Learning Materials Model for Listening Skills Based on a Scientific Approach

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Abstract. This research generally aims to develop teaching materials for Listening Skills based on a scientific approach. Specifically, the purpose of this study was to determine the design of listening skills teaching materials based on a scientific approach and to determine the validity, practicality, and effectiveness of listening skills teaching materials based on scientific approaches. This research uses the R&D (research and development) approach of the Borg and Gall model. The development procedure is carried out with steps, namely potential and problems, data collection, product design, design validation, design revision, product testing, and product revision. Data collection techniques using interviews, questionnaires, and tests. The results of the validity test conducted on three experts showed that the teaching materials for listening skills were valid with the characteristics of the modules developed with a scientific approach. The results of the practicality test are based on the prototype test which includes one to one evaluation, small group evaluation, and large group evaluation. Based on the results of the study, it can be concluded that listening skills teaching materials are effectively used in the lecture process. At the formative test stage, it can be concluded that students can understand the material well after using listening skills teaching materials .

Keywords: Listening Skills · Scientific · Teaching Materials

1 Introduction

Listening activity is an initial and basic skill of the language learning process [1]. Listening is seen as the ability to identify and understand what other people are saying [2]. Listening activity is a language activity that is quite complex, when listening to hearing the sound of language, at that time his mentality is actively working trying to understand, interpret what the speaker is conveying and at that time he must receive a response [3]. Listening skills are more dominantly carried out by humans in daily activities, both in learning activities and outside, students deal more with listening activities compared to other language activities. Taken by first semester students of Indonesian Language and Literature Education teachers with a load of 2 credits. This course is expected to support students' daily listening activities. Current technological developments make the development of information very easy to obtain from various media. The level of

technological literacy requires students to be careful and precise in listening to various information. Of course, in this case we need the provision of good methods or techniques in listening.

In order to equip students with listening skills, there are various efforts that can be made by a lecturer, one of which is to make teaching materials. The presence of teaching materials that are interesting and in accordance with the needs of lecturers and students is very supportive in the process of teaching and learning activities. Based on the results of observations and analysis of needs that have been carried out by researchers in the field regarding the process of teaching and learning activities in Listening Skills lectures, information is obtained, namely: lack of interest and motivation of students during lectures, the difficulty of lecturers giving students an understanding of important matters in listening skills, there is still a lack of enrichment books related to listening skills. Currently there are books to support learning, but they are still general in nature, not yet in accordance with the needs of lecturers and students, the examples given are still limited and general in nature. This limitation of teaching materials for listening skills is a separate obstacle for lecturers, so that teaching and learning activities cannot be maximally in accordance with the expected goals. Lecturers tend to use existing textbooks, which generally use books other authors and buy from certain publishers whose suitability does not meet the needs of lecturers and students. Furthermore, based on the results of interviews with students who have taken the Listening course, it shows that 50% of students are dissatisfied with the learning carried out in the Listening course because listening practice is still lacking. Listening learning is more dominant in theory. Meanwhile, the practice of listening is still lacking. In fact, if it is applied properly, this will help students improve their listening skills.

One type of teaching material that can help meet the needs of lecturers and students during the lecture process is a module. A module is a set of materials arranged systematically so as to create an environment/atmosphere that allows students to learn [4]. Modules are part of a planned learning unit designed to help individual students achieve their learning goals [5]. In line with the opinion above, module as a book written with the aim that students can learn independently without the guidance of a lecturer, but in another view the module is interpreted as a set of teaching materials that are made systematically so that their use can be study with or without a lecturer [6]. Teaching materials have an important function for learning. Some of these functions are (1) Guidelines for teachers who will direct all their activities in the learning process, as well as the substance of competencies that should be taught to students. (2) Guidelines for students who will direct all their activities in the learning process, as well as a substance of competence that must be learned or mastered. (3) Tool for evaluating achievement/mastery of learning outcomes [7]. Furthermore learning module is the smallest unit of teaching and learning program, which is studied by the students themselves individually or taught by the students to themselves (self-instructional). As for some of the advantages obtained when learning to use modules, among others: student motivation is increased because each time students work on lesson assignments it is clearly limited and in accordance with their abilities, after the learning process is complete the lecturer and students know the learning outcomes, and the learning load is divided more evenly throughout

the semester. Furthermore, the existence of teaching materials is very helpful in teaching and learning activities, so that the material is conveyed better to students [8]. The existence of teaching materials makes students more interested in learning the material being taught. In line with the other opinion that teaching materials can also be developed by educators with the aim of being able to make material according to the conditions of their students [9].

The educational curriculum in the 21st century requires teachers to implement learning strategies that have characteristics, including: (1) student-centered learning (2) developing student creativity (3) creating an atmosphere that is interesting, fun, and meaningful (4) emphasizing on exploring, discovering, and creating as well as (5) creating learning in real situations and actual contexts. Based on this, one of the approaches that can be used in developing listening skill modules that are in line with the demands of 21st century education is the scientific approach. This scientific approach can be used by researchers in developing the Listening Skills module. The scientific approach is an approach that provides understanding to students in knowing, understanding various materials using a scientific approach, that information can come from anywhere, at any time, not depending on unidirectional information from the lecturer [10]. Scientific is synonymous with being honest, critical, trustworthy because before conveying information, students carry out a series of proving processes that the information conveyed is truly valid so that it can be accounted for, free from prejudice, manipulative and plagiarism [11]. Scientific learning emphasizes process skills [12]. A scientific approach can also provide understanding to students in knowing and understanding various materials using a scientific approach, that information can come from anywhere, at any time, not depending on unidirectional information from the lecturer [13]. Therefore, the learning conditions that are expected to be created are directed at encouraging students to find out from various sources through observation, and not just being told. The steps of the scientific approach include: digging up information through observation, asking questions, experimenting, then processing data or information, presenting data or information, followed by analyzing, reasoning, then concluding.

Based on the description above, the researcher hopes that this study and development research product will contribute to its users. From a scientific point of view, the results of this research and development study can be used as a reference in further research, the learning approaches used, as well as the development of other textbooks. On the other hand, this textbook model product can be used or used as a reference in learning, both students and lecturers supporting the course.

2   Methods

This research was conducted at the University of PGRI Silampari for first semester students who took the Listening Skills course in the Indonesian Language and Literature Education Study Program in the 2022/2023 academic year. This study uses an R&D (research and development) approach, which is a research method used to produce products and test their effectiveness. The development of the model of teaching materials that the researcher uses is the Borg and Gall Model. The research and development 10 steps, namely: (1) Potential and problems, (2) Data collection, (3) Product design, (4)

Design validation, (5) Design revisions, (6) Product trials, (7) Product revisions, (8) Usage trials, (9) Product revisions and (10) Mass production [14]. However, in this study only up to 7 steps, namely product revision.

3   Results and Discussion

The results of the research in developing teaching materials for Listening Skills based on a scientific approach are through three stages. The first stage is the stage of analyzing needs and goals, the second stage is developing teaching materials, and the third stage is evaluating and revising. The purpose of carrying out these stages is to produce teaching materials for Listening Skills that are valid, practical, and effective.

1) **Analysis of Needs and Objectives**

Analysis of needs and objectives was carried out aiming to identify gaps in the current situation with the expected conditions and to find out changes in students before and after using the teaching materials that the researchers developed. Needs analysis data obtained from the results of interviews and filling out questionnaires. The questionnaire contains 10 questions filled out by 38 students. Questionnaire questions include books currently used by students, the content of the material in the book, the needs of students with teaching materials for listening skills, and the form of questions or evaluations in the book. Based on the results of the needs analysis questionnaire filled out by 38 students, it was shown that 100% of students needed Listening skill teaching materials which were developed according to student needs, as many as 92% of students had difficulty understanding the material in the listening skill teaching materials currently used. Eighty-nine percent of students said that listening skill books were hard to find in the library, while 58% also stated that listening skills material was hard to find on the internet. As many as 84% stated that the teaching materials for listening skills currently used did not meet student expectations.

Based on the results of subsequent researchers' observations, listening learning problems lead to limited reference sources of listening skills books, the books used by students are monotonous, do not vary and have not been updated with current developments, there is no specific task design yet. Structured in the books used, and the reference sources have not been updated. Learning listening skills requires handbooks that accommodate real-life issues and problems, as well as learning media that are attractively packaged and accommodate various forms of listening materials such as images, animations, audio and video. Based on the results of problem identification and learning needs for listening skills, the researcher tried to design a listening skill module with a scientific approach which would later be able to make students think more scientifically as well as to train critical thinking skills.

2) **Identification of Learning**

After analyzing the needs and objectives, the next step is to identify learning. Learning identification is carried out to determine teaching materials based on skills, processes, procedures, and learning tasks that are adjusted to the Semester Learning Program and Activity Plan.

3) **Learner (Student) and Context Analysis**

Analysis of students and the context carried out by researchers in the field is to identify and analyze the characteristics and abilities of students during lectures. Students show an attitude of wanting teaching materials that contain material that is complete and easy to understand.

4) **Formulate Performance Objectives**

Formulating performance objectives carried out by researchers is to create instructional objectives, learning outcomes, and final abilities that will be achieved by students after using the Listening Skills teaching materials.

5) **Develop Instruments**

The instruments developed by the researcher were in the form of essay/description questions which would later be able to measure students' understanding of the concepts of the materials being developed, as well as train students to answer questions scientifically and critically. The questions developed are based on the learning objectives in each book chapter.

6) **Develop Learning Strategies**

Based on the information obtained in the field, the researcher developed a learning strategy in the lesson plan, which was further developed in the Listening Skills teaching materials.

7) **Develop and Select Instructional Materials**

At this stage the researcher develops teaching materials according to the anatomy of textbook writing. The anatomy of the textbook developed consists of four parts consisting of the outside of the book (front cover, back, back), the front of the textbook (book title page, preface page, and table of contents page), the contents of the textbook (chapter titles, brief chapter descriptions, learning outcomes, content, and exercises), post-content section (contains the bibliography page and the author's biography page). This teaching material was also developed based on a scientific approach, which is an approach that provides understanding to students in knowing and understanding various materials using a scientific approach, that information can come from anywhere, at any time, not depending on unidirectional information from the lecturer.

8) **Formative Evaluation and Revision**

The next stage in developing Listening Skills teaching materials is the evaluation and revision stage. The steps taken are: a) expert evaluation; b) individual evaluation; and c) field test.

a) Expert Evaluation

Expert evaluation was carried out to determine the validity of the developed teaching materials. Analysis of the validity of this data was assessed based on linguistic experts,

Table 1. Validator Assessment

Score Obtained		
Language	**Graphics**	**Material**
0,92	-	-
-	0,80	-
-	-	0,75

presentation and graphic experts, and content/material feasibility experts. The calculation of the three validations as a whole assessment of the Listening Skills teaching materials can be seen in the table (Table 1).

It can be seen from the table above regarding the assessment of design validation obtaining an average V of 0.92 with very valid category criteria. While language validation obtained an average V of 0.80 with valid category criteria and material validation obtained an average V of 0.75 with valid category criteria. Therefore, the Listening Skills teaching materials are suitable for use and can be tested at the practical stage (individual test and field test).

b) Prototype Evaluation
1. Implementation of One-to-One Evaluation

The one-to-one evaluation was carried out on November 3, 2022. The steps taken were: 1) The researcher distributed materials for Listening Skills to students; 2) Students look around and read the materials for Listening Skills; 3) Researchers conduct questions and answers related to the content of the material in the teaching materials. The one-to-one evaluation was carried out by conducting interviews with three students. The interview questions were based on four indicators, namely: 1) the attractiveness of the teaching materials; 2) readability of the content of the material; 3) presentation of images; 4) presentation of material in teaching materials.

Based on the results of this one-to-one implementation, it is known that the Listening Skills teaching materials are interesting. According to students, the language used is easy to understand, there are examples and unique pictures. Students also easily understand the contents of the material contained in the teaching materials, the language used in the teaching materials is simple so that it makes students easily answer existing questions and is able to practice critical thinking skills. Based on this, it can be concluded that the teaching materials that researchers have developed can be used by students and lecturers in carrying out lectures.

2. Implementation of Small Group Evaluation

The small group evaluation was carried out by giving a questionnaire which had been provided by the researcher which was filled by six students. The steps taken at the small group evaluation stage were: 1) Students read and understood the material in the Listening Skills teaching materials, 2) Next the researcher distributed questionnaires to the six students regarding the Listening Skills teaching materials, 3) After that students were asked to fill in the ten questions in the questionnaire. Based on the acquisition of

questionnaire scores which were filled out by six students, the total score of the questionnaire was 217. Then calculated using a formula, the results obtained were 72.33%. This shows that the Listening Skills teaching materials are practical to use. Furthermore, teaching materials will be tested on a wider scope.

b. Field Test Implementation

The field test was carried out to obtain comprehensive information about the quality of the Listening Skills teaching materials. Field trials were conducted on 38 students. Students fill out a questionnaire which consists of 20 questions Based on the acquisition of questionnaire scores filled by 38 students, the total score of the questionnaire was 2740. Then calculated using a formula, the results obtained were 90.13%. This shows that the Listening Skills teaching materials are very practical to use.

This study aims to develop teaching materials for Listening Skills based on a scientific approach and to determine the validity, practicality, and effectiveness of teaching materials for Listening Skills based on a scientific approach. The stages carried out in this research are: potentials and problems, data collection, module design, expert validation, product revision, product testing, and product revision. Based on the results of the needs analysis questionnaire in the field, it is known that there are limited reference sources for listening skills books, the books used by students are monotonous, do not vary and have not been updated with current developments, there is no structured task design in the books used, and the sources references have not been updated. Meanwhile, the students' needs from the results of the questionnaire distribution also show that learning listening skills requires handbooks that accommodate real-life issues and problems, as well as instructional media that are attractively packaged and accommodate various forms of listening materials such as images, animations, audio and video. Based on the results of problem identification and learning needs for listening skills, the researcher tried to design a listening skills module with a scientific approach which would later be able to make students think more scientifically as well as to train critical thinking skills.

After the teaching materials have been developed, the next step is the validation test stage for three experts, namely language experts (Agung Nugroho, M.Pd.), graphics and presentation experts (Dr. Dodik Mulyono, M.Pd.), and content/material experts (Dr. Satinem, M.Pd.). The results of the linguistic validation show that the Listening Skills teaching material is very valid to use with a score of 0.92. Then the results of presentation and graphic validation obtained a number of 0.80 with a valid category. While the assessment of content/material experts obtained a score of 0.75 in the valid category. Based on the three expert opinions, it can be concluded that the Listening Skills teaching material is feasible to use even though there are some notes from the validator. Presentation and graphic validation asks to improve image resolution and consistency of type and size of letters, then the content/material validator notes the discrepancy between learning outcomes and planned final abilities and there are still spelling and grammar errors. All criticisms and suggestions from this validator have been improved by researchers for further field trials.

Through a one to one evaluation with six students, it was found that the Listening Skills teaching materials were feasible to use. Six students stated that the appearance of the Listening Skills teaching materials was interesting, there were interesting and unique

pictures so that students did not get bored reading the teaching materials. Furthermore, with regard to the content of the material in the Listening Skills teaching materials, students stated that it was easy to understand, because it used simple language so that it made it easier for students to understand the material and answer questions correctly while at the same time increasing critical thinking skills. Furthermore, in the small group tryout, students filled out a questionnaire of ten questions which included the appearance of the teaching materials, the content of the teaching materials, the pictures and illustrations used and the language used in the teaching materials. The results of the questionnaire calculation show that the Listening Skills teaching materials are practical to use with a percentage of 72.33%. Then the teaching materials were tried out in large groups, students filled out a questionnaire of twenty questions which included the appearance of the teaching materials, the content of the teaching materials, the pictures and illustrations used, the questions/questions in the teaching materials, and the language used in them. in teaching materials. The results of the questionnaire calculation show that the Listening Skills teaching materials are practical to use with a percentage of 90.13%.

Next, the product trial phase was carried out in 5 meetings by answering the questions in the teaching materials. Student grades are said to be good if they get scores > 75. Learning is done by using lecture, demonstration, and assignment methods. Lecture and demonstration methods aim to make it easier for students to understand material and problems in learning, while assignments are to help students to solve problems as well as train critical thinking skills. The scores obtained by students are in the good category at each meeting with an average score of > 75. In the first task, an average value of 78.66 was obtained. Furthermore, in the second task, an average value of 77.39 was obtained. An average score of 77.24 was obtained at the third meeting, while at the fourth meeting an average value was obtained of 77.29, and at the fifth meeting an average value was obtained of 77.42. Based on validation tests and field trials the scientific-based Listening Skills teaching materials are feasible to use and have been proven valid, practical, and effective.

4   Conclusion

The conclusions obtained from this study are as follows:

1) The design of Listening Skills teaching materials was developed through the stages of a) analysis of needs and objectives; b) learner identification; c) learner (student) and context analysis; d) formulate performance objectives; e) developing instruments; f) develop learning strategies; g) designing teaching materials; h) validating teaching materials to experts; i) large and small group trials.

2) Teaching materials are designed based on the anatomy of textbook writing which contains four parts consisting of the outside of the book (front cover, back, back), the front of the textbook (book title page, preface page, and table of contents page), part textbook content (chapter titles, brief chapter descriptions, learning outcomes, content, and exercises), post-content section (contains the bibliography page and the author's biography page).

3) Teaching materials for Listening Skills based on a scientific approach are valid, practical, and effective.

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