

## DEVELOPING AUTHENTIC ASSESSMENT DESIGN

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### Abstract

The study aimed at developing Authentic Assessment Design for four lessons in senior high schools namely: Bahasa Indonesia, English, Natural Science and Mathematics. It is expected that the Authentic Assessment Design that has been developed might be benefitted by teachers as a reference in designing the assessment. This Authentic Assessment Design is closely related to Lesson Plan because the learning activities that have been designed in the authentic assessment should be combined and be written into the lesson plan. The steps in designing the Authentic Assessment were as follows: (1) mapping the basic competencies and the indicators for which authentic assessment will be designed; (2) calculating effective weeks; (3) designing the authentic assessment draft; and (4) testing and revising the draft of Authentic Assessment Design so that the draft could be validated into the design. The subjects in this study were eight junior high school teachers who had been teaching Bahasa Indonesia, English, Natural Science, and Mathematics; each lesson was represented by two teachers. Each teacher designed the Authentic Assessment Design and each design was provided with two lesson plans. The results of the study showed that the Authentic Assessment Design that has been developed has high quality and might be useful to the teachers as their matter of reference in designing the authentic assessment. The evidences for these results are as follows: (1) all teachers who have been selected as the sample in this study can design the authentic assessment appropriately; (2) almost all teachers (7/8 or 87.50%) state that this Authentic Assessment Design is a new matter because they have never designed such assessment and that this authentic assessment is very useful because the assessment that they perform becomes more directed and more synchronized to the lesson plan; (3) almost all lesson plans (14/16 or 87.50%) that the teachers have designed contains more variables and more appropriate assessment techniques according to the assessment design that has been written into the Authentic Assessment Design; and (4) most of the lesson plan samples that have been designed are more qualified because they have been prepared long before they will be implemented.

Keywords: Authentic Assessment Design, Lesson Plans, Junior High School Teachers

### INTRODUCTION

One of the problems in Indonesian education up to date has been curriculum. The complexity of curriculum components demands extra attention in order to avoid overlaps in the implementation. One of the curriculum components that has very fundamental role in determining the policy or the follow up that will be taken after completing the learning process is assessment.

Assessment is a problem that has been predicted in the beginning by the experts especially in the 2013 Curriculum. In relation to the implementation of 2013 Curriculum, Bahrul Hayat (Chairman of Indonesian Educational Evaluation) stated that 2013 Curriculum has two weaknesses namely the weakness on the aspect of idealism and that on the aspect of practice. On the aspect of idealism, 2013 Curriculum always contains the learning materials

from today backward; there is no presence of learning materials from today's forward. Therefore, we are always left behind in designing the curriculum. Moreover, Bahrul Hayat explained that the weakness on the aspect of practice lies in the assessment manner. Similar statement was also provided by Kartowagiran & Jaedun (2016): based on the results of new studies there are few teachers who have been disciplined in performing assessment and there were also few teachers who have been preparing assessment set. This weakness has not been maximally solved by the teachers who in general pay attention more on the aspect of knowledge or of theory that will be delivered.

One of the existing assessment models is the authentic assessment. The authentic assessment model basically has suitability to the governing curriculum. The reason is that the domain of assessment in the latest curriculum is comprehensive and is suitable to be applied in all subjects. Based on the results of preliminary observation, the researchers found that several junior high school teachers have difficulties in developing assessment model that is appropriate to the governing curriculum. This condition is fortified by the preliminary findings that the assessment model that has been applied is still conventional and has not been adapted to the demands of the latest curriculum. This problem does not only occur to one or two subjects but also to several core subjects that have been found in junior high schools namely Bahasa Indonesia, English, Natural Science, and Mathematics.

The problems in the implementation of 2013 Curriculum are fortified by the government's opinion (Team of 2013 Curriculum Socialization) that states several weaknesses of the present curriculum (2006 Curriculum). One of those weaknesses is that the assessment standards have not been directed to the competence-based assessment (attitudes, skills, and knowledge) and has not strictly demanded the presence of continual remediation.

The problems in this study start from the design to the implementation and this aspect should be totally mastered by the teachers. In the practice, the subject teachers in junior high schools still have difficulties in performing assessment because they do not have clear procedures in designing the assessment, namely the assessment design. This matter is shown by the steps of designing lesson plan that should be initiated by steps of designing assessment. As a result, the resulted assessment model becomes inefficient. From this point, it is necessary to perform in-depth review regarding the model of authentic assessment design that might be implemented maximally and that might be a solution for the teachers' problems nowadays. The specification of the resulted product in this research and development is a model of accurate and trusted authentic assessment design that has been accompanied with the test results that prove the model feasibility.

## **LITERATURE REVIEW**

### ***2013 Curriculum***

Law of Republic Indonesia Number 20 Year 2003 regarding National Education System Verse 1 Article 19 explains that curriculum is a set of plans and arrangement regarding learning objectives, learning contents, and learning materials along with the methods that will be applied as the guidelines in performing learning activities in order to achieve certain

educational objectives. Similarly, Singla and Gupta (2009) explained that curriculum is an attempt to communicate the essential features of educational programs, preferably using specific objectives and a systematic approach to the design and management to teaching and learning. In other words, curriculum is the efforts performed by a set of important elements in education that have been referred to as guidelines in designing and in managing the learning in order to achieve the objectives that have been formulated.

According to 2013 Curriculum, the Standards of Graduation Competencies (SKL, *Standar Kompetensi Kelulusan*) that have been formulated for junior high schools/*madrasah tsanawiyah* are applied in order to formulate the competencies that will be necessary for meeting these standards. The achievement of these competencies at the end of each grade, from Grade VII to Grade IX, is known as Core Competencies (2013 Curriculum). In order to support the Core Competencies, the achievement of subject learning is elaborated into several basic competencies.

The detailed elaboration of these basic competencies aims at ensuring that the learning achievement will not stop in the knowledge but, instead, will continue to the skills and to the attitudes. Through the Core Competencies, each subject is emphasized to not only contain knowledge but also process that will be useful for the students' skills formation. In addition, the elaboration also contains messages regarding the importance of understanding the related subject as part of the students' attitudes formation. This is important recalling that knowledge competencies are dynamic because knowledge is expanding.

The above elaboration might only be pursued by well-qualified teachers, the ones who have willingness to perform well and who have sufficient competencies. Well-qualified teachers will be able to provide well-qualified learning process. This is in line with the opinion by Mazano (2011), who stated that the more the teachers perform positive activities in classrooms the higher the students' learning achievement will be. On the other hand, Barber and Mourshed (2012) stated that the students' learning achievement starts from effective teachers and principals. Even on the other part Barber and Mourshed explained that student placed with high performing teachers will progress three times as fast as those placed with low performing teachers.

### ***Authentic Assessment***

Authentic assessment is an assessment that has been conducted in order to review the learning input, process, and output (Permendikbud Nomor 66 Tahun 2013 tentang Standar Penilaian). Comprehensive assessment is an assessment that includes knowledge, skills, spiritual attitudes, and social attitudes.

According to Zainul (2001), authentic assessment or performance assessment is a multidimensional student's behavioral assessment for real situations. This assessment does not only use paper-and-pencil test or written test but also several other methods, for example: action test, assignment provision, and portfolio. This assessment is always conducted on learning context and is inseparable from situations that have been dealt with. On the contrary, Earl and Hargreaves (2002), based on the results of their study, stated that: (1) teachers are more fond of using authentic assessment because the test items that they will administer

should not be tested first; (2) through the use of authentic assessment, a collaborative understanding among teachers, students, and parents might be established because the authentic assessment review each student's activity and sometimes involves parents; and (3) authentic assessment is also able to provide feedback for the teachers themselves.

Teachers might perform this assessment at anytime both through direct observation and daily test. Through the direct observation, teachers might identify the progress and the achievement of their students' attitudes. In sum, the assessment should be the means for improving the teacher's teaching style, known as the assessment for learning (AfL), and be the means for improving the students' learning, known as assessment as learning (AaL).

Thereby, the researchers might define that the authentic assessment might take the form of oral test but the authentic assessment is not only a matter of oral test or is the oral test itself. The authentic assessment can also be conducted by means of observation but it is not only a matter of observation technique or is the observation technique itself. In other words, authentic assessment is an assessment that employs multiple assessment techniques so that the teachers are able to assess comprehensively the knowledge competencies, the skills knowledge, and the attitudes competencies of the graduates.

The authentic assessment might also be performed by involving students. According to Stiggins and Chapuis (2012), there are five keys of success in performing assessment that involves students namely:

1. After having informed the appropriate answers in the given assignments, students are asked to correct their own answers.
2. At the beginning of the meeting, teacher should always remind the importance of work quality.
3. Teacher gives examples in scoring the students' artwork accurately; therefore, teacher should use rubrics in scoring the students' work (for example: essay test items).
4. Students are also exercised to score their own tests accurately; as a result, they should be trained to use the scoring rubrics to their own works including their tests.
5. Teacher should really pay attention to the students' learning achievement and should inform the achievement to them.

The five keys of success above are implemented into the integrated assessment within the learning process. This type of assessment does not only identify the students' learning progress and advancement but also encourage them to be honest, to be responsible, to be highly aspired, to deeply understand the competencies that they are learning, to be skillful in scoring their own works, to appreciate other students' works, and to identify their learning results and progress. However, it should be understood that these five keys of success are not a panacea that might be applied to all types of students' conditions. According to Reeves (2009), the reason is that an individual will change if he or she is highly motivated and have supports from his or her relatives and peers.

Moreover, Stiggins and Chapuis (2012) explained that classroom assessment will be qualified if: (1) the assessment objective is clear; (2) the assessment target is clear; (3) the assessment design is appropriate; and (4) the assessment report is content-accurate and target-accurate. The assessment that a teacher conducts should be clear in terms of objective:

whether it is intended for selection, diagnosis, formative learning results, or summative learning results. The formative learning results assessment emphasizes more on the use of learning results for improving the learning process and for motivating the students, while the summative learning results assessment emphasizes more on the students' learning achievement.

The assessment target should be clear: what skills that will be assess should have clear definition and coverage. Assessing the students' mathematics mastery after they have been learning the subject for one semester will certainly be different than assessing their mathematics mastery after they have been learning the subject for one year. The assessment clear should be clear: when the assessment will be conducted, what aspects that will be assessed, and what assessment technique that will be implemented should be clear. The Authentic Assessment Design should be compatible to the Lesson Plan. The good Authentic Assessment Design should also contain the assessment toward all competencies that will be achieved in a learning process and should be able to involve the students actively. The assessment that involves the students will encourage them to be honest, to be responsible, to be highly aspired, to understand deeply the competencies that they are learning, to be skillful in assessing their own works and to appreciate other students' works. On the other hand, the professional assessment is able to encourage the students to be honest, be objective, be open, be fair, be cooperative systematically, be performing well, and be responsible.

## **METHODOLOGY**

This study was a research and development. The subjects in this study were eight junior high school teachers who taught Bahasa Indonesia, English, Natural Science, and Mathematics; each subject was represented by two teachers. Every teacher drafted one Authentic Assessment Design and each design was supplied with two samples of Lesson Plan. The data gathering method that the researchers employed were questionnaire, interview, and observation. The questionnaire was employed in order to uncover the implementation of learning results assessment based on the Authentic Assessment Design that had been developed and the obstacles that the teachers experienced. Then, the interview and the observation were employed in order to validate and complete the data that had not been gathered through the questionnaire.

The data analysis techniques that the researchers employed in this study were quantitative descriptive statistic technique and qualitative descriptive statistic technique. The descriptive quantitative statistic technique was employed in order to describe the percentage of the teachers who had been able to make the Authentic Assessment Design. On the other hand, the descriptive qualitative statistic technique was employed in order to describe comments about the strengths and the weaknesses of the Authentic Assessment Design that had been developed.

## RESULTS

The Authentic Assessment Design was an assessment design that the teachers would implement for one semester. Therefore, in the designing process the teachers should map the Basic Competencies and the indicators that belonged to the odd and the even semester by referring to 2016 Syllabus from the Ministry of Education and Culture. The syllabus had already contained the Basic Competencies, the Learning Materials, and the Learning Activities. Unfortunately, the Indicators had not been prepared and, therefore, the indicators should be developed based on the Basic Competencies mapping. The results of Basic Competencies and the Indicators mapping became the matter of reference in drafting the Authentic Assessment Design. The steps in drafting the Authentic Assessment Design were summarized in Figure 1.

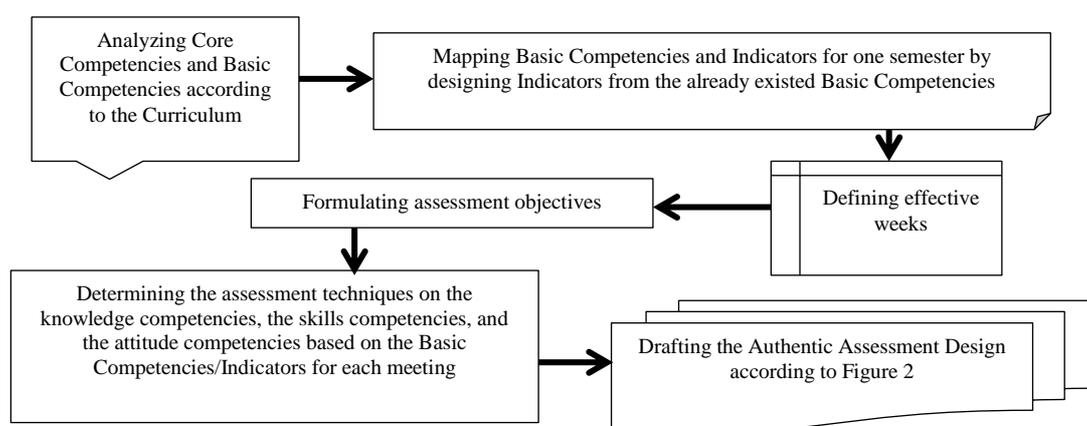


Figure 1. The Flowchart of Authentic Assessment Design Draft

Table 1. The Results of the Basic Competencies and the Indicators that had been Developed by the Teachers based on the Subjects

No	Subject	Competencies	Number of Basic Competencies	Number of Indicators	Notes
1	Mathematics	Skills Competencies	8	14	Grade VIII Semester 2
		Knowledge Competencies	8	29	
2	Natural Science	Skills Competencies	7	15	Grade VIII Semester 2
		Knowledge Competencies	7	49	
3	Bahasa Indonesia	Skills Competencies	8	20	Grade VIII Semester 2
		Knowledge Competencies	8	29	
4	English	Skills Competencies	6	19	Grade VIII Semester 2
		Knowledge Competencies	6	32	

The steps in mapping the Basic Competencies and the Indicators were as follows: 1) preparing the syllabus; 2) determining the Basic Competencies which Authentic Assessment Design would be drafted in one semester; 3) developing the Indicators from the Basic Competencies that had been selected; and 4) compiling the Basic Competencies, the Indicators, the Learning Materials, and the Learning Activities in a format that would be understood easily. The results of the Basic Competencies and the Indicators mapping for

Mathematics, Natural Science, Bahasa Indonesia, and English in Grade VII and Grade VIII of Junior High Schools were summarized in Table 1.

The Basic Competencies and the Indicators that had been attained based on the results displayed in Table 1 would be learned during the effective weeks in one semester. The effective weeks referred by the researchers in this study were the ones that would be used for the learning activities and the formative/classroom assessment. The calculation of the effective weeks was intended to identify the number of effective weeks in one semester according to the academic calendar. The analysis of effective weeks within one semester was formulated as follows:

$$\text{Number of effective weeks} = \text{Number of weeks in one semester} - \text{Number of non-effective weeks in one semester}$$

There were 25 weeks and 9 non-effective weeks in 2016/2017 Academic Year; the non-effective weeks consisted of Eid Mubarak Holiday, students' orientation period, preparation of Independence Day celebration, final examination, Week of Sports, Arts, and Creativity, and Learning Reports Handover. As a result, the number of effective weeks was 17 weeks. Based on the results of effective week analysis and the number of weekly learning period, the researchers found the following results: there were 34 meetings in Mathematics, 34 meetings in Natural Science, 51 meetings in Bahasa Indonesia, and 34 meetings in English. After identifying the number of meeting in one semester for each subject, the teachers drafted the Authentic Assessment Design which consisted of:

1. Assessment design identity, namely subject, school's name, school's address, and teacher's name; and
2. Table of assessment design containing:
  - a. Meeting No.: ...
  - b. Basic Competencies No.: ...
  - c. Indicators No.: ...
  - d. Assessment that included knowledge competencies, skills competencies, and attitudes competencies. An example of the authentic assessment design was presented in Figure 2.

The initial draft of the authentic assessment design that had been developed then was discussed in a Focused Group Discussion (FGD) on Tuesday, October 15<sup>th</sup>, 2016 in the Post-Graduate Programs of Universitas Negeri Yogyakarta. The participants of this FGD were 8 experts namely two Mathematics Education experts, two Natural Science Education experts, two Bahasa Indonesia experts, and two English Education experts; these experts came from Universitas Negeri Yogyakarta, Universitas Sarjanawiyata Tamansiswa, and STKIP Hamzanwadi. Based on the assessment by these experts, the researchers found that in overall the draft of authentic assessment design for the junior high schools had belonged to the "Very Good" category with mean 4.38. However, this initial draft should undergo several revisions as follows: 1) the aspects of writing mechanism, such as the writing of school's name, should be reviewed again; 2) the mathematical skills should be measured by the administration of problem-solving test items; 3) there should be emphasis on the four communicative competencies in language namely reading, listening, speaking, and writing; and 4) the steps

in the practice of Natural Science subject should be more systematic. The results of expert judgment would be the basis of revision and the results of the revision would be employed as a sample in training the draft of authentic assessment design for the users, namely the junior high school teachers.

<b>Table Authentic Assessment Design</b>					
Subject/Code		: English			
School's Name		: SMPN 5 X			
School's Address/Phone No.		: Wirawan Street No. 1 Yogyakarta			
Teacher's Name		: SM, S.Pd			
Meeting No.	BC No.	Indicator No.	Assessment		
			Knowledge	Skills	Attitudes

Figure 2. Authentic Assessment Design

Notes:

1. Meeting No.: ... was supplied by the meeting number based on the mapping of Basic Competencies and Indicators.
2. Basic Competencies (BC) No.: ... was supplied by the basic competencies number according to the mapping of Basic Competencies and Indicators.
3. Indicators No.: ... was supplied with by the indicators number according to the mapping of Basic Competencies and Indicators.
4. The Assessment Column for Knowledge Competencies was supplied by the assessment technique that would be employed in uncovering the knowledge that the students should master in the meeting and by the substances of the knowledge.
5. The Assessment Column for Skills Competencies was supplied by the assessment technique that would be employed in uncovering the skills that the students should master in the meeting and by the substances of the skills.
6. The Assessment Column for Attitudes Competencies was supplied by the assessment technique that would be employed in uncovering the attitudes that the students should master in the meeting and by the substances of the attitudes.

The results of the study showed that the Authentic Assessment Design that had been developed was of high quality and might be employed by teachers as their reference in drafting the authentic assessment. The high quality was found in the following evidence: (1) all teachers who became the subject in this study could draft the Authentic Assessment Design appropriately; (2) almost all teachers (7/8 or 87.50%) stated that the Authentic Assessment Design had been a new matter for them because they had never drafted such assessment and this Authentic Assessment Design was very useful because the assessment that the teachers should conduct became more directed and more synchronized with the Lesson Plan; (3) almost all of the Lesson Plans that the teacher designed (14/16 or 87.50%) contained the assessment that had been more various and more suitable to the design that had been written in the Authentic Assessment Design; and (4) most of the assessment

samples that had been drafted by the teachers were more qualified because these samples had been prepared in a long period.

## **DISCUSSIONS AND CONCLUSIONS**

This Authentic Assessment Design is closely related to the Lesson Plan. The assessment activities that have been designed in the Authentic Assessment Design should be incorporated and be written into the Lesson Plan. With the good authentic assessment, the learning process will be good as well. Essentially, learning activities have several stages that should be undergone by a teacher in the formal education and these stages include learning set design, implementation in classroom, and assessment. Assessment has an important role as having been stated by Martinez, Stecher, and Borko (2009); they stated that teacher's assessment to the students' achievement has an important role in the classroom and on the decisions that a school makes, including the learning plan, situation, filter and submission and also communication with foster parents.

Learning results assessment by teachers is conducted continuously in order to monitor the students' process, progress, and result improvement in the form of tasks, daily tests, mid-semester examinations, final semester examinations, or grade promotion or final examinations. Learning results assessment by teachers is also implemented in order to score the students' competence achievement, the composition of learning results report, and the learning process improvement. The learning objectives in an educational unit are set based on the graduate competence standards for each subject. The subjects that become the focus in this study are the ones that had been included in the National Examination namely Mathematics, Bahasa Indonesia, English, and Natural Science. In order to identify the achievement of graduate competence standards for each subject, there should be a comprehensive assessment. A comprehensive assessment is the assessment that includes knowledge, skills, and attitudes (spiritual ones and social ones). An assessment that has been conducted in comprehensive manner in order to assess the learning input, the learning process, and the learning output is known as authentic assessment (Permendikbud Nomor 66 Tahun 2013 tentang Standar Penilaian). In order to implement the authentic assessment, there should be good planning and in this study the planning is regarded as authentic assessment design.

The Authentic Assessment Design aims at providing easiness for teachers in implementing the learning process in one semester. The easiness is proven by the fact in this study that all teachers who become the subjects in this study can draft the Authentic Assessment Design appropriately; 87.50% of the teachers state that this Authentic Assessment Design is a new matter because they have never designed such assessment previously and that this Authentic Assessment Design is very useful because the assessment that the teachers conduct becomes more directed and more synchronized to the Lesson Plan. With the assessment design that has been planned at the beginning of a semester, the teachers might carry out their teaching tasks well without having to be burdened by what type of assessment that they should implement in order to assess the learning achievement in certain

materials after the learning process has progressed. The Lesson Plan design starts from the mapping of Basic Competencies and Indicators that belong to the odd semester and the even semester by referring to the 2016 Syllabus from the Ministry of Education and Culture. The results of this development are strengthened by the opinion by Reeves (2010): one of the steps for improving the learning process through the assessment that teachers might conduct is identifying the important components within the syllabus.

The assessment on the knowledge competencies and the skills competencies is adjusted to the subject needs. The assessment on both competencies for Bahasa Indonesia will not be similar to that on both competencies for Natural Science or Mathematics and vice versa. The assessment on the knowledge competencies and the skills competencies in Mathematics makes use of performance appraisal, portfolio, and test instrument namely multiple choice and essay.

The assessment on the knowledge competencies and the skills competencies for Bahasa Indonesia makes use of test instrument, namely multiple choice and essay, along with subject practice. On the other hand, the assessment on the knowledge competencies and the skills competencies for English makes use of test instrument, namely multiple choice and essay, performance appraisal, and assignment. Next, the assessment on the knowledge competencies and the skills competencies for Natural Science makes use of practice test, project assignment, and instrument test namely multiple choice and essay. All of these subjects make use of test instrument in the form of multiple choice and essay for the daily test, the mid-semester examination, and the grade promotion or final examination. The various assessments from each subject according to the learning materials are an application of the authentic assessment. This matter is strengthened by the opinion by Zainul (2001): authentic assessment or performance assessment is a multidimensional student's behavioral assessment in the real situations. Such assessment does not only make use of paper and pencil or written test but also multiple methods such as action test, assignment provision, and portfolio.

## CONCLUSIONS

This study concluded that the good Authentic Assessment Design is the one that has been compatible to the Lesson Plan and that has been able to contain the assessment on all competencies that will be achieved in the learning process. The good Authentic Assessment Design consists of assessment design identity and assessment design table. The intended identity is the name of the subject's name, the school's name, the school's address, and the teacher's name. Then, the assessment table consists of four columns namely the column of meeting number, the column of basic competencies, the column of indicator number, and the column of assessment. The assessment column itself is divided into three sub-columns namely knowledge, skills, and attitudes. Based on the results of expert judgment, the researchers conclude that in overall the draft of authentic assessment design for junior high schools has belonged to the "Very Good" category with mean 4.38. The results of the study show that the Authentic Assessment Design is a new matter and is very useful because the

assessment that the teacher conducts become more directed and more synchronized to the Lesson Plan. In addition, 87.50% of the Lesson Plans that have been designed by the teachers in this study contain the assessment techniques that are more variable and more appropriate to the Authentic Assessment Design.

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