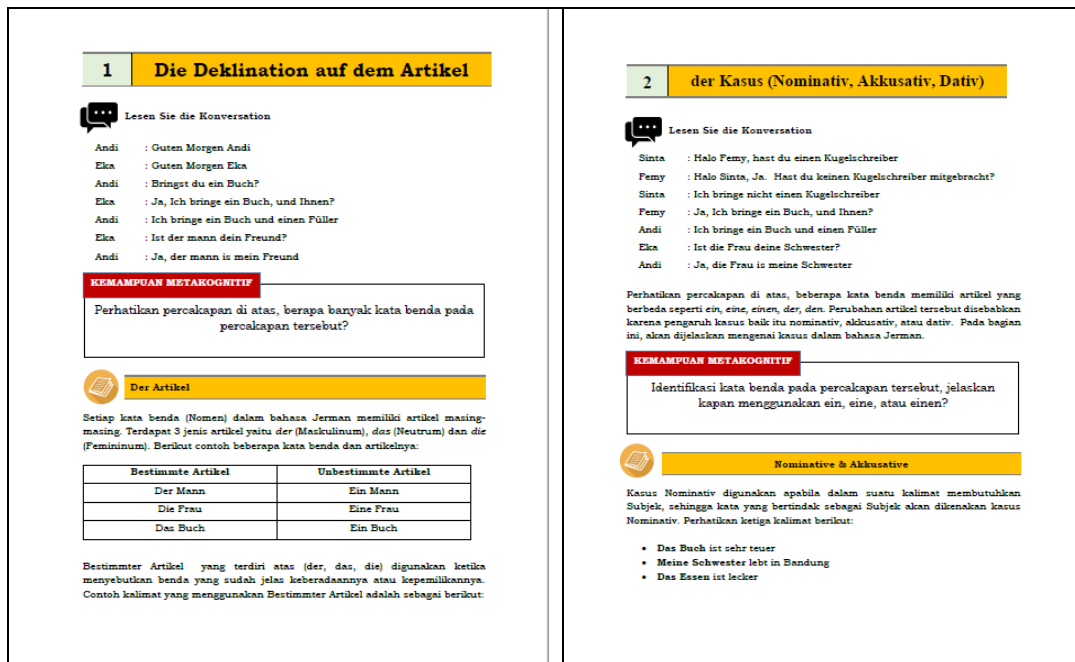
This stage is the stage where the researcher makes the specification of the textbook based on the results of the previous analysis, which includes the specification of the material, appearance, language, purpose, and function of the textbook, then designs the initial format of the textbook according to these specifications in the form of a hypothetical model and storyboard.

3. Development Stage

This stage is carried out with various revisions in terms of appearance, material, and practice questions in the developed science literacy-based textbooks.

a. Textbook Development





(b)

Picture 1. Design of the textbook based on metacognition skills; (a) book cover, (b) book content

b. Validity Texting

After developing the textbooks, then the validity test of the textbooks is carried out. Validity test is carried out by validators of media experts and linguists.

Table 1. Assessment Sheet by Learning Media and Book Development Experts

Aspects	Indicator	Grade	Information
Presentation Techniques	1. Systematic	4	Very valid
	2. Metacognition Skill		
feasibility of Presentation	1. Administration Page	4.5	Very valid
	2. Introduction		
	3. Content		
feasibility of Graph	1. Book Size	4.5	Very valid
	2. Cover Design		
	3. Book Content Design		

Table 2. Assessment Sheet by German Grammar Expert

Aspects	Indicator	Grade	Information
feasibility of Material	a. Each topic in the book is explained clearly and completely. No material is missing. b. Instructions for using the book and doing the exercises are clearly explained. c. Material accuracy is maintained (no wrong concept). d. Examples of sentences, words or phrases given are different. e. Make it easier for students to understand the topic being explained	4.5	Sangat valid
feasibility of Presentation	a. Presentation of material using metacognitive skills is easy to understand b. Book materials do not conflict with SARA (ethnicity, religion, race, and social relations), do not contain pornography, and accommodate diversity and gender insight. c. The relationship between chapters, sub chapters and concepts is good. d. Easy-to-read font type and size	4	Sangat valid
feasibility of language	a. The language is easy to understand b. Accurate use of terms, symbols and or icons	5	Sangat valid

c. Public Testing to the German Learners

The public test was conducted on students of the German language education study program. This test was conducted to determine student responses to the textbooks that had been developed. The results of data analysis on student responses to textbooks based on metacognition skills on the aspect of content feasibility can be seen in [table 3](#).

Table 3. *The Result of Public Testing to the German Learners*

No	Aspects	Score	Category
1	Metacognition skills-based textbooks help me to know the purpose of learning German grammar material	90.48	
2	The presentation of material in the metacognition-based textbook helps me understand German grammar material easily	86.67	
3	Metacognition skills-based textbooks help me gain deeper knowledge of German grammar	86.67	
4	The learning activities contained in the metacognitive skill-based textbook make it easier for me to find out how big my level of understanding is	91.43	
5	Contents of textbooks based on metacognition skills are interesting to learn	92.38	
6	Assignments on metacognition-based textbooks challenged me to think in a focused way	87.62	
7	Assignments in textbooks based on metacognition skills lead me to self-study	88.57	
8	Textbooks based on metacognition skills make me active in learning	87.62	
9	Textbooks based on metacognition skills challenged me to apply various learning strategies to understand learning	90.48	
Mean		89.10	Very Positive

The results of the data analysis of student responses to textbooks based on metacognition skills on the display aspect can be seen in [Table 4](#)

Table 4. Aspects of grammar textbook appearance

No	Aspects	Score	Category
1	I can easily read the text in the textbook based on metacognition skills because the selection of the type and size of the letters used is right.	91.43	
2	I like the appearance of each page of the metacognition-based textbook because it has a harmonious color composition	87.62	
3	I can understand the material in the textbook based on metacognition skills with the help of pictures that have good quality.	86.67	
4	Instructions in metacognitive skills-based textbooks are clear and directed	91.43	
Mean		89.29	Very Positive

The results of the data analysis of student responses to textbooks based on metacognition skills on the language aspect can be seen in [Table 5](#)

Table 5. Language Aspects of grammar books

No	Aspects	Score	Category
1	Use good Indonesian and German	93.33	
2	It is easy for me to understand the language used in the textbook based on metacognition skills and does not have multiple meanings	88.57	
Mean		90.95	Very Positive

The results of the data analysis of student responses to textbooks based on metacognition skills on the aspect of benefits can be seen in [Table 6](#).

Table 6. Benefit Aspect

No	Aspects	Score	Category
1	Textbooks based on metacognition skills provide motivation (interest) for me to learn	86.67	
2	I understand more about Structural und Wortschatz material using textbooks based on metacognition skills	88.57	
3	I can learn actively and independently by using textbooks based on metacognition skills	88.57	
Mean		87.94	Very Positive

Discussion

1. Specifications of Textbooks Based on Metacognition Skills that were developed

The skills-based textbook developed is a textbook that contains German grammar material consisting of Die Declination auf dem Article, der Case (Nominativ, Akkusativ, Dativ), W-Fragen, Personal pronomen, Possesive pronomen, Trennbare und Untrennbare Verben, Modal Verben, Perfect, and Präteritum. The preparation of textbook materials is summarized from various national and international books, journals, and the internet which are adapted to the applicable curriculum. Teaching materials are arranged in simple language and use important points so that students can easily understand. The preparation of textbooks is adjusted to the validator's suggestions regarding the components in the development of textbooks. The size of the textbook is 21.0 x 29.7 cm (A4), using the Bookman Old Style font.

The material in the textbook is equipped with sub-chapter titles, practice questions consisting of questions that contain metacognitive skills and are expected to increase students' understanding of the Structural und Wortschatz material. The main characteristic that distinguishes metacognition-based textbooks from other textbooks is that there are skills that expect students to be able to construct their own understanding by knowing what they have, are currently learning, and will learn. This textbook also expects students to be able to learn independently. A student who already has a metacognitive strategy will more quickly become an independent learner. According to [Ku & Ho \(2010\)](#) through metacognition students are able to become independent learners, cultivate an honest attitude, dare to admit mistakes, and can significantly improve learning outcomes. Overall, textbooks based on metacognition skills have met the criteria for a good and interesting textbook based on the validity results that have been implemented.

2. Validity of Textbooks Based on Metacognition Skills

The validation process involves five expert validators, namely learning media experts and language experts. The learning media validator provides an assessment of the content, design, and suitability of the textbook developed with aspects of metacognitive skills, while the linguist provides an assessment of the accuracy of the language used both Indonesian and German which will be outlined in the skills-based book *Strukturen und Wortschatz metacognition*. The five expert validators play a very important role in providing input so that the books developed are in accordance with the rules in developing textbooks.

Textbooks based on metacognition skills will be feasible to use in learning if they meet the valid criteria. The results of the analysis are used as guidelines for revising/correcting product deficiencies after going through the validation process. Several revisions were made during the validity test, namely, 1) using the size of the book to be more practical for students to use, 2) improving the material so that it can show aspects of metacognitive skills, 3) deepening assignments in improving metacognitive skills, 4) using book layouts that are attractive to students, 5) correcting writing errors in the content of the textbook, 6) the administration page must explain the guide to the use of the textbook and the meaning of the symbols used in it. In general, the validation results show that this book is feasible to use because it is categorized as valid. However, some revisions should be made to improve the substantive quality of the textbook.

The advantages of textbooks are clear and complete explanations of the material so that students do not need other textbooks or additional reference books; use of error analysis to develop textbooks that identify students' difficulties in learning German grammar accurately. Therefore, this book was developed taking into account the level of difficulty of each material. Materials with a high level of difficulty are explained more comprehensively and given more diverse examples.

3. Public Test of Textbooks Based on Metacognition Skills

The public test was conducted to determine the response of students as users of textbooks to textbooks that had been developed. The public test is assessed from four aspects of textbook development, namely content feasibility, display feasibility, linguistic feasibility, and the benefits of textbooks based on metacognition skills in learning. Based on the results of the public test, the four aspects of the textbook are considered very positive for students. In addition, several topics are explained and linked to linguistic theory which helps students in understanding these topics. Students believe that studying German grammar involves a linguistic process, so they feel it is important to study the linguistic process. Based on students' responses, another strength of the textbook is the technique of presenting the material. More comprehensive explanations are provided for materials with higher difficulty levels. This is the result of using error analysis in developing the textbook. The category of student responses is very positive but does not reach 100% this is because the metacognitive skill-based textbooks developed are still new, so students are not accustomed to using books independently.

Based on the research results, among the four aspects of textbook development, the linguistic aspect is the highest aspect considered by students,

namely 90.95%. This can happen because students think the language in the textbook is easy to understand and has the right instructions for the reader. In addition, the language used is not ambiguous so that the reader is interested in reading all the components in the book. The lowest value is the aspect of benefits. Although the value is very positive, students still consider the aspect of benefits to be lacking. This can happen because textbooks based on metacognition skills are the new textbooks they use. In addition, there are still some students who do not understand their metacognitive abilities so that they still do not understand what they have learned, are currently learning, and will learn. The development of metacognition is related to skills in learning. The researcher suggests that students should first become aware of the structure of the text as knowledge of their own tasks and personal characteristics for students before they can strategically control the learning process to optimize the influence of these factors. Awareness of metacognitive skills can be collected little by little through teaching (Ku & Ho, 2010).

CONCLUSION

Based on the results of research and development carried out, it can be concluded that:

1. The specification of the textbooks based on metacognition skills developed are printed teaching materials measuring 21 x 29.7 cm (A4 size). The skills-based textbook that was developed is a textbook that contains the Structural und Wortschatz lecture material consisting of Die Declination auf dem Articles, der Cases (Nominativ, Akkusativ, Dativ), W-Fragen, Personalpronomen, Possesivepronomen, Trennbare und Untrennbare Verben, Modal Verben, Perfekt and Präteritum
2. Based on the validation results, the textbooks based on metacognition skills developed have met the criteria for validity.
3. Based on student responses, the textbooks based on metacognition skills that have been developed have fulfilled very positive meanings for use in the Structural und Wortschatz lectures.

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