

# Need Assesment of Interactive Multimedia Development for Listening Based on Metacognitive Strategy for Intermediate Learners of Bahasa Indonesia for Speakers of Other Languages

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Abstract—Listening in foreign language is not as easy as listening in first language. Though listening is a key for developing other language skills. Therefore, a way is needed to help learners to learn listening in foreign language, one of the ways is using interactive multimedia. So, this study aims to describe suitable interactive multimedia design for learning listening based on metacognitive strategy for intermediate learners of Bahasa Indonesia for Speakers of Other Languages (BIPA). The data were collected through questionnaires and in-depth interviews. The subjects of this study are 2 lecturers of BIPA who teach listening skill at Yogyakarta State University and Ahmad Dahlan University and 49 BIPA students from China who are undergoing credit transfers at both universities. The data were analyzed by Miles and Huberman model. The results show that the development of interactive multimedia for listening with metacognitive strategies is needed by the lecturers and learners of BIPA to overcome the obstacles experienced by learners in listening to Bahasa Indonesia. The design of the interactive multimedia is based on learners need and it is expected to be one of learning media which can be used by learners both inside and outside the classroom.

Keywords—interactive multimedia, listening, Bahasa Indonesia

### I. INTRODUCTION

Since a long time ago, Indonesian is increasingly in demand by foreigners to learn. Therefore, the Bahasa Indonesia for Speakers of Other Languages (BIPA) program appeared. As a foreign language learning, BIPA both in Indonesia and abroad, includes learning the language skills and cultural skills. The language skills are listening, speaking, reading, and writing (including aspects of vocabulary and grammar that are integrated in the four aspects of language skills).

Listening skills must be mastered by BIPA learners because listening skills are keys to develop other language skills. There are four perspectives to define the listening process, namely receptive, constructive, collaborative, and transformative [1]. First, listening is a receptive process, meaning capturing what the speaker is saying or accepting the transfer of thoughts or ideas from the speaker. Second, listening is a constructive process, which means constructing meaning to what the speaker has to say. Third,

is a collaborative process, meaning there are speakers or inputs in the form of sound (aural input) so that the process of listening occurs. Fourth, listening is a transformative process because there is the creation of meaning through involvement, imagination, and empathy. Listening is closely related to the aspect of consciousness [1]. So, the activity of receiving messages in the absence of consciousness is not a listening.

However, listening in a foreign language is not as easy as listening in the first language. There are various factors affecting the process of listening in a second language or a foreign language. There are four influential factors in listening activities, such as factors of learners, teachers, inputs, and tasks [2]. Learners usually complain about speaker speed and speech-style as well as incomprehensible vocabulary. Beside that, research conducted by Goh showed that the learner's difficulties in the listening process are (a) word recognition, which includes finding difficulty in defining pauses between words, failing to recognize known words, and being trapped in the self-focus to a word which resulted in the loss of focus of speech; (b) attention, which includes failure in capturing the beginning of the text and the disturbance or problem in concentration; and (c) the inability to form a coherent text representation (conclusion)

Intermediate BIPA learners are learners who have mastered daily conversations in the Bahasa Indonesia [3]. But, in fact, intermediate BIPA learners still encounter some obstacles or difficulties in the process of listening to the Bahasa Indonesia, such as unknown vocabulary, audio/video is too fast, and lack of motivation to practice listening. Therefore, the presence of instructional media is needed to deal with the problem.

Learning media are anything that can be used to channel the message from the sender to the receiver to stimulate the thoughts, feelings, attention, and interests of students so that the learning process occurs [4]. Learning media for BIPA have different characteristics from other learning media. The learning of BIPA is implemented in a multicultural learning climate, so that the learning media not only functions as a tool of deliver language, but also the means of cultural understanding [5].



One type of learning media is multimedia. Multimedia is a mix of different types of media. Multimedia is the presentation of materials by using words as well as pictures [6]. Words are presented in verbal form, for example printed or spoken, while the images are presented in the form of static and dynamic graphics, such as illustrations, photos, animations, or videos. There are five elements in multimedia, namely text, images, sound, animation, and video [7]. Multimedia will usually run in a computer and is interactive, which is able to provide feedback to the learner. Interactive multimedia has been widely used in the process of learning a second language or a foreign language because interactive multimedia has many advantages, including being able to attract learners and accommodate learning styles of each learner and individual differences of ability.

Research on the use of learning multimedia for listening to foreign languages has been done. *First*, Jan de Jong developed an interactive multimedia called 123LISTEN [8]. The program is designed to help the learner analyze continuous speech in real time and transform small bits of meaningless acoustic information into meaningful units, such as speech, syllables and words. Learners can play sceech inputs, break fragments, reconstruct audible speech, and then check their predictions by bringing up subtitles. This will make it easier for learners to listen to English as a second or foreign language.

Another research conducted by Lebedeva, *et al.* which examines the effect of using PushkinOnline on Russian language learning as a foreign language [9]. PushkinOnline is a computer-assisted learning medium that has been developed by Pushkin State Russian Language Institute. PuskhinOnline contains learning materials for six levels of RFL learners (A1-C2) so they can be used by learners both inside and outside the classroom. The results show that computer-assisted learning using PushkinOnline is effective in developing the skills of listening to Russian language learners.

In BIPA program, research conducted by Megawati entitled Development of Learning Media BIPA Intermediate Level through E-Book Interactive in Program In country State University of Malang in Year 2014 [10]. This development research produced interactive e-book which consist of two chapters or two themes. This product has reading text, dialogue, and practice questions. In addition, there are also grammar materials and grammar problems in it. The results showed that this learning media meet various criteria of assessment and e-book is effective to improve Bahasa Indonesia language skills of Thai learners. So, it shows that interactive multimedia help learner in listening to foreign language.

In addition to learning media, applying learning strategies also need to be done. Learning strategies are important in language learning because with the application of such learning strategies, learners can be active in learning so as to enhance their skills of communicative competence [11]. A strategy that has been proven effective for listening is the metacognitive strategy. The term metacognition was introduced by Flavell in 1976 [12]. This term refers to one's thinking process about one's cognitive process. There are two aspects in the concept of metacognition, namely

knowledge of cognitive processes (metacognitive knowledge) and regulation or the regulation of the cognitive process (metacognitive experience or regulation). Thus, metacognition, or the art of thinking about thinking, refers to the ability of the learner to control their thinking process and regulate how learners learn to achieve the expected goals [13].

Metacognition is closely related to metacognitive knowledge. Flavel stated that metacognitive knowledge refers to the individual's understanding of the way various factors act and interact in influencing the learning process and outcomes. Metacognitive is divided into three dimensions of knowledge, namely person knowledge, task knowledge, and strategy knowledge [13]. In addition to dealing with aspects of knowledge, metacognition also relates to aspects of regulation or the regulation of a person's cognitive processes. This aspect consists of three stages, namely planning aspect, monitoring aspect, and evaluating aspect. Planning is to determine the purpose of listening learning and how to achieve the learning objectives, monitoring is to check or monitor the progress of understanding of the ongoing listening comprehension development plan as a whole, while evaluating is evaluating the success of individuals in listening activities [14]. These three stages will make learners easier to perform the listening process [13].

Based on this background, a need assessment is required for the development of interactive multimedia for listening based on metacognitive strategies for intermediate BIPA learners. Need assessment is important in order to researcher get the suitable interactive multimedia design from the lecturer and learner perspectives.

The rest of this paper is organized as follow: Section II describes the proposed research methods. Section III presents the obtained results and following by discussion. Finally, Section IV concludes this work.

### II. RESEARCH METHOD

This research used qualitative research design. Data collection techniques were conducted using interviews and questionnaires. The instruments used were questionnaires and interview guides. The data was analyzed using interactive analysis as stated by Miles and Huberman which consists of four steps, namely data collection, data reduction, data presentation, and conclusion drawing. The location of this research was Yogyakarta State University and Ahmad Dahlan University, Yogyakarta, Indonesia. This research was conducted from May to June 2018. The subjects of this study were 2 lecturers from Yogyakarta State University and Ahmad Dahlan University and 49 BIPA learners from China. The learners came from Guangdong University of Foreign Studies (GDUFS) as many as 19 students, Yunnan Minzu University (YMU) as many as 22 students, and Guangxi University for Nationalities (GUN) as many as 8 students. The learners are undergoing credit transfer courses at both universities. The learners are approximately 20-22 years old.



### III. RESULT AND DISCUSSION

This study focuses on the analysis of interactive multimedia development needs for learning listening skill based on metacognitive strategies for intermediate BIPA learners. The results showed that both lecturers and learners need interactive multimedia to help learners in listening to Bahasa Indonesia. In addition, this research has resulted in interactive multimedia development design that will be established. The researcher divides the findings into two parts, from the lecturer's perspective and the learner's perspective. The following are the findings of this study.

### A. Lecturer's Perspective

The researcher explore the actual conditions of learning listening skill in BIPA program from the perspective of the lecturer. Lecturer 1 teaches listening in GDUFS and YMU class, while Lecturer 2 teaches in GUN class. Here is the information the researcher obtained.

### 1). Listening Activities

Lecturer 1 said that after the vocabulary appeared, YMU learners will be asked to make sentences and identify the word class, while the GDUFS learners are not. In addition, another way that can be used to introduce vocabulary is by playing short videos or displaying images related to the topic of the day. The learner is asked to comment on the content of the video or image. Lecturer 2 said that on the introduction of the vocabulary, the learner is asked not to open the dictionary first. Based on this data, the learning media that will be developed must contain the introduction of vocabulary and context development on the topic to be listened to.

Lecturer 1 and Lecturer 2 did the same activity on listening activity, that is play audio or video while learners do listen task. The listening task is either true-false sentences, complete sentences, or multiple choices. Lecturer 1 said that in one meeting, there is only one audio or video played. In this listening activity, simultaneous playback can be done three to five times. In the post-listening activity, the learners are given assignments in the form of description text or essay. Lecturer 1 said that this task can be in the form of writing assignment. Lecturer 2 states that the task for post-listening is adjusted to the input they are listening to. For example, when they listen to a dialogue, the postlistening task for them is to create a dialog with their friends. Based on what the lecturers did, the researcher will adjust the type of task in the learning media that will be developed.

### 2). Listening Material

Listening material for intermediate learners is in the form of monologues and dialogues that are realized in the activities of listening to news, negotiations, songs, films, fairy tales, everyday conversations, and so on. The material is taken and adjusted from Common European Framework of Reference for Languages (CEFR) and from material mapping conducted by the Badan Bahasa. Therefore, the existing material in the learning multimedia to be developed also refers to the CEFR and material mapping by the

Language Development Department, Ministry of Education and Culture.

For the listening materials, Lecturers 1 and Lecturer 2 are developing their own listening materials, downloading audio from Youtube, adapting from BIPA book published by Center of Strategy Development and Language Diplomacy (PPSDK) and BIPA Dahsyat book, and getting materials from colleagues. In his lesson, Lecturer 1 stated that he uses more audio than video, while Lecturer 2 states that the portion between audio and video is balanced. In addition, the two lecturers both determine a theme or topic (thematic). The theme or topic is not fixed, so it can be adjusted to the situation and condition of the learners. Due to the theme flexibility, researchers are exploring information on learners' favorite listening topics based on the learner's perspective.

### 3). Learning Media

The learning media used by Lecturer 1 and Lecturer 2 are almost the same. Lecturer 1 uses laptop, LCD, and speaker, while Lecturer 2 uses laptop, LCD, speaker, and mobile phone. This mobile phone is used as a backup when the speaker or LCD did not function well. So, Lecturer 2 will send the learning material to the learners through Whatsapp, so that teaching and learning process can still run.

### 4). Obstacles in Learning Listening

The obstacles faced by the lecturers in learning listening skill are as follows. Speakers or LCD malfunction in the classroom is one of the constraints faced by the lecturers. In addition to the malfunction, there is also external problems in the form of incompatibility of inputs. This discrepancy is caused by the lecturer taking the material from other sources, so as not to be able to limit certain vocabulary that should not be included in the learning. Another obstacle faced is the speed of inputs that is too fast that makes it difficult to understand. Lecturer 1 and 2 also said that new vocabulary makes it hard for the learners to understand the inputs. Lecturer 1 states that the motivation of the learner is also low so that makes learners lazy to practice listening. This causes the learners' vocabulary mastery less developed. Therefore, developing interactive learning multimedia for listening that can be used to overcome these obstacles is very important.

# 5). Lecturer's Perspective about Computer-Assisted Foreign Language (Multimedia Interactive)

The researcher has collected the information about the opinions of Lecturer 1 and Lecturer 2 on computer-assisted foreign language learning (multimedia interactive). Both lecturers stated that computer-assisted foreign language learning can assist the learners in developing their language skills and foster motivation to learn, especially listening. In addition, there are language laboratories that are equipped with adequate facilities to carry out language learning with the help of computers. If the laboratory is not available, lecturers and learners can use their laptops to carry out listening learning with interactive multimedia. Therefore, the development of interactive multimedia for learning



listening skill needs to be done by looking at the obstacles and its benefits.

### B. Learner's Perspecive

The researcher has collected preliminary study data from intermediate BIPA learners about their preference in learning listening in Bahasa Indonesia. Here are the results.

### 1) Opinions about Listening

The researcher has collected data about the opinions of learners to the statement that listening skills are important in relation to the mastery of Bahasa Indonesia. As many as 63.3% of respondents stated that they strongly agree on the statement, 32.7% of respondents agreed, while 4% of respondents stated neutral. Based on these results it can be concluded that almost all respondents understand that the skill of listening is important and needs to be mastered to be able to speak Bahasa Indonesia fluently.

### 2) Learner's feeling in listening Bahasa Indonesia

The researcher has collected data about what the learner feels when listening to the Bahasa Indonesia, which can be in the form of news, songs, TV shows, speeches, and so on. As many as 4.1% of respondents said that it is very difficult, 22.4% of respondents said it is difficult, while 73.5% of respondents said that sometimes it is difficult sometimes easy. This fact indicates that the listening activities in the Bahasa Indonesia still need special handling because there are still difficulties faced by the learners.

### 3) Listening sub-skill want to be mastered

The researcher has collected data about the listening sub-skill that the learners want to master. Respondents may choose more than one answer. All sub-skills that researcher provided are selected by the learners. However, the top three sub-topics that the learners want to master are (1) identifying the main idea of the available information inputs, (2) identifying both explicit and implicit information from the available information from the available information inputs, This listening sub-skills are important to know, so that researcher can arrange the learning materials included in the multimedia learning that will be developed.

### 4) Difficulties in Listening Bahasa Indonesia

The researcher has collected data about any difficulties encountered by the learners when listening to the inputs in Bahasa Indonesia. Respondents may choose more than one answers. All options provided by researcher are selected by the learners. However, the top three difficulties encountered by the learners are (1) unknown (new) vocabulary, (2) the speed of speech, and (3) the speaker's accent. Therefore, in the learning media to be developed, these difficulties should be minimized.

### 5) Type of text for listening

The researcher has collected data about the type of text that learners need to learn to listen in Bahasa Indonesia. As many as 77.6% of respondents stated that they needed

monologues and dialogues, 16.3% of respondents stated that they needed dialogues, while 6.1% of respondents stated that they needed monologues. Thus, monologues and dialogues must exist in the learning medium to be developed.

### 6) Text format for listening

The researcher has collected data about the text format required by learners to learn to listen to in Bahasa Indonesia. As many as 91.8% of respondents require text formats in the form of audio and video, while 8.2% requires a text format in the form of video. No respondent selected audio text format. Therefore, in the learning media that will be developed there is audio and video.

### 7) Topic for listening

The researcher has collected data on what topics are preferred by learners. Each learner can choose five topics from the ten topics provided: education, tourism, economy, socio-cultural, entertainment, environment, politics, law, health, and sports. Based on the results of the analysis, the top five topics chosen by the learner were socio-cultural, tourism, living environment, education, and entertainment. Thus, the topic on the developed learning media contains the five topics above.

6). Activities in learning listening. The researcher has collected data on preferred activities in listening activity. Respondents may choose more than one answers. Based on respondents' responses, respondents prefer to be introduced to vocabulary related to the topic and how to pronounce it. In addition, respondents also want to be given knowledge about the background of a topic or text. Therefore, learning media to be developed must accommodate these things.

### 8) Metacognitive Strategies

The researcher has collected data about metacognitive strategies from the learners. Almost all learners claim that they need person knowledge, task knowledge, and strategy knowledge to support the success of learning listening. Therefore, the learning media to be developed should contain person knowledge, task knowledge, and strategy knowledge to support the learners, metacognitive ability in listening to Bahasa Indonesia.

### 9) Learning Style in Listening

The researcher has collected data on learning styles of listening which are preferable to learners. As many as 50% of learners like listening individually, 28.6% of learners like listening in pairs, and 22.4% percent like listening in groups. The results of this analysis support learning media that will be developed because interactive multimedia is able to accommodate differences in ability and individual learning styles of the learners.

## 10)Computer-Assisted Listening Learning (Interactive Multimedia)

The researcher has collected data about computer-assisted listening learning (multimedia). As many as 81.6% of learners like listening activities with the help of computers, while the remaining 18.4% do not like listening activities



with the help of computers. The results of this analysis support the development of learning media that will be done because the learning media that will be developed is computer-assisted or interactive multimedia.

### 11) Development of Interactive Multimedia for Listening

The researcher has collected data about the opinions of learners about the development of interactive multimedia for listening. As many as 53.1% of learners stated strongly agree, 36.7% stated agree, while 10.2% stated neutral. It can be said that as many as 89.8% of learners stated that listening multimedia is needed to help learners learn to listen to the Bahasa Indonesia. This is one of the strong reasons for developing interactive multimedia for listening.

Based on the data that have been obtained from lecturers and intermediate BIPA learners, interactive multimedia development should be developed to help BIPA learners for learning listening in Bahasa Indonesia. Research on the use of multimedia in learning to listen to a second language or foreign language has been carried out by many researchers. One of them is Brett who examined the effectiveness of multimedia use on listening comprehension. The results of Brett's study concluded that learners who listened with the help of multimedia had better listening comprehension than learners who did not use multimedia [15]. This finding certainly opens opportunities for other researchers to develop multimedia that can be used in learning a second language or a foreign language, including one of them is the development of interactive multimedia to listen to the Indonesian language that will be developed.

Interactive multimedia has various advantages in language learning, one of which can accommodate differences in learner styles and abilities [16]. BIPA learners have different abilities with different learning styles. In listening learning, learner A may feel that he only needs to repeat the input twice, while learner B needs repetition 5 times. This can be accommodated with the use of interactive multimedia.

Low motivation is also one of the problems in listening learning. Based on the needs analysis that has been done, there are learners who have low motivation in listening, so their listening skills are less developed. Multimedia also has advantages, namely increasing learner motivation. This has been investigated by Brett which stated that "initial reactions of learners suggested that the use of this program was more attractive to them than combinations of books, tapes and videos. This may be due to the way in which individuals can tailor their learning or may be a case of novelty, a matter for further investigation [17]."

Interactive multimedia attraction that can increase learner motivation can be seen from various sides. One of them is display, content, and options. Interactive multimedia displays can be described as interesting as possible by adding graphics, photos, illustrations, or animations that learners like. Interactive multimedia for listening learning that will be developed is aimed at BIPA learners from China, so researcher can use photos of Chinese learners in the media. Various computer programs can be used to create interactive multimedia with an attractive appearance, namely Adobe Flash and Adobe Photoshop.

In addition, researchers can add customized content to the curriculum and learner needs in a multimedia. Learners can access the content both in the classroom and outside the classroom through interactive multimedia. Learners can regulate how they learn so that they become autonomous learners. Content that will be included in interactive multimedia will be developed in the form of audio and video, monologues and dialogues, which are taken from other sources or made by themselves on topics chosen by learners, namely social culture, tourism, living environment, education, and entertainment. This finding is relevant to Kusmiatun's findings which stated that entertainment is the preferred topic of the learners for listening and speaking activity [18]. Interactive multimedia content is adjusted to the needs analysis that has been done based on the opinions of the lecturers and learners.

Multimedia allows researchers to create various options to help BIPA learners in listening to Bahasa Indonesia inputs in accordance with the listening strategy used, such as audio or video volume control, repeat button, audio and video player that can be run simultaneously with the display of tasks to be done, the vocabulary used simultaneously with the image or video for a prelistening activity, and so on. With these options, learners can easily listen to the input of Bahasa Indonesia.

The interactive multimedia that will be developed will also be equipped with evaluation menu. Evaluation menu is used to determine the listening ability of intermediate BIPA learners. The task is in the form of completing sentences, identifying the true and false statement, answering questions with multiple choice, and essay according with the results of the needs analysis that has been carried out. The answer of the learner can be saved, and the learner can know the score they get because the learning media is interactive. In addition to the score and the correctness of the learner's answers, at the end of the listening session, there is an evaluation for the use of the strategies applied by the learners. This is related to metacognitive strategies that are applied because metacognitive strategies not only focus on results, but also on the listening process itself. So, learners can evaluate themselves in listening to the inputs. These options are generated based on the needs analysis that has been done

### IV. CONCLUSION

Based on the results of the analysis that has been done on the lecturers and intermediate BIPA learners, the development of interactive multimedia for listening activity based on metacognitive strategy for intermediate BIPA learners is needed to help BIPA learners understand the inputs in Bahasa Indonesia. The interactive multimedia is equipped with various options to facilitate the learners in listening Bahasa Indonesia inputs. Learners can use interactive multimedia for listening both inside and outside the classroom. With the existence of interactive multimedia, it is hoped that BIPA learners can become autonomous learners, so that they are able to master Indonesian listening skills in real life. Listening skill is important to be mastered by BIPA learners as it is the key to develop other language skills.



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