Developing English Speaking Material based on Critical Thinking Skill at Vocational High School in Makassar

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Abstract: *The objectives of this research were to find out how is the Critical Thinking improve the Students' Speaking Skill of the eleventh grade students of Tourism Department at SMK Negeri 4 Makassar. This research applied a pre-experimental with pre-test and post-test design. The population was the eleventh grade students of Tourism Department at SMK Negeri 4 Makassar, in 2017/2018 academic year. The population consisted of 49 students where the sample was taken by using purposive sampling technique. The research data were collected by pre-test and post-test on speaking test and analyzed by using SPSS 25.0 version to see the significant difference between pre-test and post-test. The results of the research were the application of Critical Thinking significantly improved the students' speaking skill which covers accuracy, fluency, and comprehensibility. The researcher concluded that Critical Thinking technique can be the alternative choice for teaching English at SMK (vocational school) where the English language teaching process is demanded to teach communicatively and functionally, so the SMK's students possess English competencies which are relevant to the job opportunities both in Indonesia and global setting.*

1. Introduction

1.1 Background

In the process of teaching and learning, the availability of textbooks is one of the essential components that must exist because textbooks serve as a guide for students and their teachers of any level of education to be actively engaged in classroom practices. This is in line with Iqbal (2013) who urges that existence of the textbooks could facilitate students to maximally achieve the targeted learning objectives. Added to this, textbooks serve as the core of educational practices, confer students with "a rich array of new and potentially interesting facts, and open the door to a world of fantastic experience" (Chambliss &Calfee, 1998, p.7). This suggests that textbooks play an important in the success of teaching and learning practices. In relation to this statement, Kitao&Kitao (1997) articulate that textbooks are of great importance in the process of teaching and learning as they serve as the center of instruction and describe what goes on in the classroom practices in order that the teaching and learning activities become efficient, effective, and meaningful.

In the level of secondary schools, Senior High and Vocational High Schools (SVHSs) in particular, the centre for curriculum and textbook development designed six sets of English textbooks. Every grade has two sets of English textbooks on the basis of semester. They are labeled with English Textbooks for Students of Grade X Semester 1 and of Grade X Semester 2. The same labels are applied for Grade XI and XII. These English textbooks are developed in reference to the core competence and basic competence without differentiate the types of the schools. In other words, those six sets of the English textbooks are nationally used by students of SVHSs. Those English textbooks are also used for students of religious-based senior high and vocational high schools including Christian, Catholic, and Islamic senior and vocational high schools in Indonesia which run the 2013 curriculum. As a matter of fact, students of SVHSs

are different in nature in terms of orientation and expectation. The orientation of the English textbooks for students of SHSs is designed by putting an emphasis on English for academic purposes. On the other hand, students of VHSs should be oriented to the development of English for specific purposes on the grounds.

The development of speaking as one of the productive language skills somehow as performed in the English textbooks focuses on the memorization of the dialog with the application of audio-lingual methods which mostly articulate the use of a drilling technique. This also happens in the development of writing skills which are oriented to the product approach putting an emphasis on rearranging sentences. This evidence directly or indirectly determines the failure of the acquisition of the target language (English) on the grounds that students are only driven to deal with systemic knowledge which is oriented to understanding the outer layer of the language system as stated by Hedge (2008).

Students learning language is considered to be successful if they can communicate effectively in their second or foreign language. Hadfiels (1999:7) says that speaking is a kind of bridge for learners between classroom and the world outside. In order to build the bridge, in the speaking activities, the teacher must give them practice opportunity for purposeful communication in meaningful situation. It means learning to speak in a second language will be facilitated when learners are actively engaged in attempting to communicate. Thus the teacher must give the learners practice to actualize their speaking skill. By mastering speaking, they can carry out conversation with others, give ideas and change the information with interlocutors.

Critical thinking is one of the most modern issues in education around the world, being utilized in the classroom and the curricula as a way to train decisive, open-minded individuals with fair judgmental qualities referred to as cultivated critical thinkers (Paul & Elder, 2008). Paul and

Elder maintained that thinking is inevitable, and all people think, although much of this thinking can be biased, distorted, partial, uninformed or down-right prejudiced, and to achieve excellence in thought one must be cultivated. Therefore, one is not born with critical thinking skills and needs to be trained to learn the skills and fortunately critical thinking can be taught.

Indonesian students are mostly obliged to memorize and rewrite pre-thought information at schools as opposed to thinking out their own ideas and assessing facts and not taking those taught by their teachers for granted. Not introduced to the concept of critical thinking at school, Iranian students welcome

English language learning in private institutes and/or with the help of private tutors, who go through world-renowned ELT books written by English-speaking authors who claim that critical thinking strategies were embedded in their course books.

Critical thinking involves the use of a group of interconnected skills to analyze, creatively integrate, and evaluate what you read and hear. To become a critical thinker you must be able to decide whether an author's opinions are true or false, whether he or she has adequately defended those ideas, whether certain recommendations are practical, as well as whether particular solutions will be effective.

Critical thinking involves certain dispositions. A disposition is a tendency to act or think in a certain way. The list of dispositions that is characteristic of critical thinkers. To learn how to think critically, one must learn skills that build upon each other. Only by concentrating on and practicing these basic skills can mastery of critical thinking be achieved. The author lists three basic characteristics of the skills required to think critically: they are interconnected (sample list of these skills), they build on each other, and they are goal-oriented in that we can constantly apply them to situations in everyday life.

Critical thinking involves the use of a kind of thinking called reasoning, in which we construct and/or evaluate reasons to support beliefs. Critical thinking also involves reflection — the examination and evaluation of our own and others' thoughts and ideas. Finally critical thinking is practical. Actions are more rationalif they are based on beliefs that we take to be justified. Critical thinking then, is the careful, deliberate determination of whether we should accept, reject or suspend judgment about the truth of a claim or a recommendation to act in a certain way.

In reference to the above issues, the researcher want make a book which material based on student's need and improve their speaking use a Critical thinking, the development of the English teaching material for students of VHSs which highlight on the establishment of CT (critical thinking) is urgently required. This suggests that the aspects of CT such as skills of analyzing, evaluating, and creating should be manifested in the development of the English teaching material used for students of VHSs. Also, the tasks or activities used in the English teaching material must activate those three types of thinking skills on the grounds that those skills are believed to maximally facilitate students of VHSs to acquire English.

1.2 Research Question

Considering the background, the researcher is interested in developing teaching material based on critical thinking, the research question are formulated as follows:
1) How the Critical Thinking improving the students' speaking skill?

2. Review of Related Literature

2.1 What is Critical thinking?

The history of critical thinking traces its roots in analytic philosophy and pragmatist constructivism which dates back over 2500 years, as in the Buddha's Teachings: mainly in Buddhist texts such as the Kalama Sutta and the Abhidharma (Damirchi, Seyyedi, &Rahimi, 2012). The term ―critical thinking stems from the mid-late 20th century. It is best said that ―there are as many definitions of critical thinking as there are writers on the subject‖ (Mayfield, 2001, p. 4). One of the briefest, most commonly cited definitions of critical thinking is that it is ―thinking about thinking‖ extracted from the longer definition stating that critical thinking is the art of thinking about your thinking while you are thinking in order to make your thinking better: clearer, more accurate, more defensible‖ (Paul, as cited in Long, 2003, p. 2).

In the literature belonging to the recent years, a categorized look at the definition of critical thinking has been adopted. Three different approaches to critical thinking have been described. The two first approaches to critical thinking stem from Lewis and Smith (1993) believing in the roots of critical thinking to be in philosophy and psychology. A third critical thinking strand is within the field of education which was first presented by Sternburg (as cited in Lai, 2011). Lai (2011) believes that these different approaches have led to different perspectives in defining critical thinking, which include: the philosophical approach, the cognitive psychological approach, and the educational approach.

The writings of Socrates, Plato, Aristotle, and more recently, Lipman and Paul, are examples of the philosophical approach. This approach focuses on the hypothetical critical thinker, listing the numerous qualities and characteristics of the critical thinker and not the behaviors or actions that the critical thinker does. Scholars who work within the philosophical tradition also emphasize standards of thought (as cited in Fahim&Shakouri, 2012). Sternberg (Sternberg, 1986) noted that this approach somehow looks at the critical thinker rather idealistically, and mostly focuses on what people are capable of doing under hypothetically ideal circumstances. Accordingly, Paul (1992) discussed critical thinking in the context of ―perfections of thought‖ (p. 9). As mentioned above, those who work within the philosophical tradition also emphasize standards of thought. For example, Bailin (2002) defined critical thinking as thinking of a particular quality—essentially good thinking that meets specified criteria or standards of adequacy and accuracy. Further, in the philosophical approach, the application of formal rules of logic is traditionally focused

upon (Lewis & Smith, 1993; Sternberg, 1986). It is clear that one of the limitations of this approach.

Defining critical thinking is that it is not always in agreement with reality (Sternberg, 1986). The cognitive psychological approach contrasts with the philosophical perspective in that, first, it tends to focus on how people actually think rather than how they could or should think under ideal circumstances, and second, it defines critical thinking by the types of actions or behaviors critical thinkers can do. Typically, in this approach to defining critical thinking a list of skills or procedures performed by critical thinkers is provided (Lewis & Smith, 1993). This latter aspect of critical thinking has been criticized by philosophers, for instance, Bailin (2002) claimed that since the actual process of thought is unobservable, cognitive psychologists have tended to focus on the products of such thought—behaviors or overt skills.

According to Lai (2011), the third approach to critical thinking comes from those working in the field of education, like Bloom (1956) and his associates who have taken part in the discussions revolving around critical thinking. Their taxonomy for information processing skills has been widely cited by educational practitioners when it comes to teaching and assessing higher-order thinking skills, which itself is defined as ―the capacity to go beyond the information given, to adopt a critical stance, to evaluate, to have metacognitive awareness and problem solving capacities‖ (McLoughlin& Luca, 2000, p. 4). Bloom‗s taxonomy refers to a classification of the different objectives which educators set for students (learning objectives) (Orlich, Harder, Callahan, Trevisan, & Brown, 2004) and is hierarchical, with comprehension at the bottom and evaluation at the top. The three highest levels, which include analysis, synthesis, and evaluation, are frequently said to represent critical thinking (Kennedy, Fisher, & Ennis, as cited in Lai, 2011, p. 8).

Educators have long seen critical thinking as a desirable educational outcome. A 1972 study of 40,000 faculty members by the American Council on Education revealed that 97 percent of the respondents indicated the most important goal of undergraduate education is to foster students‗ ability to think critically (Paul R., 2004). Dewey introduced learning to think‖ as a primary purpose of education in 1933 (as cited in Halpern, 2003). Bruning, Schraw, Norby and Ronning (2004) maintained that it is important that we are ―teaching students how to think rather than what to think‖ (p. 180). In his book named Pedagogy of the Oppressed, Freire (1970) labeled the traditional system of education present in many countries as the banking system of education as opposed to the problem-posing system of education. In the banking system of education the teacher is the source of information and knows everything while the students know nothing, they are expected to listen only and not to express their opinions, and to be filled by the teacher‗s narration like empty glasses. On the contrary, the problem posing education is one form of the realization of critical pedagogy in the classroom context and encourages critical thinking. One of the teachers‗ roles in a problem-posing system of education is to problematize situations that are familiar to the students and by presenting

them to the students and making them think about those situations in new ways (Fahim&Shakouri, 2012).

Moon (2008) asserted that critical thinking and its relationship to the educational process has become a central issue. She added that since critical thinking is a process which is involved in any research activity; it can be considered as a principal concept to education, especially at higher levels. In fact, critical thinking is a fundamental goal of learning. According to Lipman (2003) teachers are responsible to develop critical thinking in their students and not just push them from one educational level to the next. Brown (2004) proposes that the objectives of a curriculum in an ideal academic English program should go beyond linguistic factors, and to develop the art of critical thinking. Critical thinking has been identified as one of several skills necessary to prepare students for post-secondary education and the workforce (Lai, 2011). Fisher (2003) also emphasized the significance of teaching critical thinking skills. He maintained that the students‗ thinking skills do not equip them well enough to overcome the problems that they encounter either in education or in their daily lives, thus they need to be taught critical thinking skills.

Ennis (1989) described four instructional approaches that vary in terms of the extent to which critical thinking skills are taught as an exclusive course versus integrated into regular instruction (cited in Lai, 2011). These include the general approach, the infusion approach, the immersion approach and the mixed approach. In the general approach, direct and explicit instruction in critical thinking takes place in an exclusive course, where critical thinking skills and abilities are emphasized and the instruction of specific subject matter is not involved. Examples and tasks are included in order to make the issue more tangible for the students. The content is drawn from problems that students are familiar with and may encounter in their daily lives. Van Gelder (2005), as one of the advocates of the general approach, emphasized the need for ―deliberate practice‖ in exercising critical thinking skills and abilities and stated that this type of practice can only occur when critical thinking is taught explicitly and exclusively as part of the curriculum. However, students must also be taught how to transfer their critical thinking knowledge to a variety of contexts and must be provided with opportunities to practice applying critical thinking skills in diverse contexts. Another scholar advocating this approach is Halpern (2001), who has referred to instruction in general thinking skills, taught as a ―broad-based, cross-disciplinary‖ course, to be the most effective way of teaching critical thinking.

In the infusion approach, in-depth instruction in the subject matter takes place including explicit instruction on general critical thinking principles. This critical thinking instruction is embedded in the context of specific subject matter (Lai, 2011). Somewhat related to the infusion approach is immersion.

In immersion instruction, students are engaged in deep subject-matter instruction. Although critical thinking skills and abilities are part of the content to be learned, critical thinking instruction is not made explicit and remains embedded in the instruction of the subject matter. In other

words, critical thinking skills and abilities are not the focus of direct and explicit instruction. Rather, students are expected to acquire these skills as a natural consequence of their engagement with the subject matter (Ennis, 1989). Some of the scholars who defend these approaches include Bailin, Case, Coombs and Daniels (1999), Lipman (1988), Silva (2008) and Case (2005).

The mixed approach is a combination of both the general and subject-specific approaches. Teachers combine exclusive instruction in general critical thinking principles with application of critical thinking skills in the context of specific subject matter. Explicit instruction in critical thinking skills can be incorporated into both the general and the specific components (Ennis, as cited in Lai 2011). This approach is supported by Facione (1990), Paul (1992) and Kennedy, Fisher and Ennis (1991). After reviewing extant research on the various approaches, Kennedy et al. (1991) concluded that the evidence does not support the superiority of any particular approach.

2.2 An overview of related research studies

A number of research studies have been done on critical thinking and language proficiency. In their paper titled ―The Relationship between Critical Thinking and Language Proficiency of Malaysian Undergraduates‖, Rosyati and Rosna (2008) reveal the results of their observation as ―Proficiency in English is positively related to critical thinking ability implying that if the undergraduates are proficient in English, their critical thinking ability will also be heightened. Nikoopour, AminiFarsani and Nasiri (2011) published their study of Critical Thinking and Language Learning Strategies in 2011; they found a significant relationship between Iranian use of language learning strategies and their way of thinking. ―This positive relation may be a replication of many previous studies concerning the effectiveness of critical thinking on the ultimate success of language learners in the challenging process of foreign language learning‖. In a study on the relationship between collaborative learning and critical thinking of Iranian EFL learners, Naeini (2005) tested 144 adult English language learners. She divided the participants into two groups: the control group and the experimental group. The findings revealed that the experimental group outperformed the control group. Alagozlu (2007) analyzed Turkish students‘ critical thinking and individual voice in writing, in her study titled critical thinking and voice in EFL writing in which she concludes that students tend to memorize and write what they read rather than filter it through their judgment and reasoning. She declares that the situation fits into the didactic approach or concept-based instruction in the classic educational system where learning is centered on the retention of previously learned information and where no thinking is required. The study suggests seeking remedies to integrate critical thinking into the classroom and the curricula.

After the existence of a significant relationship between critical thinking and different English language skills was indicated, researchers began studying the impact of critical thinking on improving those skills. In a quantitative study conducted by Malmir and Shoorcheh (2012) on the impact

of teaching critical thinking on Iranian learners‘ speaking skill, it was concluded that critical thinking training had a crucial impact on promoting the speaking ability of Iranian EFL learners. They also observed that, ―Critical-thinking strategies helped the learners to become active participants in the interaction process by listening carefully to other students‘ lectures, by judging on those utterances, and by making the best decisions about what to say in response to what has been said in the conversation by other interact. Shangarffam and Mamipour (2011) studied the impact of teaching critical thinking on Intermediate EFL learners' writing skill and reported that the participants who had had the opportunity to become familiarized with critical thinking techniques and procedures had outperformed the participants with lack of knowledge about critical thinking. Needless to say, in both of the latter studies critical thinking techniques were employed to teach the participants the skills of speaking and/or writing, this was done through debates, media analysis and problem-solving tasks, however, no explicit and exclusive teaching of critical thinking took place.

Though critical thinking is universally regarded as a pillar of higher education (including by employers seeking college graduates), the results of some research studies show that students are not developing their critical thinking skills to the extent that the researchers expect. For their 2009 book, Academically Adrift: Limited Learning on College Campuses, Arum and Rocksa (2009) followed a little over 2,300 college students through their first two years of school. They found ―a barely noticeable impact on students‘ skills in critical thinking, complex reasoning, and writing and ―no statistically significant gains [in these skills] for at least 45 percent of the students.

It is concluded that some studies show outstanding results by teaching learners skills to improve their critical thinking; however some show that the success does not include all learners. This could stem from the methods used by researchers to teach critical thinking. Marin and Halpern (2010) studied two groups of American high school students and concluded that the students receiving explicit instruction showed much larger gains than those who had received imbedded instruction in critical thinking. Cosgrove (2011) conducted a study in Oxford University and concluded that there was a need for an explicit and systematic approach to teaching critical thinking as the students internalized the explicit and required aspects of critical thinking and largely missed those that were implicit. Therefore, research shows that explicit methods of instruction in critical thinking have been more effective.

2.3 Bloom's Taxonomy

Bloom's taxonomy refers to a commonly used framework created by Bloom and colleagues, to organization different levels of expertise with respect to measurable student outcomes. The taxonomy was later revised, changing some of the terminology and elaborating what was meant by the different levels. Furthermore, the ideas in Bloom's taxonomy can be applied to multiple domains and not simply knowledge. As a result, taxonomies were developed for multiple domains: cognitive or knowledge-based goals,

psychomotor or skill-based goals, and value or affective-based goals. There are six major levels in Bloom's taxonomy for the knowledge-based domain: remembering, understanding, applying, analyzing, evaluating, and creating. These levels lie along a continuum from simple (remember) to complex (create), and from concrete to abstract. The level of expertise is organized in terms of increasing complexity, such that higher levels of expertise involve more sophisticated measurement of student outcomes. For example, the low-level of 'remembering' can be measured through a simple multiple-choice test, but the higher-level of 'evaluating' would require longer written responses, presentations, or oral discussions in order to measure the outcomes.

The new version of Bloom's taxonomy

Bloom's taxonomy instructors to identify the level of expertise of their students, examine the common activities on each level, and determine how best to incorporate those activities into their classes. Often the activities are listed as verbs that could be included in questions asked of students or used to develop activities. The verbs in the higher levels of the taxonomy are more open-ended and require more creativity to answer. As such, those levels tend to be more associated with an CT approach.

These questions help to elicit behaviors appropriate with AL, but it is also important for teachers to create an environment that promotes the creative and open form of questioning and thinking appropriate for CT. In other words, it is not enough for a teacher to simply ask questions for the desired taxonomic level, the teacher also needs to create an environment conducive to students asking those questions too. Furthermore, CT requires engaging students with techniques other than lectures and teacher-driven presentations. However, using other techniques does not simply mean a higher level in the taxonomy will be reached. For example, students could perform a group study of material and give a presentation to their peers. Both the group study and peer-presentations are examples of techniques associated with CT, but the topic of their study could be questions reminiscent of the lower levels in Bloom's taxonomy. The students would need to be given a study topic that engages a higher level, such as 'evaluate how well authors X and Y argue their perspectives on this topic' instead of 'describe the position taken by authors X and Y.' By looking at Bloom's taxonomy then, teachers can come up with questions to guide the CT techniques they use in the classroom.

2.4 Old and New version

In 1956, Benjamin Bloom wrote *Taxonomy of Educational Objectives: Cognitive Domain*, and his six-level description of thinking has been widely adapted and used in countless contexts ever since. His list of cognitive processes is organized from the most simple, the recall of knowledge, to the most complex, making judgments about the value and worth of an idea.

2.4.1 The old version of Bloom's taxonomy

2.4.2 The new version of Bloom's taxonomy

2.4.3 Bloom's Taxonomy of Educational Objectives

Skill	Definition	Key Words
Knowledge	Recall information	Identify, describe, name, label, recognize, reproduce, follow
Comprehension	Understand the meaning, paraphrase a concept	Summarize, convert, defend, paraphrase, interpret, give examples
Application	Use the information or concept in a new situation	Prepare
Analysis	Break information or concepts into parts to understand it more fully	Compare/contrast, break down, distinguish, select, separate
Synthesis	Put ideas together to form something new	Categorize, generalize, reconstruct
Evaluation	Make judgments about value	Appraise, critique, judge, justify, argue, support

Today's world is a different places, however, than the one Bloom's Taxonomy reflected in 1956. Educators have learned a great deal more about how students learn and teachers teach and now recognize that teaching and learning encompasses more than just thinking. It also involves the

feelings and beliefs of students and teachers as well as the social and cultural environment of the classroom.

Several cognitive psychologists have worked to make the basic concept of a taxonomy of thinking skills more relevant and accurate. In developing his own taxonomy of educational objectives, Marzano (2000) points out one criticism of Bloom's Taxonomy. The very structure of the Taxonomy, moving from the simplest level of knowledge to the most difficult level of evaluation, is not supported by research. A hierarchical taxonomy implies that each higher skill is composed of the skills beneath it; comprehension requires knowledge; application requires comprehension and knowledge, and so on. This, according to Marzano, is simply not true of the cognitive processes in Bloom's Taxonomy.

The originators of the original six thinking processes assumed that complex projects could be labeled as requiring one of the processes more than the others. A task was primarily an "analysis" or an "evaluation" task. This has been proven not to be true which may account for the difficulty that educators have classifying challenging learning activities using the Taxonomy. Anderson (2000) argues that nearly all complex learning activities require the use of several different cognitive skills.

Like any theoretical model, Bloom's Taxonomy has its strengths and weaknesses. Its greatest strength is that it has taken the very important topic of thinking and placed a structure around it that is usable by practitioners. Those teachers who keep a list of question prompts relating to the various levels of Bloom's Taxonomy undoubtedly do a better job of encouraging higher-order thinking in their students than those who have no such tool. On the other hand, as anyone who has worked with a group of educators to classify a group of questions and learning activities according to the Taxonomy can attest, there is little consensus about what seemingly self-evident terms like "analysis," or "evaluation" mean. In addition, so many worthwhile activities, such as authentic problems and projects, cannot be mapped to the Taxonomy, and trying to do that would diminish their potential as earning opportunities.

2.5 Revised Bloom's Taxonomy

In 1999, Dr. Lorin Anderson, a former student of Bloom's, and his colleagues published an updated version of Bloom's Taxonomy that takes into account a broader range of factors that have an impact on teaching and learning. This revised taxonomy attempts to correct some of the problems with the original taxonomy. Unlike the 1956 version, the revised taxonomy differentiates between "knowing what," the content of thinking, and "knowing how," the procedures used in solving problems. The Knowledge Dimension is the "knowing what." It has four categories: *factual, conceptual, procedural,* and *metacognitive*. Factual knowledge includes isolated bits of information, such as vocabulary definitions and knowledge about specific details.

Conceptual knowledge consists of systems of information, such as classifications and categories. Procedural knowledge includes algorithms, heuristics or rules of thumb, techniques,

and methods as well as knowledge about when to use these procedures. Metacognitive knowledge refers to knowledge of thinking processes and information about how to manipulate these processes effectively. The Cognitive Process Dimension of the revised Bloom's Taxonomy like the original version has six skills. They are, from simplest to most complex: remember, understand, apply, analyze, evaluate, and create.

1) Remembering
Remembering consists of recognizing and recalling relevant information from long-term memory.

2) Understanding
Understanding is the ability to make your own meaning from educational material such as reading and teacher explanations. The sub skills for this process include interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.

3) Applying
The third process, *applying*, refers to using a learned procedure either in a familiar or new situation.

4) Analyzing
The next process is *analyzing*, which consists of breaking knowledge down into its parts and thinking about how the parts relate to its overall structure. Students analyze by differentiating, organizing, and attributing.

5) Evaluating
Evaluating, which is at the top of the original taxonomy, is the fifth of the six processes in the revised version. It includes checking and critiquing.

6) Creating
Creating, a process not included in the earlier taxonomy, is the highest component of the new version. This skill involves putting things together to make something new. To accomplish creating tasks, learners generate, plan, and produce.

According to this taxonomy, each level of knowledge can correspond to each level of cognitive process, so a student can remember factual or procedural knowledge, understand conceptual or metacognitive knowledge, or analyze metacognitive or factual knowledge. According to Anderson and his colleagues, "Meaningful learning provides students with the knowledge and cognitive processes they need for successful problem solving". The following charts list examples of each skill of the Cognitive and Knowledge Dimensions.

2.6 Critical Thinking Tools Aligned with Bloom's Taxonomy by Lee Watanabe

1) Critical Thinking Tools That Help Learners Remember
   Remembering is: *Recognizing, Listing, Describing, Identifying, Retrieving, Naming, Locating/Finding*
2) Critical Thinking Tools That Help Learners Understand
   Understanding is: *Interpreting, Exemplifying, Summarizing, Inferring, Paraphrasing, Classifying, Comparing, Explaining*
3) Critical Thinking Tools That Help Learners Apply

Applying **is:** *Implementing, Carrying Out, Using, Executing, Doing*
4) Critical Thinking Tools That Help Learners Analyze
Analyzing **is:** *Comparing, Organizing, Deconstructing, Attributing, Outlining, structuring, Integrating*
5) Critical Thinking Tools That Help Learners Evaluate
Evaluating **is:** *Checking, Hypothesizing Critiquing, Experimenting, Judging, Testing, Detecting, Monitoring*
6) Critical Thinking Tools That Help Learners Create
Creating **is:** *Designing, Constructing, Planning, Producing, Inventing, Devising, Making, Build.*

2.7 Design of the Research

This research related to the application of Critical Thinking as the communicative activities in improving the students' speaking skills at SMK Negeri 4 Makassar.

In this research, the researcher used the pre-experimental method by using the one group pre-test and post-test design in finding out the improvement of students' achievement in speaking English and their interest taught by using simulation and role-play technique.

The treatment was given between pre-test (T1) and post-test (T2). The pre-test was administered to find out whether the simulation and role-play technique improve the students' speaking skills. The research design can be seen as follows:
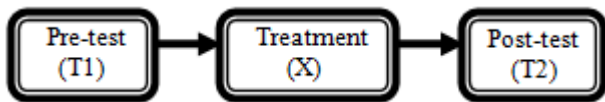
Figure 2: The design of the research
The legend:
T1= The result of the students' pre-test on speaking
X= The treatment by using simulation and role-play
T2= The result of the students' post test on speaking

3. Findings and Discussion

The Students' Speaking Skill

a) The frequency and percentage of the students' speaking achievement
In this section, the researcher presents frequency and percentage of the students' score on speaking test both pre-test and post-test. Before conducting the treatment, the researcher gave a pre-test to know the prior knowledge of students in speaking. After giving the treatment, the students get post-test. Then, the result of pre-test and post-test are compared to measure the students' achievement in speaking.

Here, Critical Thinking applied as the treatment, and this was done by the students for several meetings in their' English speaking class. The students applied Critical Thinking and simulated the roles in the real situation based on the topics that presented in each meeting as follows:Handling the Requesting Travel Information via Phone; Handling Airline Ticket Reservation; Promoting Package of Tour; and Guiding to the Tourism Spot.

As being stated at the previous chapter that the frequency and percentage of the students' score are firstly tabulated

and classified into 5 (five) levels of classifications, namely: very poor, poor, fair, fairly good, good, very good, and excellent. The frequency and percentage of the students' scores on pre-test and post-test were calculated based on the score result of both Raters on the following table.

Table 15: The frequency and percentage of the students' achievement on pre- test and post-test

Category	Range of Score	Pre-test		Post-test	
		f	%	f	%
Excellent	9.0 to 10	0	0	0	0
Very good	8.6 to 9.5	0	0	3	12.50
Good	7.6 to 8.5	0	0	4	16.67
Fairly good	6.6 to 7.5	0	0	6	25.00
Fair	5.6 to 6.5	2	8.33	6	25.00
Poor	3.6 to 5.5	10	41.67	2	8.33
Very Poor	0.0 to 3.5	12	50.00	3	12.50
Total		24	100	24	100

Table 14 above shows that in pre-test or before giving treatment by applying Critical Thinking in the students' speaking class, there was 12 students or 50 percent out of twenty four whose grades are in the very poor classification, 10 students or 41.67 percent whose grades are in the poor classification, only 2 students or 8.33 percent whose grades are in the fair classification as the highest score that could be reached by the students in pre-test. So, there were none of the students whose grades are in the fairly good, good, very good and excellent classifications.

On the other hand, in post-test or after giving treatment by applying Critical Thinking in the students' speaking class, the students showed the development. Table above shows the development of students' score in which 3 students or 12.50 percent out of twenty four whose grades are in thevery poor classification, 2 students or 8.33 percent whose grades are in the poorclassification, 6 students or 25 percent whose grades are in the fair classification, 6 students or 25 percent whose grades are in the fairly good classification, 4 students or 16.67 percent whose grades are in the good classification and 3 students or 12.50 percent whose grades are in the very good classification as the highest level that could be reached by the students in post-test. It means that the application of simulation and role-play in the ELT classroom, particularly in the students' speaking class could improve the students' English speaking skill.

b) The mean score and standard deviation of students' pre-test and post-test
The application of Critical Thinking as one of teaching technique of English speaking skill could build up the students' achievement in speaking which cover accuracy, fluency, and comprehensibility. The students' speaking in term of accuracy was based on the students' acceptable pronunciation, correct grammar, and appropriate word choices. The students' speaking in term of fluency dealing with the ability of students to use language spontaneously and confidently without undue pauses of hesitation and no time spent for searching the words. Then, the students' speaking in term of comprehensibility dealing with easy for the listener to understand the speaker's intention. Based on data analysis, it have found that there was the significant difference between the mean score of the students' pre-test and post-test of speaking as shown in the following table.

Table 16: The mean score and standard deviation of students' pre-test and post-test

Variable	Mean Score	Standard Deviation	t	df	Sig. (2 tailed)
Pre-test	2.20				.000
Post-test	3.92				

Table 16 above shows that the mean score of students in post-test (3.92) was higher than pre-test (2.20) or increased 1.72 points. These conditions show that there was the improvement of students' achievement in speaking which cover accuracy, fluency and comprehensibility toward the application of simulation and role-play in ELT, particularly in the students' speaking class.

Furthermore, table 16 also shows that the significant value was .000. This condition indicates that the significant values of the students' speaking achievements (.000) are smaller than the level of significant .05. Therefore, the differences are significant. So, the result of students' achievement in speaking test indicated that there was the significant improvement of the students' achievement in speaking skill toward the application of Critical Thinking in English speaking class at the eleventh grade students of Tourism department at SMK Negeri 4 Makassar.

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