Development of Web-Based Indonesian Teaching Materials on Listening Materials for Grade X High School Level

Pradicta Nurhuda¹, Kaniah¹, Dwi Wahyuni¹, Harini¹
¹Organisasi Riset Arkeologi, Bahasa, dan Sastra, Badan Riset dan Inovasi Nasional, Indonesia

ABSTRACT

In learning Indonesian language, the existence of innovative teaching materials in line with technological developments is one of the right efforts in improving student learning outcomes. Listening material is one of the achievements per element that students must learn in learning Indonesian high school grade X according to the Merdeka Curriculum. This research focuses on the development of teaching materials and knowing the feasibility of web-based teaching materials on listening materials. The purpose of this research is to find out the analysis of teaching material needs, the development of teaching materials, and the feasibility test of web-based teaching materials on listening materials. This research uses the development method or Research and Development (R&D) with the ADDIE model approach. Data collection is carried out by observation, interviews, filling out questionnaires. The needs analysis sample was conducted on 2 Indonesian language teachers and 20 grade X students at SMAN 4 Bekasi City, SMAN 12 Bekasi City, and SMA Strada Bekasi City. Meanwhile, product trial samples were carried out on 2 Indonesian teachers and 36 grade X students at SMAN 12 Bekasi City. The results of the needs analysis are (1) teachers and students need teaching materials on listening materials that can display audio or audio visual that can be accessed through devices anywhere and anytime; (2) web-based teaching materials are developed through three steps, namely from starting to create designs, registering domains, to developing teaching materials using WordPress media; and (3) The results of the teaching material validation test by linguists were declared very feasible with a percentage of 88%, material expert validation was declared very feasible with a percentage of 92%, and media expert validation was declared feasible with a percentage of 80%, while the results of teaching material trials by teachers were declared very feasible with a percentage of 80% and teaching material trials by students were declared very feasible with a percentage of 82%. The conclusion of the research is web-based teaching materials Indonesian listening materials that can be accessed through https://bahanajarkelas10.site/ link suitable for use by teachers and grade X high school students.

INTRODUCTION

The new paradigm in education in the form of student-centered learning is one of the demands that must be realized and carried out by teachers in guiding students to learn at school. This paradigm aims to enable students to be actively involved in learning, both developing attitudes and skills (Sandria et al., 2022). Student-centered learning requires teachers to create an
interesting and enjoyable learning atmosphere and allow students to learn independently, both inside and outside school. One effort that can help teachers to make students learn independently is with the help of technology. The use of technology in learning has challenges for teachers, especially for teachers who are still stuttering technology so that it will be difficult to use it. However, a teacher must continue to develop himself and be technologically literate to be able to create quality learning (Astini, 2019). If in conventional learning activities teachers use makeshift teaching materials, such as books or modules, with technology teachers can ask students to learn the material and do questions independently without having to do face-to-face learning. The use of technology in learning is directed to improve the quality of learning and develop learning innovations that have tended to be conventional. This is in accordance with the opinion (Darsih, 2018) That said, the majority of teachers in schools still use conventional learning models, one of which is the lecture method so that students will be bored and tend to passively receive material in learning. Students also tend to dislike subjects where the learning situation is monotonous and involves a lot of notes taking and memorizing (Wulandari et al., 2017). With the use of technology in learning, it is expected to provide the best learning for students so that students do not get bored of learning the material and have a positive impact on improving student learning outcomes.

Efforts that teachers can make in creating interesting and not boring learning, one of which is to provide a touch of technological innovation to the teaching materials used. Teaching materials need to be well designed and attractive so that students can gain knowledge, skills and information related to learning easily (Irmawati et al., 2016). Indeed, in the Merdeka Curriculum, teachers are given freedom in utilizing learning methods and tools in the teaching and learning process in the classroom, including using teaching materials (Wijayanti & Hamami, 2024). The existence of teaching materials in the teaching and learning process will help teachers in providing learning materials to students in a systematic, coherent, and complete manner. Without teaching materials in classroom learning, teachers will find it difficult to provide learning materials effectively and efficiently, while students will have difficulty adjusting to obtaining learning materials from teachers (Simamora, 2020). Further Andriyani & Suniasih (2021) said that learning objectives can be achieved as expected because of teaching materials that contain attractively designed subject matter. This is reinforced by the opinion of Al-Shara (2015) who says that teaching materials have a big influence on learning because they can attract attention and increase students' interest so that students will enjoy the learning process. This will have a big influence on achieving learning goals. Based on the importance of teaching materials, researchers concluded that in classroom learning teachers need to use teaching materials that attract students' attention so that the subject matter can be conveyed properly.

One of the teaching materials that follows technological developments and students can access them anytime and anywhere without having to be tired of carrying heavy books is to utilize web-based teaching materials. By utilizing web-based teaching materials, the subject matter to be delivered to students will be more varied than conventional teaching materials (books or modules) because the subject matter can be packaged in audio or audio-visual form which obviously cannot be presented in conventional teaching materials. According to Violante & Vezzetti (2015), Web-based teaching materials are teaching materials made using a web so that they can be accessed flexibly through an internet connection. Further, according to Fansury et al. (2020), Web-based teaching materials are teaching materials that are packaged in web media so that they are easily accessible using the internet network. The existence of easily accessible and attractive teaching materials will facilitate the learning process so that learning objectives are easier to achieve (Purmadi & Surjono, 2016). In addition, the content displayed on the web in the form of subject matter is easier to update and update in accordance with technological developments, certain conditions, or the latest curriculum so that the material presented is not static like conventional teaching materials (books or modules) which need a long time and considerable costs to update in updating the latest material (Saluky, 2016).
Web-based teaching materials have many benefits that can be felt by students and teachers. With web-based teaching materials, students can easily review learning materials at school using their own devices, wherever and whenever. Web-based teaching materials can be used to help students understand the subject matter through digital technology so as to cause more curiosity about the technology they are learning (Astuti et al., 2020). Further, according to (Wilcha, 2020), web-based teaching materials have many advantages including easy access, flexible, durable, and can be accessed for free via an internet connection. Khalil (2018) also explained other advantages of web-based teaching materials, among others, it can provide convenience for students if they want to access teaching materials again after the teacher has finished explaining the material in class.

At the senior high school level, one of the subjects that students must study is Indonesian subject. However, the reality in schools of student learning outcomes is quite low because many students underestimate or underestimate the subjects of Indonesian (Hartani & Fathurohman, 2018). Students underestimate this reason because students already feel accustomed to using Indonesian in their daily lives so that according to him Indonesian subject should not be studied more deeply (Rambe, 2018). More specifically, as one of the achievements per element that students must master, many students underestimate the listening material. That's based on research Ahmad, et al. (2018) That said, many students are passive and show disdain towards listening material. In fact, listening material is one of the achievements per element that students must learn in the current Merdeka Curriculum. Listening is one of the language skills that requires a high level of listening focus so that the listener can understand and capture the information as a whole from the material (Newton & Nation, 2020).

In the current Merdeka Curriculum, one of the achievements per element of Indonesian subject that students must learn is listening. According to Dawud et al. (2022), Indonesian subjects according to the Merdeka Curriculum have four achievements per element, namely (1) listening, (2) reading and listening, (3) speaking and presenting, and (4) writing. However, what happens in the field even though it is one of the materials that students must master in Indonesian subjects, listening material tends to get less attention, for example in the development of teaching materials that are in accordance with listening activities at all levels of education (Hartani & Fathurohman, 2018). In addition, the majority of schools do not pay attention and develop listening materials when compared to other language materials (Momang, 2021). This is supported by the results of the research Prastiwi et al. (2016) which stated that the results of learning listening material for class X students at SMAN 10 Pontianak were still low and needed to be improved. Therefore, based on this background, researchers are interested in developing web-based teaching materials on listening materials for grade X high school levels.

There are several previous studies related to this research that can be used to obtain State of the Art And as a reference supporting research on the development of web-based teaching materials, this listening material. First, research titled Pengembangan Bahan Ajar Berbasis Web Mata Pelajaran Biologi Kelas XI by Febriantika (2018). The results showed that this web-based teaching material is worth using because it can facilitate or help teachers and students when the teaching and learning process takes place. Second, research titled Developing ELICA: an Interactive Website for Intensive Listening by Wulanjani & Indriani (2019). The results showed that basic considerations of development website ELICA are the analysis of student needs and the final stage in the research is the creation of website ELICA is the first stage in a design-based approach. Third, research titled Bahan Ajar Menyimak Teks Eksposisi Berbasis Website untuk Pelajar BIPA Tingkat Mdya by Azizan et al. (2021). The results showed that the development of web-based teaching materials on listening to exposition texts for intermediate BIPA students contained material on Indonesian cultural diversity which was internalized in several themes. Fourth, research titled Pengembangan Bahan Ajar Berbasis Web pada Materi Sistem Pencernaan Manusia Kelas V by Fernando et al. (2022). The results showed that this web-based teaching material is very feasible and practical to use in learning Online what teachers and students do.
Based on these previous studies, it can be concluded that research related to the development of web-based listening materials for class X high school level has never been carried out before. The development of web-based teaching materials on listening materials has also rarely been carried out in previous research, so researchers are interested in developing these teaching materials. The aim of developing this teaching material is to (1) conduct needs analysis; (2) develop teaching materials; and (3) test the feasibility of web-based teaching materials, listening materials. With the web-based teaching materials on listening materials, it is hoped that students will no longer feel bored in learning the subject matter on listening material or underestimate listening skills. In addition, the results of the development of web-based teaching materials are expected to be an example for all teachers in Indonesia so that they can continue to develop their creativity and innovation in making teaching materials that attract students' attention so that they have a positive impact on student learning outcomes.

RESEARCH METHOD
This research is Research and Development (R&D) with qualitative and quantitative descriptive approaches using the ADDIE development model. Inner branches Widyastuti (2019) said that the development stages of the ADDIE model include (1) Analysis, (2) Design, (3) Development, (4) implementation, (5) Evaluation. The ADDIE development model was chosen because this development stage is simpler, faster, and easier to understand so that the development of web-based teaching materials and listening materials to product trials does not take a long time.

The research time from preparation to product trials is carried out for seven months, January-July 2023. In more detail, the time of research and the place of research are as follows: (1) needs analysis at SMA Strada Bhakti Wiyata Bekasi City on March 8, 2023, SMAN 12 Bekasi City on March 10, 2023, and SMAN 4 Bekasi City on March 14, 2023, and (2) product trials at SMAN 12 Bekasi City on July 24, 2023. In the needs analysis, the research subjects were 2 Indonesian teachers and 20 grade X students in each school, while in the teaching material trial, the research subjects were 2 Indonesian teachers and 36 grade X students at SMAN 12 Bekasi City.

Data collection techniques in this research were questionnaires and interviews. The questionnaire contains 15 written questions to find out the problems and needs about teaching materials in the listening material, while the interview contains 5 questions that are still related to the questionnaire. The expert validation instrument contains 15 written questions that must be filled out by expert validators (material experts, media experts, and linguists) to determine the feasibility of teaching materials. Meanwhile, a product trial instrument containing 15 written questions was used to determine the feasibility of teaching materials according to the results of teacher and student assessments.

The results of expert validation instruments and product trial instruments were analyzed using quantitative data analysis techniques using Likert scales. The Likert scale measurement formula in calculating the results of expert validation instruments and product trials on teachers and students is using percentage calculation. After that, the percentage results of the answers of experts, teachers, and students are converted into the product eligibility criteria that have been put forward Riduwan (2020).

<table>
<thead>
<tr>
<th>No.</th>
<th>Product Eligibility Criteria</th>
<th>Percentage Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very Decent</td>
<td>81%-100%</td>
</tr>
<tr>
<td>2</td>
<td>Decent</td>
<td>61%-80%</td>
</tr>
<tr>
<td>3</td>
<td>Medium</td>
<td>41%-60%</td>
</tr>
<tr>
<td>4</td>
<td>Not Worthy</td>
<td>21%-40%</td>
</tr>
<tr>
<td>5</td>
<td>Not Decent</td>
<td>0%-20%</td>
</tr>
</tbody>
</table>

RESULTS AND DISCUSSION
After going through all stages of research using the ADDIE model approach, researchers produced a web-based teaching material product Indonesian a decent grade X listening material.
This web-based teaching material can be accessed easily through https://bahanajarkelas10.site/ using a device that has been connected to the internet network. The results of this research are described in three subchapters even though they use 5 stages of research in accordance with the ADDIE model approach, namely (1) analysis, (2) design, (3) development, (4) implementation, (5) evaluation.

Teaching Material Needs Analysis
Researchers conduct needs analysis by providing questionnaires and conducting interviews and to teachers and students to find out problems and learning needs in listening material. The questionnaire contains 15 questions, while the interview contains 5 questions. The results of questionnaires and interviews with teachers and students are categorized into 2 types, namely problem analysis and analysis of teacher and student needs.

Problem Analysis
Problem analysis is an analysis category used to find out the problems faced by teachers and students in listening material. Based on the problem analysis carried out at SMA Strada Bhakti Wiyata Kota Bekasi, SMAN 12 Kota Bekasi, and SMAN 4 Kota Bekasi, the following information was obtained:

- Class X has implemented the Merdeka Curriculum, but classes XI and XII still use the 2013 Curriculum.
- The teaching materials used in listening activities are still text, namely books and modules.
- The listening task for the student is in the form of a teacher or one of the students is appointed to read an assignment from the book in front of the class, while the other students listen carefully to the task.
- The implementation of skill learning cannot be maximized because the teaching materials used should be in the form of audio visual or audio that can be listened to, not in the form of text.

Needs Analysis
Needs analysis is an analysis category used to determine the needs of teachers and students in listening material. Based on the needs analysis carried out in the 3 high school levels above, the following information was obtained:

- Teaching materials are needed that can provide materials, practice questions, and student assignments in the form of audio visual and audio in one package so that listening activities can be maximized.
- Teaching materials are needed that can be accessed via a device (mobile phone or laptop).
- It takes simple teaching materials that can be accessed anytime and anywhere.
- Teaching materials are needed that can train students' independence.

In addition to conducting problem analysis and needs analysis, researchers also analyze learning objectives and listening skills material in class X. After conducting the analysis, researchers obtain an overview of the differences in listening material in books with listening material that will be developed in the following web.

- In books and modules described only definitions, while examples are not found. Meanwhile, in web-based teaching materials, listening materials will be given examples that are in the form of audio visual so that students understand the material they are learning.
- In books and modules, interactive practice questions are not found. Meanwhile, in web-based teaching materials, listening materials students are given interactive practice questions in the form of multiple choice with students having to listen to an audio first.
- In books and modules, listening tasks for students are done by the way one of the students or teachers reads the assignment in front of the class from a text in the book that other students must listen to. Meanwhile, in web-based teaching materials, listening to student
assignments is in the form of interesting audio visuals. After listening to the audio visual, students can answer questions in the worksheets provided, which can be easily downloaded on the Student Work page.

Developing Web-Based Teaching Materials Listening Materials
Researchers design web-based teaching materials, starting from making simple designs, determining material according to the theme of the lesson, compiling materials, compiling quizzes and practice questions, and collecting videos and images that can be used in web preparation. Here is an example of a simple design image of a teaching material page.

![Figure 1. Material page design and individual assignments](image1)

The development of all web-based teaching material pages has five components, namely header, menu, body, sidebar, and footer. The header is filled with the site title with an image background. The menu is filled with menus displayed including Home, Materials, Practice Questions, Individual Tasks, Group Assignments, and Download. The body is filled with content according to the page displayed. The sidebar is filled with information on the social media accounts of the compilers of teaching materials and links to the latest posts that have been created. The footer is filled with information on the year and copyright of the preparation of teaching materials.

After designing a simple design of web-based teaching materials, researchers developed teaching materials with the following two steps.

a. Register a web-based teaching material domain on one of the web domain providers, namely rumahweb.com.

![Figure 2. Registering a domain](image2)
Researchers choose domains bahana.jarkelas10.site because the domain has never been used before. In addition, the domain is easy to remember because this teaching material is intended for 10th grade high school students. The important thing to consider in creating a web is choosing a domain and its extension (.org, .com, .site, etc.) because it impacts the number of web visits (Wijaya et al., 2022).

b. Develop web-based teaching materials with WordPress media. The following is an example of an image of a web-based teaching material page that has been developed.

Figure 3. Results of material page development and individual assignments

Based on the picture above, it can be seen that the development of teaching materials for teaching materials is in accordance with the design of simple teaching materials that have been prepared before. The content presented in the teaching materials is in the form of audio visual and audio because these teaching materials are for listening materials. In text-based teaching materials (books and modules), the material cannot be presented in the form of audio visual or audio.

Feasibility Test of Web-Based Teaching Materials
The first due diligence is conducted by expert validators consisting of material experts, media experts, and linguists. Material expert validation is carried out by 1 expert with the position of Associate Expert Researcher expertise in Linguistics and Learning, National Research and Innovation Agency which includes 2 aspects of material assessment, namely the learning aspect with 4 indicators and the material aspect with 11 indicators.

Figure 4. Material expert assessment results percentage graph
The results of the material expert assessment illustrated in the graph above show that the total percentage of all aspects is 92%. Based on the product eligibility criteria in the Likert scale measurement formula (Riduwan, 2020), this percentage indicates that the teaching material is "Very Decent" so that it can proceed to the product trial stage by first revising according to the material expert's advice. The description of the percentage of material expert assessment results based on each aspect that has been mentioned can be seen in the following graph.

Furthermore, media expert validation was carried out by 1 expert with the position of PTP Young Expert in Technology Platform Services, Ministry of Education, Culture, Research, and Technology which included 3 aspects of media assessment, namely the facility aspect with 5 indicators, the appearance aspect with 6 indicators, and the program aspect with 4 indicators.

![Figure 5. Percentage graph of media expert assessment results](image)

Based on the results of the media expert assessment illustrated in the graph above, it shows that the total percentage of all aspects is 80%. In the Likert scale measurement formula, this percentage indicates that the teaching material is "Decent" so that it can proceed to the product trial stage by first revising according to media expert advice.

The last validation test is a linguist validation test conducted by 1 person with the position of Main Expert Researcher expertise in Linguistics, National Research and Innovation Agency which covers 6 aspects of language assessment, namely straightforwardness aspects with 6 indicators, suitability with 2 indicators, accuracy with 2 indicators, terms in symbols or icons with 2 indicators, and ethics with 3 indicators.

![Figure 6. Percentage graph of linguist assessment results](image)

Based on the results of the linguist's assessment illustrated in the graph above, it shows that the teaching material is "Very Decent" with a total percentage of all aspects of 88% so that it can proceed to the product trial stage by first revising according to the linguist's advice.
After conducting validation tests to see the feasibility of teaching materials based on expert research, researchers tested them on teachers and students. Researchers tested 2 teachers Indonesian and 36 students in grade X at SMAN 12 Bekasi City. After conducting a trial of web-based teaching materials, teachers and students were asked to fill out questionnaires. The results of teacher and student assessments are used to determine the feasibility of teaching materials before being disseminated to other schools at the high school grade X level.

In the trial of teaching materials, researchers first asked teachers and students to open and use all pages in web-based teaching materials listening materials. After teachers and students have checked all the pages, audio, audio-visual, or other features included in the web-based teaching materials, teachers and students are asked to provide an assessment of the questionnaire that is available. The filling of the first product trial questionnaire was carried out by 2 teachers Indonesian SMAN 12 Bekasi City which included 3 assessment aspects, namely the apperance aspect with 4 indicators, the material presentation aspect with 7 indicators, and the benefit aspect with 4 indicators.

![Figure 7. Percentage graph of teacher assessment results](https://example.com/figure7.png)

Based on the assessment results of 2 Indonesian teachers illustrated in the graph above shows that the teaching materials are "Decent" with the total percentage of all aspects at 80%. Meanwhile, the response/comments given by the teacher were positive and no one suggested making revisions.

The filling of the second product trial questionnaire was carried out by 36 grade X students at SMAN 12 Bekasi City which included 3 aspects of assessment, namely the display aspect with 4 indicators, the material presentation aspect with 7 indicators, and the benefit aspect with 4 indicators.

![Figure 8. Percentage graph of student assessment results](https://example.com/figure8.png)
The results of the assessment of 36 grade X students illustrated in the graph above show that the total percentage of all aspects is 82%. This percentage indicates that the teaching materials are "Very Decent" in accordance with the product eligibility criteria in the Likert scale measurement formula. Meanwhile, the responses/comments given by the average student were positive and no one suggested making revisions.

CONCLUSION
Based on the results and discussion of the research above, the development model approach in this research has followed the stages of the ADDIE model approach, namely analysis, design, development, implementation, and evaluation by producing a final product that has been tested for feasibility, namely web-based Indonesian teaching materials on listening material for high school grade X. The conclusions in this research based on the objectives of the research are as follows.

1. Needs analysis of teachers and students is categorized into two analyses, namely problem analysis and needs analysis. One of the results of the problem analysis is that the teaching materials used in delivering listening material are still text so that the implementation of listening activities is not appropriate. Meanwhile, the results of the needs analysis are that teachers and students need teaching materials that can provide materials, practice questions, and assignments in the form of audio visual and audio that can be accessed through devices that have an internet connection. Meanwhile, researchers compiled web-based teaching materials based on the results of the analysis of learning objectives and material on three themes.

2. This web-based teaching material is developed through three steps, namely (1) designing web-based teaching materials listening materials; (2) register the domain of web-based teaching materials listening materials; and (3) develop web-based teaching materials, listening materials using WordPress media.

3. Web-based teaching materials, listening materials are declared feasible for product trials based on the results of expert assessments in validation tests with the following details: (1) get a value of "Very Decent" with a percentage of 92% by material experts; (2) get a "Decent" score of 80% by media experts; and (3) received a "Very Decent" score of 88% by linguists. Researchers have revised web-based teaching materials according to the advice of material experts, media experts, and linguists. Meanwhile, web-based teaching materials, listening materials are declared suitable for use in learning Indonesian high school grade X based on the results of student assessments in product trials with the following details: (1) get a "Decent" grade with a percentage of 80% of assessment results from teachers and (2) get a "Very Decent" grade with a percentage of 82% of assessment results from students. Meanwhile, this web-based teaching material after product trials, researchers did not revise during product trials teachers and students did not provide revision suggestions for teaching materials.

ACKNOWLEDGEMENTS
Thank you for Indonesian language teacher and class X high school students in SMA Strada Bhakti Wiyata Bekasi City, SMAN 12 Bekasi City, and SMAN 4 Bekasi City

REFERENCES
Development of Web-Based Indonesian Teaching Materials on Listening Materials for Grade X High School Level

https://doi.org/10.46627/silet.v5i1.349


Simamora, R. M. (2020). The challenges of online learning during the COVID-19 pandemic: An


**Author(s):**

Pradicta Nurhuda (Corresponding Author)
Organisasi Riset Arkeologi, Bahasa, dan Sastra,
Badan Riset dan Inovasi Nasional,
Jalan Gatot Subroto No. 10, Indonesia
Email: prad009@brin.go.id

Kaniah
Organisasi Riset Arkeologi, Bahasa, dan Sastra,
Badan Riset dan Inovasi Nasional,
Jalan Gatot Subroto No. 10, Indonesia
Email: kani001@brin.go.id

Dwi Wahyuni
Organisasi Riset Arkeologi, Bahasa, dan Sastra,
Badan Riset dan Inovasi Nasional,
Jalan Gatot Subroto No. 10, Indonesia
Email: dwiw006@brin.go.id

Harini
Organisasi Riset Arkeologi, Bahasa, dan Sastra,
Badan Riset dan Inovasi Nasional,
Jalan Gatot Subroto No. 10, Indonesia
Email: hari052@brin.go.id