Systematic, active, contextual, technological, integrative (SAKTI) framework in the development of critical listening teaching materials

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ABSTRACT

This research is motivated by the limited availability of digital module teaching materials, especially in critical listening learning. This study aims to produce critical listening learning modules that are structured on the principles of systematic, active, contextual, technological, integrative (SAKTI). This principle is formulated by researchers from various critical listening learning theories and the development of teaching materials that are relevant to current needs. The digital teaching materials are arranged to contain materials, listening materials, exercises, and evaluations in one teaching material. The research was conducted by applying the research procedure proposed by Tomlinson in 2012. The module was developed using the Flip Pdf Professional Application Version 2.4.9.41, Quizzes, Canva, Google Form, Ms. Word, Dolby On, Nitro Pdf. The module consists of 3 main components, namely the introductory, core, and closing sections. This study uses R&D methods with stages Analysis, Design, Development, Implementation, & Evaluations. Based on the results of product trials, it is known that the use of the designed product provides several advantages, among which it makes the learning process practical, can be used anywhere and at any time, helps guided or independent learning, helps online and offline learning, encourages students to actively complete each stage of learning and can be a means of obtaining new information for students.
Critical listening is a skill that is needed especially for students, because most academic activities require students to master this ability. Critical listening is a combination of listening and critical thinking. Some research results state that critical listening is an important skill for students and still requires various efforts to improve skills, one of which is through the use of technology (Corey & Benson, 2016; Erkek & Batur, 2020; Everest, 2007; Ferrari-Bridgers et al., 2017; Renwick et al., 1954; Walzer, 2015; Yanti et al., 2021).

The use of technology also makes learners feel more comfortable to access learning materials. In addition, the use of technology in learning provides a new method in the field of teaching and learning, as it can minimize differences in teaching methods and materials, thus providing a more consistent standard of learning quality (Mutmainnah et al., 2017). Some research results also indicate that technology in learning is very important and helps the learning process to be more effective, including in teaching critical listening (Çakmak, 2019; Chou & Zou, 2020; Hew et al., 2020; Sunendar, 2022).

Critical listening is a critical thinking activity whose source of information is obtained from the sense of hearing (Anderson, 1972; Arono & Nadrah, 2020; Ennis, 1996; Erkek & Batur, 2020; Nindi & Marfu, 2018). The researcher also conducted an initial test on students' critical listening skills. Based on the results of the initial test, it is known that there are still many students who score below 75. Of the 30 students, it is known that 4 scores obtained are still low. Some research results also show that critical listening skills are quite difficult for students to master and still need to be improved (Daeng dkk., 2010a; Doludea & Nuraeni, 2018; Gulten & Zekerya, 2019; Hamid, 2015; Ginting, 2012).

In addition, the researcher also traced information from the Bengkulu Provincial Language Office. Based on information obtained from the Bengkulu Provincial Language Office (2022) there were 175 students who took the Indonesian Language Proficiency Test (UKBI) that year. The results of the UKBI test held by the Bengkulu Provincial Language Office show that in the aspect of listening skills 2 people or the equivalent of 1% of students received a special title, 13 students or the equivalent of 7% of students received very superior grades, 23 students or the equivalent of 13% received an excellent title, 51 students or the equivalent of 29% have an intermediate degree, 36 students or the equivalent of 21% have received an undergraduate degree, 24 students or the equivalent of 14% have received a marginal score
and 26 students or the equivalent of 15% of students have received a limited predicate in listening skills.

Currently teaching materials will be more effective if they present teaching materials digitally by utilizing technologies that greatly support the learning process (Pratiwi et al., 2016). With the existence of digital teaching materials, the need for material that is audio-visual in nature can be packaged directly in these teaching materials. The learning process that utilizes digital technology has several advantages which are cost-effective, easily accessible, and helps students to more easily understand learning material (Grand-Clement et al., 2017; Kreijns et al., 2017; Mantiri, 2014; van den Berg et al., 2004). This digital teaching material is also very much needed in learning language skills including learning critical listening which is also a form of language development efforts (Sunendar, 2018).

Technology is an important thing that influences the learning process of critical listening skills (Cross, 2010; Daeng et al., 2010; Doludea & Nuraeni, 2018; Hijriyah, 2016; Jalongo, 2007; Manjola Likaj, 2015; Miftakh & Samsi, 2015; Nation & Newton, 2008; Scharfstein & Gaurf, 2013; Solak & Erdem, 2016; Yanti et al., 2022) In addition, there have been many studies which state that critical listening is an important skill that must be mastered by someone (Corey & Benson, 2016; Erkek & Batur, 2020; Everest, 2007; Ferrari-Bridgers et al., 2017; Renwick et al., 1954; Walzer, 2015). The research that researchers will conduct focuses on developing teaching materials in the form of digital learning textbooks.

Based on the facts that the researcher has found, from various existing learning models and teaching materials, the researcher concludes that there are several important principles contained in learning critical listening. Critical listening learning must be carried out systematically and be able to attract students' attention to actively participate in learning. Learning that is carried out also does not only focus on aspects of learning material but also must contain essences that can build student character.

Some research results also show that critical listening skills are quite difficult for students to master and still need to be improved (Daeng et al., 2010a; Doludea & Nuraeni, 2018; Gulten & Zekerya, 2019; Hamid, 2015; Kanegi, Br Ginting, 2012). To realize the application so that all components can be carried out optimally, of course, comprehensive teaching materials are needed and support the theory. This reality encourages researchers to compile digital teaching materials for learning critical listening which researchers will name "Modul SAKTI Critical Listening Learning". We know the word SAKTI itself means something that has the ability to repair, treat and provide a solution to a problem, so this teaching material is expected to be one of the solutions to improve students' critical listening skills. In this case the word SAKTI is also an acronym for the words systematic, active, contextual,
technological and integrative. The research question in this study was how to create teaching materials using the SAKTI approach to improve critical listening skills of students in college and what are the benefits of teaching materials that have resulted?

**METHOD**

The method used in this research is the Research and Development method or what we often know as R&D because it is in accordance with the problem and research objectives. The R&D method used in this research is Tomlinson's (2011) R&D method. Tomlinson explained that there are 7 main steps, namely: 1). Identification of Need for Materials 2). Exploration of Need 3). Contextual Realization of Materials) 4). Pedagogical Realization of Materials 5). Production of teaching materials Production of Materials 6). Student Use of Material 7). Evaluation of Materials Against Agreed Objectives)

**Instruments and Procedures**

The instruments used in this study consisted of; 1) guidelines for interviewing teaching material needs, 2) student and lecturer questionnaires about the need for critical listening teaching materials, 3) expert validation sheets in the field of critical listening skills, 3) expert validation sheets in the textbook field, 4) expert validation sheets in the digital product field education, 5) Product assessment questionnaire from students on teaching materials that have been produced. Before being used, the researcher conducted a content validation and construct validity test. Validity and reliability test are conducted using the IBM SPSS Statistics application Version 22. Based on the results of the validity test it is known that the instrument used is valid because the correlation value obtained for each question item is above 0.30. The researcher also conducted a reliability test. From the test results, the Cronbach's Alpha value was 0.961, which means that it is greater than 0.6, this means that the instrument that has been made as a whole meets the criteria for a reliable instrument.

To ensure that the instrument used is reliable, the researcher not only looks at the overall Cronbach's Alpha value but also calculates the Cronbach's Alpha value for each statement item. In the SPSS output results above it is known that the Cronbach's Alpha value for each statement item in the instrument is greater than 0.6. This means that each statement item in the instrument meets the criteria for a reliable instrument. The researcher also conducted a homogeneity test on the research sample, where the significance value obtained was 0.461 which means greater than 0.05. In these conditions it can be concluded that the data obtained is homogeneous.

**Data Analysis Procedures**
The data that has been collected will be analyzed to determine the quality of the development products that have been produced. Data collection was carried out by giving a questionnaire to the listening skill expert validator and teaching materials expert. To measure the feasibility of the product at the final stage a questionnaire will also be distributed to students. Data analysis used in this research is descriptive data analysis.

**FINDINGS**

Based on the results of the analysis of the abilities, perceptions and needs of the teaching materials that have been carried out, the researcher compiles a hypothetical design of the teaching materials that will be made. The hypothetical design of teaching materials packaged in the form of digital modules begins with formulating a needs analysis based on critical listening learning competencies with the principle of developing the SAKTI model. Based on the resulting formulation of competencies, several indicators that represent these competencies are determined.

Based on the hypothetical model for developing the critical listening learning digital module with the design of the SAKTI model, it is known that the product being developed consists of 3 main components, namely the introduction, core and closing parts. Each component is divided into several parts. In the introduction there is a cover page, preface, table of contents, instructions and tests. Whereas in the core components there are module identities, instructions for using modules, material maps for focus practice modules, critical listening materials, material tests and exercises. For closing components there is an evaluation guide section and an evaluation link. In this study, researchers used the SAKTI framework in preparing teaching materials.

**Teaching Materials Development Process**

In this study the researcher referred to the theory of the stages of developing teaching materials put forward by Tomlinson, which consisted of 1) identification of the need for teaching materials (identification of need for materials), 2) exploration of needs, 3) realization of the context of teaching materials (contextual realization of materials), 4) realization of pedagogical aspects of teaching materials (pedagogical realization of materials), 5) production of teaching materials (production of materials), 6) use of teaching materials (student use of materials), and 7) evaluation of teaching materials (evaluation of materials against agreed objectives) (Tomlinson, 2011). The module was developed using the Flip Pdf Corporate Edition application Version 2.4.9.31, Quizzes, Canva, Google form, Word, Dolby on, Nitro pdf. Each use of the application is described through the following steps:
Preparation of teaching material templates
The researcher used the Ms Word application to develop the initial template for the critical listening learning module. Through this application the researcher collects all the content of teaching materials into one unit. Every module section from cover page to evaluation is organized in one template. The researcher divides the module into 6 parts consisting of introductory module, part 1 module, part 2 module, part 3 module, part 4 module and evaluation. Using Ms Word 2019 allows researchers to make initial designs, insert images and adjust the position of each part of the module easily.

Audio recording of listening material
Reading material is also one of the main components in the preparation of this module. It is through the listening material that students can obtain information as a basis for carrying out each activity contained in this module. To produce clear audio, the researcher uses an application. At this stage, the researcher uses the Dolby On application.

Making material test questions
The production of digital teaching materials is certainly inseparable from the need to use applications that can help researchers to present practice/evaluation questions that are directly integrated with teaching materials. To realize this, researchers use the Quizzes application. By using the Quizzes application students can work on practice questions in the material test section directly by accessing the material test link that the researcher has provided. This link will connect students with questions that they can answer directly by selecting one of the alternative answers.

Making pretest questions, training and evaluation
Apart from using the Quizzes application to create practice/evaluation questions, researchers also use the Google Form application. By utilizing the Google Form application, we can present various practice and evaluation questions relatively easily. In addition, the use of the Google Form application also provides various advantages, namely saving costs, time and effort.

Making display design teaching materials
To get more interesting results, before entering the teaching material files in the Flip Pdf Professional Application Version 2.4.9.41, the layout of the teaching materials will be designed using the Canva application. Using Canva to design teaching material layouts is relatively easy. Canva also provides a large selection of attractive design models and can be obtained for free. To start designing teaching materials, you can do this by pressing the Create Design button. Next, several features will appear that allow researchers to
make teaching materials with attractive color choices and designs. Researchers can make designs relatively easily because the application offers complete features.

**Digitization of teaching materials**

The final stage of the teaching material production process is integrating all the documents that have been collected using the Flip Pdf Professional Application Version 2.4.9.41. The Flip Pdf application helps researchers convert files in pdf format into Flip books. This application can be downloaded via Google Chrome, but to access it you have to use a paid feature. The following is a display of the initial work page using the Flip Pdf Professional Application Version 2.4.9.41. The Flip Pdf Professional Application Version 2.4.9.41 has various features, solved by inserting new objects on the critical listening learning module work page. Apart from inserting objects in the form of images or pdf files, the Flip Pdf Professional Version 2.4.9.41 application also provides a feature for researchers to be able to insert files in the form of audio or material test links. Therefore, students can connect directly to the questions online. The following shows the audio insert feature in the Flip Pdf Professional application Version 2.4.9.41.

**Benefits of developed products**

The researchers also asked students to evaluate aspects of the usefulness of the products that have been produced. In this case, some aspects of the usability assessment that are the focus of the assessment are the systematics of the modules’ presentation, the liveliness of the students following the learning, the novelty of the information obtained, the integration of teaching materials and the usefulness of the modules that have been produced to help students study independently, online, and offline. In more detail the results of the assessment of the product’s usability aspects can be seen in the following table:

**Table 1 Assessment of Benefit Aspects**

<table>
<thead>
<tr>
<th>Item</th>
<th>Student Perceptions of Benefits</th>
<th>Respondent Assessment</th>
<th>Disagree (1)</th>
<th>Diss Agree (2)</th>
<th>Simply Agree (3)</th>
<th>Agree (4)</th>
<th>Strongly Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Systematic</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>2 Liveliness</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>3 New information</td>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>22</td>
</tr>
<tr>
<td>4 Integration of teaching materials</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>5 Guided Learning</td>
<td></td>
<td></td>
<td>0</td>
<td>1</td>
<td></td>
<td>10</td>
<td>18</td>
</tr>
</tbody>
</table>
Based on the results of the research contained in the table above, it is known that on the systematic aspect of the presentation of module 2, students expressed sufficient agreement, 8 students expressed agreement and 20 students expressed strong agreement that the resulting product had been systematically composed. Products that have been designed can also trigger the liveliness of students to complete each stage of learning. In addition, 1 student expressed sufficient agreement, 6 students stated that they agreed, and 23 students strongly agreed that they got new information from the content. In addition, the researchers also asked the students' perceptions regarding the integration of the needs of listening teaching materials in the products that have been produced; in connection with this, it is known that 1 student expressed disagreement, 7 students agreed and 22 students expressed strong agreement that the digital module that has been designed has integrated materials, exercises and evaluations comprehensively.

Digital modules that have been designed can also help students in independent learning activities. This is known from 1 student who expressed sufficient agreement, 12 students who expressed agreement, and 17 students who expressed strong agreement with the statement. The products that have been produced also help students to learn independently. From the results of the study, it is known that 1 student expressed enough agreement, 12 students expressed agreement, and 17 students stated strongly that the module can help them learn online. Online learning modules also help students to study offline. This is known from 1 student who expressed disapproval, 1 student who expressed enough agreement, 10 students expressed agreement and 18 students expressed strong agreement that the digital module that has been designed also helps students to study offline. Overall, based on the results of the research, it is known that the users of the module give a positive assessment of the digital module usefulness of critical listening learning. This can be seen from the data on the assessment carried out to 30 students, which shows that 1 student or 4% of the study respondents expressed sufficient agreement, 29% of the research respondents stated that the study respondents agreed, and 66% of the research respondents strongly agreed that the digital
critical listening module designed by the SAKTI framework greatly helps students in the learning process.

**DISCUSSION**
The development of teaching materials in the form of digital modules can be carried out based on R&D Thomlinson's theory which consists of steps (1) Identification of Need for Materials (2) Exploration of Need (3) Contextual Realization of Materials (4) Pedagogical Realization of Materials (5) Production of Materials (6) Student Use of Material (7) Evaluation of Materials Against Agreed Objectives. However, it is important to consider that because teaching materials are presented in digital form, signal strength and quota availability greatly affect the learning process. If the signal and quota do not support this, it will affect student concentration in completing each stage contained in the digital module.

This digital module designed for critical listening learning is an audio-visual book. In addition, this digital module can also be used via a laptop or computer by accessing the page. The module was developed using the Flip Pdf Professional Application Version 2.4.9.41, Quizzes, Canva, Google Form, Word, Dolby On, Nitro pdf. In the early stages of preparing teaching materials the researcher used the Ms. Word 2019. All of these applications are used because they are relatively easy to apply.

Flip Pdf Corporate Edition Version 2.4.9.31 is an application that can be used to design digital books. Through the Flip Pdf Corporate Edition Version 2.4.9.31 application, one can design digital modules that are not only equipped with material descriptions but can also be combined with audio-visual displays. Critical listening is a learning material that really needs practice to learn it, this makes teaching materials in printed form unable to accommodate this, considering that the main source of critical listening practice is listening material. So far, the obstacles encountered in learning critical listening have been overcome by the unavailability of teaching materials that can integrate online listening and evaluation materials into one teaching material, so that the development of critical listening teaching materials within the SAKTI framework can be a solution to this problem.

To accommodate these needs, researchers use the Flip Pdf Corporate Edition Application Version 2.4.9.31, which can convert PDF files into digital modules. The use of this software makes the appearance of the module more varied because it not only presents text but can also present images, video and audio in one teaching material so that the learning process will be more effective (Ramdania, 2013). Some research results have shown the effectiveness of the Flip Pdf Corporate Edition Version 2.4.9.31 application can increase effectiveness in learning (Djarwo & Handasah, 2022; Erniati & Nurjannah, 2020).
Products produced from Flip Book are also relatively very easy to use and do not require special devices. The resulting product is in the form of a link that will connect students with teaching materials that have been designed so that students can directly access these teaching materials. This link can be accessed via a laptop or smartphone, even with simple devices without special device specifications. From the results of product trials, both on a limited and broad basis, it is known that almost every student device can access the digital critical listening learning module link that has been provided. Through the use of this software the learning process becomes more effective, the use of Flip Book also supports the Asynchronous learning process after the Covid-19 pandemic that hit (Klien et al., 2020).

CONCLUSION
Based on the results of the research and analysis that has been carried out, it is concluded that currently learning critical listening is an important aspect considering that almost all activities are based on one's listening ability. To practice critical listening skills, teaching materials are needed that comprehensively contain material, exercises and evaluations in one teaching material. One form of digital teaching materials that can be applied in learning critical listening is a digital module. The availability of digital learning modules, especially in critical listening learning, is still very limited. Even though it is known that learning critical listening really needs teaching materials that contain exercises and practices so that students can improve their skills. The need for teaching materials in the form of digital modules is also felt to be very necessary considering that currently the learning process is expected to be carried out anywhere and anytime without any space and time limitations.

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