

DEVELOPING PROBLEM-BASED SPEAKING ASSESSMENT OF HIGH ORDER THINKING SKILLS IMPLEMENTATION FOR ASD STUDENTS

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Abstract

In Indonesia, 2013 curriculum is the newest curriculum used after having some transformations. The implementation of 2013 curriculum is not an easy thing because the teacher has to understand well about it. High Order Thinking Skill (HOTS) implementation is mandated by the scientific-based 2013 national curriculum in Indonesia. It means that HOTS is one of the aspects in the 2013 curriculum that must be implemented. This must also be implemented to Autism Spectrum Disorder (ASD) students. ASD students are students with a lifelong biological disorder with a wide range of appearances. To implement HOTS, the ASD students had to be guided intensively by the teacher to think critically and creatively. However, most of the teachers got problems to develop the assessment that could stimulate ASD students' critical thinking and creativity. This study aims to develop problem based speaking assessment of HOTS implementation to stimulate ASD students' critical thinking and creativity. In this research, Research and Development approach was employed with the second grade ASD students of Yamastho primary school in the academic year of 2018/2019 as subject. The data collection instruments were a questionnaire, interview, observation checklist, and test. The researcher collaborated with the teacher to develop this assessment. The ASD students' score speaking skill improvement was 60.33 to 75.33, critical thinking skill

was 61.33 to 74.33 and creativity skill was 62.67 to 75.33. To know the significance of the research, the researcher used SPSS. The results indicated that there was a significant difference between the result of pre-test and post-test. In other words, there is a significant improvement in the ASD students' speaking, critical thinking, and creativity skill after they used this assessment.

Keywords: ASD, HOTS, Problem-based Speaking Assessment, Critical Thinking, Creativity

Introduction

Autism Spectrum Disorder (ASD) is a developmental disorder, affecting more than one and a half million people in the United States (Willis, 2012). According to the Autism Society of America (2000), "one in every 150 babies is diagnosed with autism spectrum disorder, and boys are four times more likely than girls to have a form of the neurological disorder" (<http://www.autism-society.org/about-autism/> p. 1). ASD is a lifelong biological disorder with a wide range of appearances. It is called ASD because the characteristics and symptoms of the disorder occur along a continuum, with mild or severe forms, and potentially other handicaps or diminished mental capacity (Boyd & Shaw, 2010; Willis, 2012). ASD students clearly require special attention and care.

Wire (2005) added to the literature when she found that there was a "triad of impairments" affecting children with ASD: impairment in social interaction, unusual way of delivering speech, and a lack of flexibility. Moreover, due to their language impairment, students with ASD will reach the developmental milestones of their native language acquisition at different rates than their typically developed peers. When autistic children start to speak, their speech is often severely limited in vocabulary and syntax, accompanied by an unnatural pitch and intonation (Prainsson, 2012). Students with ASD may show ability in decoding any information but often have problem in comprehending what they read, and have difficulties in making inferences from texts. Therefore, there should be design of curriculum project for ASD and ELLs (English language Learners) which has the most common similarities in instructional strategies for both. However blending normal, mildly and severely challenged students in the same class is not an easy job because the students who are severely challenged could experience a sense of failure if they are expected to follow the curriculum for normal children because they are unable to cope.

Curriculum is a fundamental thing to teaching and learning process, so every teaching-learning activity must follow the curriculum. In addition, it is a structured interaction for students with instructional content, materials, resources, and evaluation processes of the learning objectives. To create good student and determine the quality of graduates, the school must have a good curriculum.

Curriculum as the guidance in the school determines quality of the graduation whether it is good or not. The curriculum is used to developing moral, spiritual, cultural, mental and physical of student both at school and society. Furthermore, it prepares the students for the opportunities, responsibilities, and experiences in the future (White, 2004, p. 2). It provides about guiding and planning for the teacher to achieve the goal in education. According to Glatthorn (1987) in Seel (2004, p. 131) stated that the curriculum is the guidance for the teacher which is prepared in form of documents, and then it is implemented in the teaching-learning activity in a real situation. Without the guidance of the curriculum, the teacher will have difficulties in reaching the goal. Therefore, every teacher has to understand and follow the current curriculum before planning and developing materials and teaching-learning process.

In Indonesia, curriculum has changed many times in order to follow the demands of the society and to face the world challenges. The curricula used in Indonesia, they are; curricula 1950 and 1958, curricula 1962 and 1968, curriculum 1975, curricula 1984 and 1994, curricula 2004 and 2006 (Faridi 2012, pp. 2-7). 2013 curriculum is the newest curriculum used in Indonesia. It is hoped that this curriculum can be better in creating the quality of graduates. This curriculum has ever been used in the academic year of 2013/2014, but the result had not been maximal yet. The factors influenced such as the school, the teacher's book, the students' book was not ready. Some teachers had difficulty to apply this curriculum. As a result, the Indonesian Ministry of Education and Culture asked some school in Indonesia to use the previous curriculum, that is KTSP curriculum again. However, it only happened temporarily and nowadays the 2013 curriculum is used in Indonesia as the national curriculum. 2013 curriculum has ever been revised in 2015, 2016, and 2017. This curriculum has four aspects namely literacy, character building, 4C (communication, collaboration, critical thinking and problem-based, creativity and innovation), and HOTS (higher-order thinking skill). These aspects must be available in the teaching and learning activity.

2013 curriculum implementation is not easy, because the teacher has to understand well about it. Based on monitoring and evaluation of 2013 curriculum implementation in senior high school level, the teacher has difficulties in assessing the students' ability in English subject, because there are many aspects that have to be assessed. Moreover, the teacher doesn't understand well about the 2013 curriculum. Even, if it is implemented to ASD students. It means that the success of 2013 curriculum implementation to ASD students depends on the school and the teacher's preparedness in conducting the learning process.

According to Jaedun (2014, p. 15), the success of the curriculum will be reached when the teacher and school are ready for preparing the 2013 curriculum implementation in the learning process. The quality of the education system

depends on the quality of the teacher. The teacher is the main part in giving treatment and the quality of students' outcome in the learning process (Jaedun, 2014, p. 15). Moreover, the teacher has to provide four skills in teaching and learning process. One of them is speaking.

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According to Jaedun (2014, p. 15), the success of the curriculum will be reached when the teacher and school are ready for preparing the 2013 curriculum implementation in the learning process. The quality of the education system depends on the quality of the teacher. The teacher is the main part in giving treatment and the quality of students' outcome in the learning process (Jaedun, 2014, p. 15). Moreover, the teacher has to provide four skills in teaching and learning process. One of them is speaking. speaking skills, the teacher needs assessment.

Assessment is used to achieve a goal by using different methods and techniques. Every method has its own characteristics and properties (Abosalem, 2016, p. 3). It is to discover the understanding and knowledge of the specific subject. There are three purposes of assessment: to assist learning, to measure students' achievement, and to evaluate the program (Airasian, 1994 and Pellegrino, Chudowsky and Glaser, 2001) in (Abosalem, 2012, p. 3). Assessment is always needed for each skill, include speaking.

Speaking assessment is very important to be done to measure the students' speaking ability. Nevertheless, it is not easy to be implemented. Based on Hughes (2003) in Ahmed (2014, p. 98) testing speaking is difficult and cannot be assessed as precisely as other language skills. In other words, the teacher needs more effort to assess speaking skill. Furthermore, the teacher has to provide four aspects of the 2013 curriculum in the teaching-learning process. HOTS is one of the aspects that must be available in the 2013 curriculum. HOTS is the ability to make a decision and build the ideas based on the texts (Setiawan, 2018, p. 3). In this aspect, the teacher has to guide not only the regular students but also the ASD students in having the ability to think critically, logically, reflectively, metacognitively, and creatively.

The 2013 curriculum also requires metacognitive. It means that the ELLs and ASD have to be able to predict, design, and estimate the issues. These will

emerge when the students face an unfamiliar problem, uncertainties, and question or dilemma (Mainali, 2012, p. 6). Problem-based effects HOTS. Problem-based is a critical thinking of learning that seeks the solution and answer of the problem. HOTS involves problem-based where the solutions are possible to use in solving the problem (the National Research Council, 1987) in (Mainali, 2012, p. 6).

The ASD students have to have HOTS in every skill including speaking skill. It takes considerable time, effort and training. In addition, communication was promoted by critical thinking (Umami, Saleh, Mujianto, and Fitriati, 2018, p.163). As a result, the researcher is interested in developing problem-based speaking assessment to stimulate the ASD students' critical thinking and creativity. In this research, the researcher used Common Core Learning Standards as the lesson plan which was used within the curriculum.

Method

This research used Research and Development (RnD) design to develop problem-based speaking assessment to stimulate ASD students' critical thinking and creativity. This research was to develop problem-based (PBL) speaking assessment. Problem-based learning is used to assess the speaking skill which includes the critical thinking (CT) and creativity of the ASD students. This research used qualitative and quantitative data. The qualitative data was from an interview, observation, and questionnaire, the quantitative data was from test and questionnaire. The steps of RnD that applied in this research such as information collecting, need analysis, planning and developing, expert and teacher validation, doing the first revision, trying out, doing the second revision, and producing the final product.

This research was conducted in Yamastho Primary School Surabaya because the school has been implementing the 2013 curriculum. The subject of the study was the English teacher and three ASD students of Yamastho Primary School Surabaya. This research used some of the instruments; questionnaire, interview, observation, and test.

Findings and Discussion

Developing PBL speaking assessment to stimulate the ASD students' CT.

In the observation, the researcher observed the document of the lesson plan and students' task. When the researcher observed the lesson plan, the researcher didn't find the problem-based learning (PBL) method. Discovery learning that was used by the teacher in most of the lesson plan. To apply this method, the teacher used lecturing, discussing, and giving task. There was no rubric for speaking skill that could stimulate critical thinking and creativity of students. Then, the researcher observed the teaching and learning activities in the class. The result showed that the teacher prepared the material and lesson plan before teaching the ASD students. The last step of discovery learning wasn't applied by

the teacher. In addition, there were no activities that could stimulate students' critical thinking.

In the interview, the researcher gave an interview to the ASD students and English teacher. The result showed that she hadn't ever applied the PBL method. Based on the English teacher opinion, the portfolio was a good way to improve the ASD students' critical thinking. Actually, the teacher had ever applied some steps of problem-based learning but she didn't know that the method was problem-based learning. Then, the result of students interview showed that the ASD students had difficulty with the speaking and listening skill. Moreover, the teacher was not familiar with problem-based learning, although she had ever used unintentionally. In addition, the teacher hadn't ever used the portfolio to improve the ASD students' critical thinking.

In the step of questionnaire use, the questionnaire showed that the ASD students had difficulties in studying English especially in the listening and speaking skill. The ASD students preferred doing the exercise in the group to doing in an individual. The teacher just used the textbook in the teaching and learning process. So, the teacher and researcher decided to develop problem-based speaking assessment to stimulate ASD students' critical thinking. From the explanation above, it can be concluded that the teacher had difficulty in arranging the assessment that could stimulate ASD students' critical thinking.

In this case, the previous researcher also found the same problem. The previous research was conducted by Hayati, Benri, and Rahmi (2017). They also found that the teacher had difficulty in arranging the assessment based on the 2013 curriculum.

Developing PBL speaking assessment model to stimulate the ASD students' creativity

The researcher also used observation, questionnaire, and interview. From the result of the observation, the researcher knew that the teacher used the discovery learning method and textbook as the media. When the teacher used discovery learning, the last step was missing, it caused the goal of the learning process wasn't achieved maximally. The questionnaire and interview showed that the teacher used a flannel picture to stimulate students' creativity. In fact, the teacher didn't use any flannel pictures to stimulate students' creativity. It was also proved by the observation in the class that the researcher didn't use any assessment to stimulate students' creativity. It can be concluded that the teacher had difficulty in arranging the assessment that can stimulate students' critical thinking and creativity in speaking. Kasim, Zulfikar, and Nasriyati (2017) also found the same result. The teacher had difficulty in applying authentic assessment. Anugrahwati and Agustine (2015) also mentioned that the teachers did not do any single assessment to assess the character education. It concludes

that most of the English teachers were not ready to implement the 2013 curriculum. As the result, the teacher couldn't improve the ASD students' creativity. Actually, the result of the documents observation, questionnaire, and interview had explained in the previous part of finding.

The PBL Speaking Assessment Model for Stimulating ASD students' creativity

The researcher helped the teacher to develop the speaking assessment model through problem-based learning. By using this method, it could stimulate ASD students' critical thinking and creativity. The researcher collaborated with the teacher to look at the basic competence in the syllabus. They decided the basic competencies and indicators. After that, the researcher and the teacher decided the method of teaching and learning activity. They used problem-based learning. There were seven meeting from five units of the lesson plan in the teaching and learning activity; every meeting consisted of opening, main activity, and closing. The differences among them were in contain the main activity. The first meeting, the teacher gave pre-test to the students. It was to know the ability of the students. In the main activity of the second meeting, there were observing, questioning, exploring, associating, and communicating. The third meeting, the main activities consisted of observing, questioning, exploring, associating, and communicating. The fourth meeting, the teacher and researcher combined the five steps in the main activity with problem-based learning steps. It was like observation became a basic concept, questioning became defining the problem, exploring became self-learning, associating became exchange knowledge, communicating became assessment. The fifth meeting, there were also four steps of problem-based learning. They were defining problem, self-learning, exchange knowledge, and assessment. The sixth meeting consisted of defining problem, self-learning, and exchange knowledge and assessment. In the last meeting, the teacher gave post-test to the students.

Before the researcher did the treatment, the researcher asked the experts to validate the problem-based speaking assessment model. There are five suggestions that were added to the product. Firstly, the teacher and researcher added the instruction to do the exercise. Secondly, the researcher and the teacher added some skill in the product, such as listening, writing, and reading. Thirdly, the researcher and teacher added media in the teaching and learning process. Fourthly, the student needed many exercises to stimulate their critical thinking and creativity. The last suggestion was about critical thinking and creativity rubric. In process of doing treatment, the researcher found some problems. The first problem was about teaching approach. The teacher combined the strategy by using lecturing, such as brainstorming and problem-solving. The previous research that was conducted by Wu, et al (2018) also used it to stimulate students'

creativity. They combine many strategies to get the greater assessment to stimulate students' creativity. In the process of stimulating students' creativity, the teacher also used group discussion, because it could stimulate the creativity of the students. The previous research was done by Dewi (2017) also used group discussion. She used it in the process of stimulating students' creativity. It can be concluded that group discussion is one of the activities that could stimulate students' creativity. Not only group discussion but also combining strategy with lecturing could improve the students' creativity too. **The PBL Speaking Assessment Model in Stimulating ASD students' CT**

The researcher found that ASD students had difficulty in mastering speaking skill because speaking was not easy to be mastered. The teacher also said that speaking was not easy to be mastered, because the ASD students had to listen and think before delivering what they wanted to say. Based on the problem above, the researcher helped the teacher in developing a speaking assessment model by using problem-based learning. The researcher collaborated with the teacher to look at the basic competence in the syllabus. They decided the basic competencies and indicators. After that, the researcher and the teacher decided the method of teaching and learning activity. They used problem-based learning. There were seven meeting in the teaching and learning activity. In the process of stimulating students' critical thinking, the teacher used individual opinion in the part of teaching and learning process. It actually happened in the fifth meeting. The students shared their opinion with the other students in their group. This technique also applied by Mulyono (2018) that he used an individual report to stimulate students critical thinking. Other research also used sharing to stimulate students' critical thinking. It had been done by Muhlisin, et al. They used sharing activity in process of stimulating students' critical thinking. From the explanation above, it concludes that sharing the students' opinion is one of the activities that can be applied to stimulate ASD students' critical thinking.

The Effectiveness of PBL Speaking Assessment to Stimulate ASD Students' CT

Problem-based speaking assessment model can stimulate the ASD students' critical thinking. It was proved from the pre-test and post-test result. From the pre-test performance, the researcher got the mean score of 3 students was 60.33 and from the post-test performance, the mean score was 75.33. Based on the post-test score, it concludes that the speaking skill of the three ASD students had improved. It was also proved by the sig (2 tailed) value (0.00) is lower than 0.05. It means that there was a significant improvement for the class in mastering speaking skill by using problem-based learning before and after the treatment conducted. To know the effectiveness of problem-based speaking assessment model in stimulating students' critical thinking, the researcher also

used pre-test and post-test. The mean score of the pre-test was 61.33, and the mean post-test score was to 74.33. From the explanation above, it can concludes that there was significant improvement between pre-test and post-test score. It was also proved by the sig (2 tailed) value (0.00) is lower than 0.05. It means that there was the significant improvement for the class in mastering speaking skill by using problem-based learning to stimulate students' critical thinking before and after the treatment conducted. In other words, the problem-based speaking assessment is effective to improve students' critical thinking. Aryulina& Riyanti (2016) also used Problem-based learning in their research. They found that problem-based learning was effective to stimulate students' critical thinking. It was also in line with Rahman, et al (2016) research. PBL gave positive impacts in enhancing critical thinking skills.

The Effectiveness of PBL Speaking Assessment to Stimulate ASD Students' Creativity

In order to know the effectiveness of problembased speaking assessment to stimulate ASD students' creativity, the researcher used pre-test and post-test. The mean score of the students' creativity was 62.67. After getting treatment, the mean score was 75.33. From the result, it concludes that there was significant improvement between before and after getting treatment. It was also proved by SPSS result. The sig (2 tailed) value (0.00) is lower than 0.05. It means that there was a significant improvement for the class in mastering speaking skill by using problem-based learning to stimulate students' creativity before and after the treatment conducted. In other words, the problem-based speaking assessment is effective to improve students' creativity. Anizifa & Zuhri (2012) also used problem-based learning in their research. The result of their research showed that problem-based learning was effective to stimulate students' creativity. Furthermore, the problem-based learning also found in the research that had done by Huang and wang (2012). Their research found that PBL had stimulated the students' creativity.

The result can be seen below:

Skills Improvement	Pre-test (Σ) means score	Post-test (Σ) means score
Speaking Skills	60.33	75.33
critical thinking skill	61.33	74.33
creativity skill	62.67	75.33

Table 1. Pre/Post Tests Means Score

Conclusions and Suggestions

This study focused on developing problem-based speaking assessment to stimulate ASD students' critical thinking and creativity. The English teacher used discovery learning method in teaching and learning process but the last step of discovery learning method was missing. So, the teacher couldn't stimulate ASD students' critical thinking. She thought that the suitable assessment for increasing critical thinking and creativity were portfolio and flannel picture. Although, she knew the assessment to increase the students' critical thinking, she was not able to stimulate students' critical thinking and creativity. To make the suitable assessment to the students, the researcher collaborated with the teacher to arrange the problem-based speaking assessment. After that, the researcher and the teacher asked the experts to validate the assessment before applying it. In stimulating the students' critical thinking and creativity of speaking skill, the students used performance retelling story. The result indicated that problem-based learning was effective for speaking skill and stimulating critical thinking and creativity. It was proved by the score result of pre-test and post-test.

From the pre-test and post-test performance, the ASD students' mean score speaking skill improvement was 60.33 to 75.33, critical thinking skill was 61.33 to 74.33 and creativity skill was 62.67 to 75.33. It was also proved by SPSS result. The sig (2 tailed) value (0.00) is lower than 0.05. It shows that there was a significant improvement for the class in mastering speaking skill by using problem-based learning to stimulate ASD students' creativity and critical thinking before and after the treatment conducted. It could be said that the problem-based speaking assessment is effective to improve ASD students' creativity.

Considering to the research findings, the teacher especially English teacher can use this problem-based speaking assessment and the teachers should develop their own assessment then it can stimulate their ASD students' critical thinking and creativity as one of the objectives in the 2013 curriculum. The other researchers can use this article as one of their references in conducting their further research on developing the problem-based speaking assessment for other genres or at other educational levels.

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