

The Development of English Language Learning Instruments Using Audio-Based Media

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Abstract.*The development of English language learning instruments for middle schools even now have not yet applied approaches using instructional technologies and have only applied approaches from the English language learning discipline. The absence of approaches using instructional technologies creates weaknesses in non-discipline aspect of English language learning such as the socio-cultural aspect and the appropriateness of learning medium aspect. This article summarizes research and development that aims to investigate, expand, test, and validate audio-based teaching materials for English language learning for middle schools. The research and development model of Borg and Gall (2003) was applied in this study. The results of the research show that a learning instrument composed of teaching materials, teacher assistance, and audio-based media was well-received in its evaluation by experts, teacher, and test students. Learning instruments can create learning activities that motivate students to enjoy English language learning. Audio-based media plays the role of learning assistants or scaffolding that can elevate students to a higher level of language competence. Finally, this article recommends the presence of instructional technologies in the development of English language teaching materials for middle schools.*

Keywords:*audio, approach, development, instructional technology*

I. Introduction

An interesting phenomenon occurred in the world of education, or to be more precise, in the world of learning in 2012. This phenomenon occurred in English language learning at a middle school in East Java, Indonesia. A student workbook used by middle school students in that area was criticized by teachers and parents of students because the book contained an illustration of Japanese porn star Maria Ozawa, better known by her stage name Miyabi. This workbook asked students to describe the character illustrated by a picture of the public figure. The workbook, which was published by CV SinarMulia, was written collaboratively by the English Language Teachers' Forum of Mojokerto, Province of East Java, Indonesia. The writers of the book explained that the pictures were made "to help students shape new paradigms" and were aimed "to increase cooperative learning skills and independent active learning". Many parents criticized the book and also demanded the book to be recalled from publication because there was concern that it could damage students' morality (The Jakarta Post, September 21, 2012[1]).

The occurrence of the aforementioned phenomenon was caused by the absence of instructional technology approaches in the development of learning instruments for students. The composition of learning instruments all this time has often only utilized approaches related to the field of discipline, which in the case of the porn star illustration above, the composition of the workbook only used the approach of the TEFL (Teaching English as a Foreign Language) discipline. This was reinforced by Degeng (1990[2]) who stated that textual learning materials in the form of books which are published for use in educational institutions are often composed without the consideration of the structure of the field of study for learning needs. The contents of the textual teaching materials contains more discipline-related approaches, not learning methodology approaches, so there is no relationship between chapters, or more detailed chapters. If instructional technology approaches were applied, then experts of learning design messages must be involved so that they can evaluate the aspects of precision, accuracy, appropriateness, decency, interest, and utility of teaching materials for students. Thus in the domain of learning message design, the aforementioned book surely must be revised because the illustration as depicted will be judged as inappropriate to the Indonesian socio-cultural context and is indecent for the age of students who use the book.

In addition to the absence of instructional technology approaches in the development of learning instruments, the researcher discovered other problems in English language learning in middle schools, one of which was that in several private middle schools in East Java, the teaching materials do not contain audio based media activities to train listening skills as well as other learning activities. The unavailability of teaching materials with audio-based media is an important problem because audio provides listening input and will become the base for elevating other language skills such as reading, speaking which includes pronunciation, and writing (Dunkel, 1993[3]). Murcia(2002:87[4]) adds that through the hearing process students build an

awareness of language systems which provides the foundations for the same language skills. The unavailability of audio-based media is inappropriate with the standards of the current curriculum, the Unified Education Curriculum of 2006, which contains the basic competence standards of listening and states that students are expected to be able to understand meaning in very simple transactional and interpersonal conversation to interact within their environment. As such, the curriculum regards listening skills as a basic competence that students need to possess. Murcia (2002:87) underlines the importance of listening in the language learning process, especially that of a foreign language, by stating: "No other type of language input is as easy to process as spoken language, received through listening. At the beginning of language study, before students have learned to read well, it is by listening that they can have the most direct connection to meaning in the new language." In other words, the easiest language input to be processed is input that is received through the listening because at the start of the learning process listening is the skill that has the closest relationship with meaning in a new language being learned.

This article summarizes the research results of the R&D model of Borg and Gall (2003[5]) of the development of English language learning instruments with audio-based media for middle school students. The development of learning instruments with audio-based media in this research has attention to the English proficiency level of learners, appeal of appearance, clarity of the sound recording, and the availability of teaching manuals for teachers. The learning instruments were specially developed for middle schools and Islamic middle schools in the management of the NU Ma'arif Educational Institute, City of Batu, East Java, and has high feasibility based on testing in addition to containing specifications based on learning theories. The learning instruments would also become a learning resource that facilitates learning according to the competence level of students, and motivate students through activities and presentation that are suited to student characteristics. The selection of audio-based media as learning assistants in this research and development is based on practical consideration, as audio-based media can be easily combined with textual learning media in classroom learning. Interviews with several teachers show that those at the research and development site strongly support the development of these learning materials accompanied by audio-based media. Consequently, this development research aims to investigate, expand, test, and validate audio-based English language teaching materials for middle school 7th grade students. With this research and development, middle school students will have audio-based teaching materials that can serve as learning assistants or scaffolding in learning the English language.

Educational research and development is a process utilized to develop steps to test research findings related to the product being developed, develop the product based on the findings, field-test the product in a natural setting in which it will be used, and revise on the basis of that field test. One of the contributions of development is to determine limited to bridge the gap between research findings and practice (Setyosari, 2010[6]). The reason why this R&D cycle was selected was because first, the goal of this development was to expand, test, and validate a learning product and the R&D cycle was the most appropriate method with the goals of this development; and second, the R&D cycle has several characteristics that are suited to the development of ideal teaching products, which include continuous collaboration between practitioners and researchers, and bridging the gap between theory and practice (Al-Shehri, 2004: 48[7]).

A similar research conducted by Atrup (2009[8]) titled "The Development of a Learning Program Based on Model Accelerated Learning for 5th Grade Elementary School Science" stops at the testing which proved that there was a difference in the learning of science between an experimental class that used MAL and a control class that used another learning model. The primary difference with this research is that the aforementioned research did not analyze the work of students individually, so no descriptive data was obtained regarding the work of students. Another similar research was performed by Deanna L. Gooch (2012[9]) in a dissertation entitled *Research, Development, And Validation of a School Leader's Resource Guide for the Facilitation of Social Media Use*. This dissertation aimed to analyze, develop, and validate school literature to facilitate the use of social media by the faculty of the school using the same procedures as in this research, using the research and development (R&D) model of Borg and Gall (2003).

II. Literature Review

2.1 Coverage Of Instructional Technologies And English Language Learning

Instructional technologies are theories and practice regarding the design, development, utilization, management, and evaluation of the learning process and resources. This field stresses the effort to facilitate learners in enhancing their performance with the right and interesting learning resources. "Instructional technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning." (Seels and Richey, 1994[10]) The goal of instructional technology is to facilitate, enhance, and ease the learning process. These are facilitated by learning processes and resources that are appropriate with the individual characteristics of students such as their learning interest, starting ability,

learning style, learning speed, and others. Learning resources can be in the form of printed, audiovisual, Internet-based, and integrated technology media.

The five areas of instructional technology are design, development, utilization, management, and evaluation. These are interrelated as can be seen in Figure 1:



Fig. 1 Areas of Instructional Technology (Seels and Richey, 1994)

The first area is design, which is the process to determine learning conditions. The goal of design is to create a strategy and product at the macro level such as programs and curricula, or at the micro level such as modules and teaching materials. The second area of development involves translating the design specifications into a physical form. Development covers the many, various forms of technology that can be used in learning in the form of learning hardware and software such as visual and audiovisual media, or instructional tools which are the result of combining several teaching models. The third area, which is utilization, is an activity that uses learning processes and resources which aims to ease students into learning activities and resources, so that students can interact with them. This area requires systematic utilization, dissemination, implementation, and authorization. The fourth area is a management and it is related to the teachers' role in providing learning management services that cover planning, monitoring, and control. Examples are the management of school media centers, libraries, curricula, or information technology for use in learning. The final area, which is evaluation, is the process of determining whether a learning process is effective or not. This area involves the process of deciding whether a learning process is effective or not and among others is related with the effectiveness of a program, product, process, goal, or educational curriculum.

The five areas above are connected with one another to support an effective learning process. In the development of teaching materials for teaching English as a foreign language, an approach is needed that integrates the five areas so that the created teaching materials are effective, interesting, age-appropriate, and does not conflict with the socio-cultural values of Indonesia as in the case of the illustration which was discussed in the introduction to this article.

To develop foreign language teaching materials, especially for English and with the approach of instructional technology, some considerations need to be taken into account by developers. In quoting Graves (2000[11]), Adi (2010[12]) stated that foreign language teaching materials must display authentic materials that enable students to use the language in a non-classroom or real-world context. Vale, Scarino, and McKay (1991[13]) added, as quoted by Adi (2010), there are four considerations in composing language teaching materials:

The character of the students – this consideration is related to issues such as the appropriateness of the difficulty of the teaching materials with the language skills of students, how the teaching materials can challenge students without frustrating them, and how the teaching materials can accommodate the needs and interests of students.

The goal of the composition of the teaching materials – this consideration involves how the teaching materials support the use of language in communication, how the teaching materials increase the knowledge and understanding of students regarding the context of language use in the culture of that language, and how the teaching materials support students to be responsible for their own learning.

Teachers' needs and preferences – this consideration is connected to the issue of how teaching materials can exploit and not limit the expertise of teachers.

Practicalities and general considerations – this consideration is linked to criteria such as how teaching materials must have an imaginative and interesting appearance, be economical from the standpoint of usage time, and enabled all students to be actively participating.

Developers must also consider the primary characteristic of teaching materials which is the comfort of students so that communicative interaction is achieved, because the essence of language learning is the competence of student communication as designated in the curriculum, whether it be the 2006 Curriculum or the 2013 Curriculum. Tomlinson (1998[14]), Kitao (1997[15]), and Vale (1999) add that students of languages will obtain the benefits of learning when they are comfortable and relaxed. They will lose the chance to learn

languages if they feel worried, uncomfortable, or nervous. Foreign language teaching materials must also encourage communication to occur. Creating communication can be done with teaching materials that gives a chance to students to perform interactive communication with teachers and other students in various settings. These communicative interactions can be achieved with teaching materials that provide ample conversational activities such as greeting, borrowing things, asking someone to do something, and gap-filling exercises that require students to demonstrate them by working with the teacher, friends, or alone. Conversation exercises in pairs and in groups using conversation scripts in teaching materials are useful in creating a communicative process in foreign language learning (Adi, 2010).

2.2 Audio-Based Media In English Language Learning

Audio-based media in English language learning as a foreign language has several functions. First, it provides sound input for students so that they can pronounce correctly as required by the 2006 Curriculum which is to be able to meaningfully say aloud words, phrases, and sentences with acceptable pronunciation, stresses, and intonation. In verbal communication, this accuracy in pronunciation is more important than accuracy in grammar because mistakes in pronunciation will create mistakes in understanding, while mistakes in grammar do not often create mistakes in understanding. Simple conversation exercises are also required by the 2006 Curriculum, such as greeting someone who is already or not already known, introducing oneself or someone else, commanding, forbidding, asking for and giving information, thanking, apologizing, and other forms of practical communication. In addition, audio-based media function as comprehensible input or input that is appropriate for the needs of students. Comprehensible input that is provided is utterances with fluent and accurate pronunciation in the form of uttered words, sentences, and reading texts for students to be able to pronounce correctly as exemplified in the audio-based media. Good audio-based media should provide useful activities such as creating interaction between students through pronunciation demonstration exercises in pairs or groups. It is undeniable that the easiest language input to be processed is input received through the listening process. In the beginning of the learning process, before students learn to read well, listening becomes the skill that has the closest relationship with meaning in a new language being learned. As such, audio-based media are the right media for teaching middle school students, because it is at this level that a majority of students receive English language lessons for the first time (Adi, 2010).

Audio adds dimension to the classroom environment, which expands and deepens students' learning experience. In addition, audio files can compensate for reading or learning problems that students might have, because listening and hearing is part of the communication and learning processes (Smaldino, Lowther, and Russel, 2011: 366[16]). Language learning methods with audio-based media or audio-lingual methods aim to increase the communicative competence of students through the provision of dialogue for students. Dialogue and structured exercises that direct students to demonstrate conversation aims to create student habits that allow them to create quick and automatic language responses that are accurate. The application of these structured exercises has been proven effective in foreign language learning, especially in productive skills such as conversation, because students actively produce foreign language utterances (Mart, 2013: 63-65[17]). The result of the research by Sevik (2012: 10[16]) also shows that the development of basic listening skills is a fundamental component of every curriculum development in foreign language learning for novice learners. One kind of audio-based English-language learning material that is effective for novice learners is songs, because songs can provide meaningful language exercises and is enjoyable for students in elevating listening skills.

Through research, McCaughey (2015[18]) applied a learning strategy using audio-based media by pushing students to practice listening further. His research findings showed that this activity was much easier to conduct when the audio format was designed as recording clips of short duration in order to ease students in demonstrating the conversation in the audio recording. The results of this research were supported by another research by Rabbidge and Lorenzutti (2013[19]) who applied the same learning strategy, which was a learning activity and an exercise that combined reading and listening activities for each group of students, where students read certain parts and then listen to the audio recording. In that research, results showed an increase in student learning activity, in particular the courage and confidence to speak in English.

Using audio-based media, language learning will become beautiful and interesting, and stimulate students to use imagination and fantasy to visualize the messages being received. Students can hear and comprehend human voice and sounds that are related to the learning in order to achieve certain learning goals. Audio-based media have several advantages. Sadiman, Abidin, and Latuheru (1988[20]) explain several advantages of audio-based media: they can be played over and over, fit within available schedules and teachers can control them directly, provide activities outside of the classroom, be used for all levels of education by a group or individually, and can be practical in usage (Adi, 2010).

III. Method

The method for this research applied a modified Research and Development (R&D) cycle from Borg and Gall (1983). The R&D cycle, as outlined by Borg and Gall (2003: 775) consists of 10 stages: (1) research and information collecting, (2) planning, (3) development of an initial product, (4) preliminary field testing, (5) preliminary product revision, (6) primary field testing, (7) operational revision of the product, (8) operational field testing, (9) final product revision, and (10) dissemination and implementation. This research only followed the first five steps of Borg and Gall (1983) in consideration of time effectiveness and cost. Thus the research method was composed of the following four stages:

The first stage was composed of the review of literature, classroom observation, and preparation of the report of current conditions (Borg and Gall, 2003: 777-778).

The second stage is formulating abilities, determining goals, sorting materials, and conducting a small-scale field test. In order to formulate abilities and goals, the current curriculum was studied. Determining specific learning goals that will be achieved from the product being developed will become the most important aspect in this planning stage. Specific learning goals are the foundation in developing learning programs because learning programs can be tested and revised until they fulfill the learning goals that have been determined (Borg and Gall, 2003: 779).

The third stage was the development of learning instruments. In this stage, teaching materials in the form of textual teaching materials, audio recordings, and a teaching manual that describe certain skills or student work which teachers require in the instructional sequence, are developed (Borg and Gall, 2003: 781). Learning instruments were evaluated by experts composed of a content expert or an expert in English education, a learning media expert, and a middle school teacher, in order to obtain revision inputs.

The fourth stage was student testing. Borg and Gall (2003) mentioned that student testing aims to obtain a qualitative evaluation of the new teaching product being developed, because the focus of this evaluation is stressed more on qualitative learning overview, rather than the quantitative results of learning by students. Further, Borg and Gall (2003: 782) explain that *“the purpose of the preliminary test is to obtain qualitative evaluation of the new educational product... ..since the emphasis of this evaluation is upon a qualitative appraisal of course rather than quantitative appraisal of course outcomes”*. The location for this research was As Salam Middle School, Batu, which is a private middle school in the city of Batu which is in the same complex as the elementary school and preschool of the As Salam Foundation, Batu, East Java. This middle school culturally follows the Islamic tradition of the Nahdlatul Ulama (NU). The research, especially the collection and analysis of data, was performed from April to June of 2013.

The final stage of this research was product division based on comments from experts, teachers, and student testing.

IV. Results And Discussion

4.1 Results

From the research procedures and stages that have been explained, the product in the form of textual teaching materials or student textbooks, teacher’s manual, and audio recordings was delegated by an expert in English language learning, an expert in learning media, and a teacher as the user of the learning materials, and finally was tested on students.

Tables 1 and 2 below each explain the data of the research results which covers the evaluation of the learning instrument being developed as well as comments and revisions from the experts and a teacher and notes from the student testing. All recommendations from the evaluation by the experts and a teacher as well as the student testing were executed as the final stage of this research. Table 1 below describes the evaluation of the learning instruments from the experts, a teacher, and student testing. Meanwhile, Table 2 explains the revisions to the learning instruments based on the input of the experts, a teacher, and notes from the student testing.

Table 1. Evaluation of the learning instruments by the experts, a teacher, and student testing

		Learning Instrument		
		Teaching Materials	Teacher’s Manual	Audio Recordings
Learning Instrument Evaluators	English Language Education Expert	79.50%	76.58%	79.91%
	Learning Media Expert	89.18%	89.80%	89.65%
	Teacher	86.73%	85.51%	92.58%
	Students	86.34%	-	86.47%

Table 2. Revision of the learning instruments based on input from the experts, a teacher, and notes from the student testing

		Learning Instrument		
		Teaching Materials	Teacher’s Manual	Audio Recordings
Learning Instrument	English Language	Vocabulary and needs to	The allocation of time	Needs more lively

Evaluators	Education Expert	be more varied; different genres of texts need to be carefully selected; "how do you do" is only very formal situations between adults and does not need to be taught to children	can be adjusted to needs	readings of metered verses and poems
	Learning Media Expert	Needsto be more clarified in illustrating the meanings of objects, some of which were not clear	Composition and arrangement of the title, author, illustration, logo, and publisher needs to be less crowded, especially in the appearance of photos	The audio needs to be synchronized with the illustrations, the textual teaching materials need marks
	Teacher	The poems and metered verses have unknown words, needs easier words	Allocate more time to the lesson plan; display a more complete lesson plan	Add longer pauses, make music more interesting
	Students			Students felt awkward in imitating and demonstrating the audio, only became comfortable after being persuaded; "pause" button helps to add pause length

As can be seen from the tables above, the experts in English language learning or content gave a value of 79.91%, classified as good, for the teaching materials; 76.58%, classified as good, for the teachers' manual; and 79.50%, classified as good, for the audio recordings. The content expert suggested several revisions: the textual teaching materials were suggested to have a more varied vocabulary, the teacher's manual was suggested to have more precise time allocations based on needs, and the audio recordings were suggested to have more lively readings of the metered verses and poems. All the recommendations of the content expert have been executed so that the final development product has fulfilled the recommendations of the English language education expert.

Aside from being consulted with a content expert or an English language learning expert, learning instruments were also consulted with an expert in learning media. The validation of the media expert provided data on precision, accuracy, interest, and appropriateness of the learning instrument. The validation of the media expert showed that the teaching materials and the teacher's manual each obtained scores of 89.18% and 89.65%, which is categorized as effective and feasible to be applied in learning. Meanwhile the audio recordings received a score of 89.80% and was categorized as very effective and also considered feasible to be applied in learning. Several comments were made by the media expert on the learning instruments and revision was carried out. Some of the comments included that the teaching materials were to be more clarified in illustrating the meanings of objects, some of which were not clear; the teacher's manual was suggested to have a less crowded composition and arrangement of the title, author, illustration, logo, and publisher, especially in the appearance of photos; and the audio recordings were suggested to be synchronized with the illustrations in the textual teaching materials and be marked to show which parts were in the audio and which were not.

The teacher as the user of the teaching materials was involved to provide inputs regarding the learning instruments being developed. The teacher's evaluation showed a perceptive score of 86.73% for the teaching materials, considered as very effective; 85.51% for the teacher's manual, considered as very effective; and 92.58% for the audio recordings, which was also considered as very effective. Therefore from the point of view of the teacher, the learning instruments being developed are already feasible for implementation in learning. The teacher made the following comments: the teaching materials had some words that students did not recognize, so easier words were needed, and the audio recordings needed longer pauses so that students would have a chance to repeat, while the music needed to sound more interesting instead of just being brief, discordant noises.

The final stage is student testing. This testing involves 7th grade students of As-Salam Middle School, City of Batu, Indonesia. In that middle school and another school under the coordination of Ma'arif NU Educational Institute, Batu, the curriculum being applied is the 2006 Curriculum. Several private schools in Batu briefly applied the 2013 Curriculum, but after a regulation by the Ministry of Education and Culture in 2014 to return the curriculum, the schools followed the recommendation of the ministry. In addition, the teachers at As-Salam Middle School, Batu, have not had much training in the application of the 2013 Curriculum. Thus it can be said that As Salam Middle School, Batu, has applied the 2006 Curriculum since the very start.

The students that were involved were consulted first with the English language teacher. From 12 test students, 4 had good English language skills, while another 4 were fair and the remaining 4 were poor. The students that were involved were asked to fill in a survey to evaluate two learning instruments, the teaching materials and the audio recordings. From the student testing, the percentage score obtained for the teaching materials and the audio recordings were 86.34% and 86.47%, which was categorized as effective. In other words these learning instruments were very feasible to be used as learning materials for middle school students.

The researcher and developer continued to implement revisions as suggested by students using the learning instruments such as increasing the volume on the audio recordings and making them livelier; lengthening music transitions and slowing down the speaking speed so that there are pauses between words and sentences and between activities so that students can process them; and clarifying commands on several activities as well as vocabulary from metered verses and poems where a definition was hard to find. Moreover, some notes were obtained from the student testing. At the start of the implementation of the audio recordings in learning, some students had difficulty in imitating and demonstrating the sound as they heard it from the audio recordings. However, after a persuasive effort to demonstrate them, students began to feel comfortable learning. Students also had difficulty imitating the audio, in particular single words and sentences because the pauses were not long enough, but by pressing the pause button on the playback device, this issue was resolved. Imitating the audio together can create a verbal orchestra, and this becomes an activity that motivates students. Further, the activities of finding out the meaning of words with the help of a dictionary, creating sentences, and reading aloud together became learning activities that motivate students to enjoy English language learning.

It has been explained at the beginning of this article that this research apprentice to integrate the instructional technology approach in the development of English language teaching materials with audio-based media. In the instructional technology approach, especially in the field of education, an interdisciplinary approach is applied which involves practitioners and experts that are not only from the field of English language education, but also learning media experts. The involvement of these media experts are needed to evaluate precision, accuracy, and interest of learning instruments from the point of view of teaching media. Tables 3 and 4 below are examples that describe the elements being evaluated in the learning instruments being developed, which are teaching materials and audio recordings that are evaluated by learning media experts.

Table 3. Evaluation aspects of the textual teaching materials from a media expert

Number	Aspect of evaluation
	Material/General Aspect
1	Interest
	Media Aspect
	<i>a. Book size and binding</i>
2	Book size appropriateness with the ISO standard
3	Book size appropriateness with the content
4	Binding precision
5	Appropriateness of page thicknesses with the content
	<i>b. Cover page</i>
6	Presentation
7	Appropriateness of cover to student characteristics
8	Appropriateness of cover to the learning context
9	Decorative elements of the cover
10	Selection of title
11	Appropriateness of composition and size of title, author, illustration, logo, and publisher
12	Appropriateness of cover font size
13	Appropriateness of font use
	<i>c. Content typography</i>
14	Appropriate placement of tasks and sub-tasks
15	Appearance of tasks and sub-tasks
16	Clarity of appearance
17	Appropriateness of font size
18	Appropriateness of vertical and horizontal spacing
19	Appropriateness of spacing between paragraphs
20	Appropriateness of margin proportions
21	Clarity of text in illustrations
22	Appearance of text in the cover and content
23	Font selection
24	Consistency of arrangements based on pattern

25	Appropriateness of separation between paragraphs
26	Appropriateness of spacing between text and illustrations
27	Appropriateness of the placement of chapter titles, subtitles, page numbers, and illustrations
28	Appropriateness of the of fonts
29	Layout appearance
30	Appropriateness of color selection
31	Appropriateness of the use of graphics
	<i>Illustration</i>
32	Appropriateness of illustrations to the age of students
33	Precision of illustrations in depicting meaning
34	Precision of illustrations in creativity and dynamicity
35	Precision of illustrations in depicting content and object characters
36	Appropriateness of form, color, size, and proportions
37	Level of sharpness of illustrations
38	Appeal of illustrations
39	Precision of strokes in illustrations
40	Appropriateness of the character of illustrations with the context
41	Appeal of color in illustrations

Table 4. Evaluation aspects of the audio recording from a media expert

Number	Aspect of evaluation
	General Aspect
1	General presentation appeal
	Teaching Aspect
	Content aspect
2	Potential of the audio media to be maximally utilized by students
3	Appropriateness of the format with the character of students in interactivity
4	Appeal of learning motivation
5	Systematic precision of presented content
	Media Aspect
	General performance
6	Appropriateness of length
7	Appropriateness of setting with the message being delivered
8	Precision of language use
9	Synchronization of audio and illustration
10	Being up-to-date or current
	Supporting audio
11	Precision of dialogue
12	Precision of transitions between tasks on the audio recording
	Quality of voice actors
13	Loudness of volume
14	Quality of voice actors
15	Audibility
16	Speaking speed of voice actors
17	Teaser/opening appeal
18	Appropriateness of background music
19	Appropriateness of sound effects
20	Sound clarity

Tables 3 and 4 above clearly showed that the instructional technology approach has been applied in the development of teaching materials and learning media, which in this case is an interdisciplinary approach that involves a media expert evaluating learning instruments from the point of view of learning media. In the development of textual teaching materials, the experts involved are not only experts in English language education but also learning media experts to evaluate learning elements that are related to precision and accuracy from a media standpoint. In the teaching materials, graphical components such as appropriate illustrations are one of the elements that are evaluated because illustrations can become a media for delivering messages which will be able to construct students' cognition. As an example, in column 3 number 33 it was noted that appropriateness between illustration and the age of students also becomes a consideration in developing textual teaching materials. Such is also the case in the development of audio recordings; the

instructional technology approached not only focuses on the precision of the content from an English language education point of view, but also from the point of view of learning media. From the standpoint of learning media, elements outside the field of English language education play a role to draw attention such as audibility, appropriateness of incidental music, appropriateness of sound effects, or the loudness of the volume.

V. Discussion

Audio-based media is a form of the application of technology in learning. The integration of technology into English language education is explained by Roblyer as the most creative innovation in education. "Perhaps the most creative and prolific array of strategies and applications for enhancing teaching with technology is to be found in the English and language arts" (Roblyer, 2006: 294[21]). Audio-based media plays an important role because the presence of sound input to create listening activities plays a role in the process of language acquisition. The language input that is the simplest and easiest to process is one that is received through the listening process. Before a child learns how to read well, the process of listening is a skill that has the closest relationship with meaning in a new language that is being learned, which in this case is a second or foreign language (Dunkel, 1993). In addition to providing sound input, audio recordings become scaffolding in a process that allows a learner to move into a higher level of knowledge (Heinich et al., 2002: 55[22]). In the process of language learning, Bradley and Bradley (2004[23]) state that there are different types of scaffolding that are effective such as simplifying and shortening language, using the present tense, avoiding complex utterances and idioms which are commonly known as 'teacher talk' or 'foreigner talk', asking students to complete answers from a learning item, and utilizing visuals in the form of pictures, all of which can become scaffolding for students (Adi, 2010). These types of scaffolding have also been developed in the learning instruments for this research.

In this research, audio-based media have been proven effective as scaffolding that play a role as learning assistants. From the observation of the implementation of audio-based media as a learning aid, some notes have been obtained:

First, audio-based media has provided sound input that led students to imitate the audio with accurate pronunciation as outlined in the 2006 Curriculum which is to meaningfully say aloud words, phrases, and sentences with accepted pronunciation, stresses, and intonation. This accuracy of pronunciation is no less important than correct grammar because pronunciation errors will create errors in understanding, or misunderstanding.

Second, audio-based media provides an example conversation that direct students to practice simple conversation as outlined in the 2006 Curriculum such as how to greet, introduce oneself or someone else, ask, apologize, and express politeness in conversation. In the application of learning assisted by audio-based media, student activities were also audio-based with the primary activity being listening to produce language learning items. As an example, the directions for the activity of "listen and look" guide students to not only listen, but also pay attention to the picture or sentences which are in the textual teaching materials. This is also the case with the command "listen and say", which asks students to listen and speak sentences or utterances as they were given in the audio recordings.

Third, audio-based media which was created in this research has been proven feasible because it was able to become comprehensible input for the needs of students in the form of utterances with clear and accurate pronunciation. Utterances of words, sentences, and the reading text help students to pronounce correctly as in the example given in the audio recordings. Moreover, as learning assistance or scaffolding, this audio recording provides useful activities for students in the form of interaction between students which are conversation demonstrations in pairs or groups, singing, reading metered verses and poems, reading aloud, and understanding text with the help of auditory assistance of the available text.

Fourth, findings from field observations show that learning activities which are assisted by audio-based media can create meaningful learning activities. As an example, imitating the audio together, individually, in pairs, or in groups have been able to facilitate the achievement of a learning goal, which is that students are able to read aloud words, phrases, and sentences with acceptable pronunciation, stresses, and intonation.

Fifth, observation has deeply shown that the benefits of scaffolding are achieved when working with teaching materials or textual teaching materials with the assistance of audio-based media. In the textual teaching materials students were asked to interact with reading texts, songs, metered verse, and dialogue. Audio-based media and able students to read aloud those texts by imitating how the text is read with accepted pronunciation. Kriteaman (2002[24]) in Adi (2010) explain that scaffolding is useful in language learning among others because it creates interaction between students, makes learning more lively, activates prior knowledge of students, help students understand texts, and enables students to understand the language of the teacher more explicitly. The audio-based media being developed also provides songs that are appropriate to the age and skills of the students as a source of learning. Class observation shows that the activity singing songs increases the participation of active students in English language learning.

Sixth, input from the audio-based media being developed is comprehensible to students, in accordance with the Input Hypothesis Theory of Krashen that states that those who are learning languages at a skill of “level *i*” should receive comprehensible input at “level *i+1*” or slightly higher than the current level (Krashen, 1998; Kriteaman, 2002; Schutz, 2005; Wilson, 2000[25]). Audio based media provide inputs that are appropriate for the skill level of students. The acquisition of knowledge as explained by Krashen is identical with the theory of the zone of proximal development (ZPD) of Vygotsky as explained by Dunn and Lantolf in Adi (2010: 147) which states that:

*“Second language scholars, in public research and in public discussions, have suggested that Krashen’s construct of *i+1* is similar to Vygotsky’s zone of proximal development and that it might therefore be feasible to integrate the two constructs in a way that would be productive for second language acquisition (SLA).”*

Further, (Schutz, 2005: 1[26]) adds:

*“Influence or coincidence, Krashen’s input hypothesis resembles Vygotsky’s concept of zone of proximal development. According to the input hypothesis, language acquisition takes place during human interaction in an environment of the foreign language when the learner receives language ‘input’ that is one step beyond his/her current stage of linguistic competence. For example, if a learner is at a stage ‘*i*’, then maximum acquisition takes place when he/she is exposed to ‘Comprehensible Input’ that belongs to level ‘*i + 1*’”*

The two above quotes show that language experts, in research and scientific discussion, have agreed that the Krashen construct of “*i+1*” resembles the construct of the zone of proximal development of Vygotsky which allows both of the constructs to be productive in the acquisition of a second or foreign language. Seventh, this research and development product also produces a learning design described in the teacher’s manual which becomes part of the learning instrument. The learning design found in the teacher’s manual applies a learning strategy called the Audio Lingual Communicative (ALC) strategy. This strategy is an eclectic learning strategy that combines two approaches to language learning, which are the Audio Lingual Method and Communicative Language Teaching (CLT). The application of this method is adjusted to the classroom context being researched which is that there are no more than 40 students in a class, there is no language laboratory facility at the school, the books that have been used by students all this time are still written exercise-based, and the teacher is still the central figure in the learning process. The ALC strategy has been proven to be successfully applied in China and Vietnam. The two countries of the English language learning context that are similar to those of the target students in this research. In both those countries in the 1990s, a communicative approach that was modified with the local context was applied. In Vietnam students feel comfortable and effective when speaking in a large classroom, so the creation of communication was directed to answer the teacher’s questions in the form of verbal drills or an oral symphony (Zhenhui, 2001[27]). Such is also the case with other learning activities that are guided by these learning instruments which are varied communicative activities such as role playing, dramas, or oral questions and answers, all of which will motivate students to have courage in risking making a mistake. The courage to take a risk is one of the personality factors that have a positive influence towards foreign language learning (Spada and Lightbown, 1999[28]).

Eighth, the Audio Lingual Communicative (ALC) strategy which is applied in the learning design of the result of the development in this research is the best strategy for the context of English language learning at As-Salam Middle School, Batu. The philosophy of the learning method of eclecticism which combines several principles and methods of foreign language learning that are adjusted to the context of the students becomes the basis of consideration for the selection of the ALC strategy. In an article titled “Matching Teaching Styles with Learning Styles in East Asian Contexts”, Zhenhui (2001) described that East Asian students in English language learning are thought to be less autonomous and more dependent on an authoritative figure, which in this case is the teacher, and more obedient to rules and deadlines. Meanwhile the English language teaching styles in East Asia in general is book-centered, is teacher-centered, uses the grammar-translation method, and stresses on rote memory. This teaching style affects the learning style of East Asian students who are characterized as traditional and book-centered. Field observation which was conducted by the researcher toward target students of the research, which was the students of As-Salam Middle School, Batu, showed some parallels with the description posed by Zhenhui, which was that classes were large and were composed of at least 40 students, the school did not have a language laboratory, students were used to teaching materials based on written exercise, and teachers became the primary figure in teaching. Therefore the researcher is convinced that the ALC learning strategy is the best and most contextual strategy for the needs of the target students.

VI. Conclusion and Suggestions

5.1 Conclusion

The conclusion that can be derived from the above discussion is that the instructional technology approach can be applied in the development of English language learning instruments for middle schools. The instructional technology approach allows for a wider point of view not only in the approach of the English language education discipline, but also in learning media. The development of English language teaching materials with audio recordings for middle schools in this research has also obtained positive evaluation from an English language expert, a media learning expert, a teacher, and middle school students. The results of observation during the application of the teaching materials with audio-based media also show that students are able to present positive work in the activeness and involvement of students in learning, which were communicative activities in imitating and demonstrating conversations. The audio-based media was able to function as comprehensible input that is appropriate for the needs of the students in the form of utterances of words, sentences, and reading text that enable students to pronounce correctly as in the example in the audio. In addition, the audio based media was able to play a role as learning assistants or scaffolding that enables students to reach a higher level of language cognition.

The results of this research have also shown that the application of instructional technology approaches, especially in the development of English language learning instruments with audio-based media, have been proven effective in the achievement of learning goals which were defined in the curriculum being applied, which was the 2006 Curriculum. The research product out of the R&D model of Borg and Gall have been judged as feasible, effective, and appropriate to be applied as a learning resource in the context of the target students, which was As-Salam Middle School, Batu.

As explained above, the definition of instructional technology from Seels and Richey (1994[29]) states that instructional technology is that theory and practice of designing, developing, utilizing, managing, and evaluating the processes and resources for learning. Meanwhile the Association for Educational Technology and Communication (AETC[30]) in 2004 defined instructional technology as research and practice that are aimed to facilitate learning and to increase learning work by creating, using, and managing the appropriate processes and technological resources. Both of these definitions strengthen and reinforce that the field of development is a very important field in instructional technology. In the context of this research, the applied method can also be applied to other fields of discipline considering that instructional technology can play a role as an environment for the development of learning in different subjects. The development method has an adaptive nature and allows it to be applied in various different fields of discipline. Furthermore, in this research, the development project in the form of learning instruments of audio-based media was able to function as scaffolding because it provided learning assistance to students, especially in pronouncing words, phrases, and sentences with acceptable accuracy and clarity. As an aid to learning, audio-based media can also provide comprehensible input for the construction of knowledge and communicative competence of students in speaking English.

5.2 Suggestions

From the results of the research there were also some suggestions that were related to the application of the learning instrument with audio-based media as well as further development. In the application of the learning instrument in a classroom setting, a persuasive explanation to students regarding the importance of training to demonstrate conversations needs to be done by the teacher, especially at the beginning of learning. This explanation serves to implant the realization that one of the principles of language learning is training how to communicate. The teacher must manage learning more patiently and direct students to concentrate on listening to the utterances in the audio-based media. Creating a more conducive classroom environment to avoid sound pollution also needs to be done by the teacher.

The R&D product in the form of learning instruments with audio-based media and the Audio Lingual Communicative (ALC) learning strategy is suggested to be implemented authoritatively, especially at As-Salam Middle School, Batu as a learning innovation because it is theoretically and empirically appropriate with the local cultural context of the NU which places the teacher as a central figure that is respected, and is able to increase the quality of the learning process and result. The product is also disseminated in seminars or educational journals with the hope that students are able to obtain an English language learning resource that is appropriate for the context of their needs, to conduct learning activities that are appropriate to their context, interest, and needs, as well as become used to language learning activities that focus on the activity of producing language orally and verbally through meaningful activities.

Finally this article recommends that based on a study on learning instruments, several things need to be done such as the development of a similar model by education designers and developers on foreign language subjects other than English on a different student context, in a higher education level such as in a high school, and in a continuous application time frame. It is also necessary to develop different learning strategies, especially a media-mediated instruction one, for independent learning. The development of learning instruments with audio-based media using media-mediated instruction needs to be done because English language learning cannot be done only in the classroom with the guidance of a teacher, but also through independent or self-directed learning. Also the use of a learning product with media-mediated instruction has a high flexibility because the student is not dependent on the teacher, and can be utilized as a supporting learning resource to the resources obtained at school in order to increase students' ability in speaking English.

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