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Assessment Literacy Profile of Science Teachers in SMAN 1 Gubug

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ABSTRACT

Assessment is an integrated part of the planning and implementation process of learning. The transition from KTSP to the 2013 curriculum is a problem for teachers in applying assessment skills in learning, because teachers still have difficulty implementing authentic assessments and still use assessments in terms of cognitive tests only (Setiadi, 2016). This study aims to determine the literacy profile of science teacher assessments at SMA Negeri 1 Gubug and the assessment used by science teachers. This is because there is no source of research on teacher awareness of assessment in SMA Negeri 1 Gubug. This research uses descriptive quantitative research method, with purposive sampling. The instruments used in this research are the assessment literacy test, interview guidelines, questionnaires, and check list sheets. Based on the results of data analysis and discussion, it can be concluded that the assessment literacy profile of science teachers at SMA Negeri 1 Gubug is based on PAP Type II is in the "Very Low" category (assessment literacy questionnaire) and "Low" category (interview results). The teacher has the highest score with a score of 86% on the aspect of the difficulty of using the assessment, while the lowest score is on the aspect of attitude assessment by getting a score of 18%. The implication of this study is that by knowing the literacy assessment profile, teachers can understand and implement the importance of assessment so that this can be used as a benchmark in improving the quality of learning.

Introduction

The curriculum is the key to education, because the curriculum is the direction, content, and all processes in education. The contents contained in the main objectives of the curriculum include objectives, content or material, the process of delivering material and evaluation (Fatonah, 2016). Based on Permendikbud number 65 of (2013) concerning process standards and Permendikbud number 66 of (2013) concerning assessment standards, the demands of the 2013 curriculum contain authentic assessments of processes and outcomes that include 3 aspects of assessment, namely cognitive, psychomotor and affective. The assessment is emphasized on the average of the three domains as a whole according to the indicators in learning (Fatonah, 2016). The transition from KTSP to the

2013 curriculum is a problem for teachers in applying assessment skills in learning, because teachers still have difficulty implementing authentic assessments and still use assessments in terms of cognitive tests only (Setiadi, 2016). Based on this research, it is known that 145 teachers in Indonesia are still having difficulties in carrying out assessments in the 2013 curriculum (Gabel, 1993; Banta et al, 1996; Winahyu, 1993; Ramdi, 1999; Iskandar, 2000) quoted in Wulan (2007) proves that the use of teacher assessment in schools is still very limited. This is in accordance with Iskandar quoted in Wulan (2007) regarding the difficulties of teachers in carrying out performance assessments in schools. Based on Wulan (2010), it is known that only 44.59% of biology teachers from various schools in West Java optimize the assessment. Based on the description of the problem, teacher assessment literacy is very important to have.

According to Stiggins & Stiggins (2002) assessment literacy is the ability to collect reliable information, the quality of student achievement and the ability to use information effectively to maximize student achievement. Meanwhile, according to the Organization for Economic Corporation and Development (2004) and the American Association for the Advancement of Science (1993) assessment literacy is the capacity to use scientific knowledge, identify questions and draw conclusions based on facts to understand and make decisions about changes that occur because of human activity.

Khadijeh & Amir (2015) explain that assessment literacy is important for teachers because a teacher can interpret assessment data, communicate with students about the status of their learning understanding and use assessment information to manage the time used to achieve learning objectives. Based on this, it is necessary to conduct this research to find out "What is the assessment literacy profile of Science teachers in SMAN 1 Gubug so that the quality of the assessment can be increased and student competency can be measured as a whole?".

Research Methods

This study uses the Quantitative Descriptive research method aimed at finding a picture of the teacher's awareness of assessment in learning, with the observed focus being assessment literacy and teacher assessments. The population in this study were all teachers at SMA Negeri 1 Gubug, while the samples in this study were all science teachers in grades X, XI, and XII totaling 9 people (4 Biology teachers, 3 Chemistry teachers and 2 Physics teachers) with a sampling technique using purposive sampling. Instruments in the research include teacher assessment literacy questionnaires, interview guidelines, assessment literacy test, checklist sheets for teacher assessment portfolio completeness. The questionnaires contains questions about assessment procedures, the use of assessments in learning, totaling 15 questions. The questionnaire was made based on a grid containing indicators which were developed into questions related to the teacher's assessment literacy profile. The teacher assessment literacy test are intended to obtain data about the teacher's knowledge of the assessment. The contents of the test are about assessment definitions, assessment principles, assessment mechanisms, research methods and forms of assessment. There are 50 questions in the form of multiple choices. The data collection techniques are

triangulation and inductive/qualitative data analysis and the results of qualitative research emphasize meaning rather than generalization. The data obtained were analyzed and categorized through literacy assessment criteria based on PAP II (Masidjo, 1995) as follows:

Table 3. 2 Criteria for Assessment Literacy Level Based on PAP II

Assessment Literacy Mastery Level	Letter Value	Category
81% - 100%	A	Very high
66% - 80%	B	High
56% - 65%	C	Quite high
45% - 55%	D	Low
< 46%	E	Very Low

Findings

The data from this research can be obtained by providing test and assessment literacy questionnaires, the questions in this test are related to the assessment literacy possessed by the science teacher, the number of questions completed by the teacher include: 50 assessment test items and 15 assessment literacy questionnaire items. The results of the literacy assessment test and questionnaire in more detail can be seen in Table 2.

Table 2. The results of the literacy test for the science teacher assessment of SMA N 1 Gubug

No	Subject teachers	Grade	% Assessment Literacy	% Average Literacy Assessment	% Average and Literacy Assessment Category
1	Biology	X	68%	61,5%	Average = 59,93% Category : Quite high
2	Teacher	XI	42%		
3		XII (1)	64%		
4		XII (2)	72%		
5	Chemistry	XI	72%	61,3%	
6	teacher	XII (1)	48%		
7		XII (2)	64%		
8	Physics	X	54%	57%	
9	teacher	XI	60%		

Based on Table 2, it is known that the average literacy assessment of science teachers based on test results is 59.93% which is included in the quite high category.

Table 3. The results of the literacy assessment questionnaire for science teachers at SMA N 1 Gubug

No	Subject teachers	Grade	% Assessment Literacy	% Average Literacy Assessment	% Average and Literacy Assessment Category
1	Biology	X	36%	21,75%	Average = 24,08% Category: Very Low
2	Teacher	XI	16%		
3		XII (1)	24%		
4		XII (2)	11%		
5	Chemistry	XI	20%	30%	
6	teacher	XII (1)	37%		
7		XII (2)	33%		

8	Physics	X	8%	20,5%
9	teacher	XI	33%	

Based on Table 3, it is known that the average literacy of science teacher assessment based on a questionnaire is 24.08% which is included in the very low category.

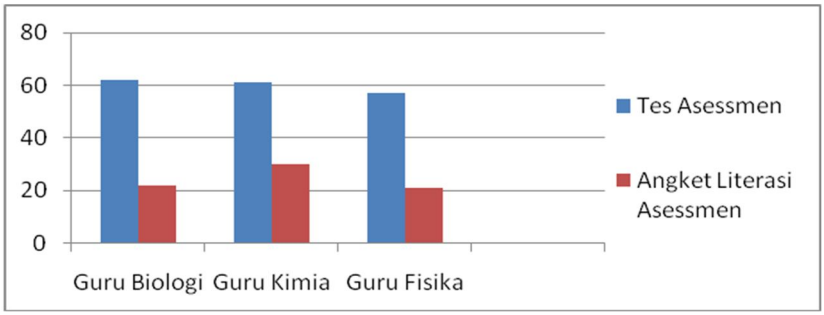

Figure 1. Literacy assessment of SMAN 1 Gubug science teachers based on tests and questionnaires

In addition to being obtained through tests and questionnaires, teacher assessment literacy was also obtained from interviews. The questions sourced from Setiadi (2016) include the importance of assessment, the benefits of conducting an assessment, the stage of preparing the assessment, compiling a grid, taking time to test questions, follow-up in learning, attitude assessment, evidence of attitude assessment, preparation of scores, student assessments. skilled in practicum, portfolio-based assessment, writing 2013 curriculum report, difficulties in using assessments and teacher activities in increasing assessment knowledge. Data regarding teacher assessment literacy based on interview results can be seen in Table 4.

Table 4. Percentage of Literacy assessment of SMAN 1 Gubug science teachers based on interviews

No	Aspects	% Assessment Literacy	Information
1.	The importance of assessment	80%	Most of the teachers know the importance of assessment in learning and have even implemented assessment in learning.
2.	Assessment benefits	45%	The teacher understands the benefits of assessment, but the benefits stated are still theoretical benefits.
3.	Stages of preparing the assessment	43%	Teachers already understand the importance of assessment, but most teachers do not understand the stages of preparing the assessment. Biology, Chemistry and Physics teachers still only use questions from textbooks and have not developed their own evaluation questions.
4.	Arrangement of grids	45%	The teacher knows the importance of arranging the grid for learning, but the statements made by the teacher are still theoretical.
5.	Spend time testing questions	35%	The teacher knows the importance of the assessment and the usefulness of the test questions in learning, but the teacher does not test the questions because the teacher's activities are more and not just teaching.
6.	Follow-up in learning	35%	The teacher carries out follow-up in learning such as 'remedies', but when implementing follow-up in

			learning, the teacher does not analyze the difficulties experienced by students, so that the implementation of 'remedies' is directly carried out without prior analysis.
7.	Attitude assessment	18%	Teachers have difficulty in assessing attitudes, including teachers having difficulty in making attitude assessment tools such as observation sheets, self-assessment sheets, assessments between friends, and insufficient time to conduct attitude assessments with all aspects that must be applied in learning.
8.	Evidence of assessment tools	10%	Teachers have difficulty in assessing attitudes, while for evidence of assessment tools only 3 teachers can provide evidence of assessment. The assessment is in the form of a checklist and a + sign in front of the student's absent name, which means that when the number of + signs increases, the student is active and has a plus point value.
9.	Scoring arrangement	31%	The teacher can mention the assessment tool used in learning, but it is only theoretical and it is still rare to find the availability of scoring or assessment guidelines used, the teacher only arranges the right proportion for each assessment question.
10.	Assessment of skilled students in practicum	34%	The teacher gives motivation to students when there are children who are skilled in practicum, while the theory is below the average theoretical only. But in learning, so far the teacher has not found a case like this.
11.	Portfolio-based assessment	36%	The teacher carries out the preparation of portfolio-based assessments that are less precise, the teacher has not compiled the assessments that should be made the teacher only compiles portfolio-based assessments based on the core of the assignments made by students, so the teacher must read one by one first.
12.	Writing report of 2013 curriculum	71%	The teacher admitted that in descriptive writing, the 2013 curriculum report did not have problems in its preparation, because in its preparation the teacher had used an e-report which made it easy to prepare.
13.	Difficulty using assessment	86%	Teachers experience obstacles in implementing assessments in learning, including teachers having difficulty in applying the 3 assessment competencies that take up a lot of time, teachers find it difficult to implement because they have to prepare various administrations.
14.	Teacher activities in increasing assessment knowledge	68%	Teachers participate in activities to improve assessment knowledge, including the majority of teachers participating in district level MGMP activities, internal IHT (In House Training).

Based on the percentage of teachers, the results of interviews from 9 science teachers at SMA Negeri 1 Gubug have the results described as follows:

$$P = \frac{637}{1400} \times 100\% = 45\%$$

Based on the results of the assessment interviews of the science teachers at SMA Negeri 1 Gubug, the average score of 45% for the assessment interviews, based on the Type II PAP, namely the assessment interviews of science teachers at SMA Negeri 1 Gubug was in the "Low" category.

Discussion

The literacy profile of the science teacher assessment of SMAN 1 Gubug in this study was obtained from the results of the assessment literacy test, questionnaire, and interviews. Based on the data analysis, it is known that the average % of assessment literacy from the test results is included in the "quite high" category (59.93%). This is not in line with the % average literacy assessment from the results of the questionnaire which is included in the "very low" category (24.08%). These results can be influenced by the questions given during the study. Some of the assessment literacy test questions that were tested were adapted from the teacher competency test. The teacher stated that the questions tested had been met by the teacher when taking the teacher competency test and teacher professional education tests, so that some questions regarding the assessment, the teacher could answer correctly. Meanwhile, the answers to the assessment literacy questionnaire were the original answers from the teachers which were answered based on the teacher's knowledge and experience related to the assessment. So it can be concluded that the more valid data is the result of the literacy assessment questionnaire which is in the very low category.

Assessment has an important meaning, both for students, teachers and schools (Arikunto, 2013). Based on the results of interviews, it is known that 80% of teachers have understood the importance of assessment including teachers who know the importance of assessment which aims to obtain information about the extent to which student learning outcomes have been achieved, besides that teachers also know that assessments can also recap the results of student performance, and assessment is the main task of the teacher. This statement is also in accordance with Bayat & Amir (2015) which explains that it is important for teachers to have assessments because teachers can interpret assessment data, communicate with students about the status of their learning understanding and use assessment information to measure the time used to achieve learning objectives. However, the high awareness of teachers on the importance of this assessment is not followed by awareness of the benefits of the assessment. This can be seen from the results of interviews which show that only 45% of teachers know the benefits of assessment. This is because the benefits stated by the teacher are only limited to theoretical benefits, not to the practical benefits obtained after implementing the assessment.

Assessment is a step to collect various information that is used to determine learning process policies on a national scale (Uno, 2012) and (Custer et al., 2000) . The stages of preparing assessments or careful planning in the assessment such as making instrument grids, are expected to provide accurate information about the measured student competencies, encourage students to be more active in improving their competencies, motivate teaching educators to improve institutional performance and improving the quality of education. The results of interviews with science teachers at SMA Negeri 1 Gubug showed that 43% of teachers did not understand and properly implement the stages of preparing the assessment. This is not in line with Permendikbud No. 23 of (2016) that there are 8 assessment procedures by educators, namely: 1) setting assessment objectives that refer to the RPP that has been prepared, 2) compiling assessment grids, 3) making assessment instruments along with assessment guidelines, 4) analyze the quality of the instrument 5) conduct an assessment, 6) process, analyze and interpret the results of the assessment, 7)

report the results of the assessment, 8) utilize the report on the results of the assessment. Based on the role of an assessment process, the assessment is carried out by complying with several rules. In an assessment process there are several steps that must be taken in order to provide a more meaningful and authentic assessment. This is very necessary so that the results of the assessment can be utilized by many parties involved in education and related to the object being assessed.

The grid is a plan in the preparation of the test. With the grid it will make it easier to prepare appropriate tests and represent the material that has been given in the learning process. The lattice table of questions is then associated with the form of the item used and also associated with the level of ability to be measured. The results of interviews about aspects of the preparation of the lattice questions are known that 45% of teachers still do not understand the importance of the lattice and are still having difficulties in composing the lattice. This is not in line with which stated that the grid must be made before the process of preparing the assessment instrument. The grid is very important for educators before compiling an assessment. The assessment grid is a description of the scope and content of what will be tested, and provides details on the techniques and forms of instruments required for the assessment. If the question does not refer to the grid, it has great potential to be inconsistent with the indicators of competency achievement.

According to the criteria for the success of writing a good question, the teacher should conduct a qualitative instrument analysis based on considerations of substance, construction, and language, as well as an analysis based on the test results, then from the results of qualitative instrument analysis, the teacher must choose good items so that the instrument meets the valid and reliable criteria (Rumiati, 2011) . The results of interviews with science teachers at SMA Negeri 1 Gubug got a score of 35% which means they have low scores regarding test questions in learning, this is because teachers have not maximized test questions in learning so that the questions become valid. Basically, the teacher does not need to take special time to try out questions. The results of the formative or summative exams in class can actually be used to fill out report, the questions that have been used should also be analyzed quantitatively, then selected based on qualitative analysis, after that questions that have good characteristics can be saved as a Question Bank. This is in line with (Lissitz & Samuelsen (2007), stating that the analysis of the items used can be one of the validation efforts based on empirical data analysis. Thus, the teacher does not need a special time for testing questions. Each subject can collect questions with good quality (valid and reliable) in the Question Bank so that they are ready to be used whenever needed.

Follow-up evaluation of learning needs to be understood and carried out by every educator, if the report on the results of the evaluation of learning is lacking, then what must be done by educators is to take special education policies for the students concerned. And based on the results of this evaluation, a teacher can design follow-up activities that need to be carried out. Based on the results of the final activity (reviewing student mastery or carrying out an assessment), the teacher can find out the level of success of the learning that has been carried out. In principle, follow-up learning activities are carried out to optimize student learning outcomes in the form of enrichment and remedial. The results of interviews with science teachers at SMA Negeri 1 Gubug got a score of 35% which means they have low

scores regarding follow-up in learning. This is because the teacher carries out follow-up in learning such as remedial but when implementing follow-up in learning the teacher does not analyze the difficulties experienced by students, so that remedial implementation is carried out directly without prior analysis. This is different from the opinion of Mukhtar (2007) that in the learning process at school, learning activities do not always run smoothly, usually teachers will predict students who have low achievement, are considered students who have learning difficulties or disorders. In this case the teacher can help or provide learning assistance to students, one of which is by means of remedial teaching which is intended to find deficiencies experienced by students in learning. This remedial teaching is essentially an "assistance" effort to improve student learning achievement in accordance with the goals that have been set, both in the form of treatment, teaching, and guidance in experiencing learning difficulties experienced by students.

Conclusion

Based on the results of data analysis and discussion, it can be concluded that the assessment literacy profile of science teachers at SMA Negeri 1 Gubug based on PAP Type II is in the "Very Low" category (assessment literacy questionnaire) and "Low" category (interview results). The teacher has the highest score on the aspect of the difficulty of using the assessment, while the lowest score is on the aspect of attitude assessment. The implication of this study is that by knowing the literacy assessment profile, teachers can understand and implement the importance of assessment so that this can be used as a benchmark in improving the quality of learning.

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