

**K-12 CLASSROOM ASSESSMENT: TEACHERS' KNOWLEDGE AND PRACTICES IN SECONDARY MATHEMATICS**

**Kathlene Mae L. Sabado**

*Alicia National High School (Senior High School)*

*kmal51185@gmail.com*

**ABSTRACT**

*This mixed methods research investigated the knowledge and practices on classroom assessment of 18 purposively selected mathematics public high school teachers of Alicia, Isabela. Data were gathered through survey questionnaire, observation, and focus group discussion and analyzed through descriptive statistics and t-test. Findings revealed that the participants were very knowledgeable on most components of DepEd Order No. 8, s. 2015 but limited in other areas. Their knowledge of the grading system was satisfactory, and their assessment literacy was very satisfactory. Professional development was focused largely on testing and grading. Students were completely assessed individually but moderately assessed collaboratively. Sharing and evaluating learning intentions and success criteria with the learners was slightly evident and tracking learners' progress in comparison to formative results prior to the lesson was moderately evident. The classroom assessment preference was the 'assessment for learning' and least on 'assessment to inform.' The most preferred practices in assessment tasks were those that allow them to know whether their students can recall what is taught in class, while giving opportunity to create a new product or point of view was the least preferred. Classroom assessment alternatives were practiced occasionally. Differences in the participants' knowledge and practices exist when they were grouped according to their self-reported assessment literacy and educational attainment levels. The researcher proposed a professional development program on classroom assessment and further suggested its utilization in advancing mathematics teachers' knowledge and in improving practices of assessment inside the classroom.*

**Keywords:** *classroom assessment, in-service training program, professional development program, teachers' knowledge, teachers' practices*

## INTRODUCTION

The K-12 Basic Education Curriculum (BEC) is considered as breakthrough on the educational system in the Philippines since it transformed many policies and guidelines aimed to improve the quality of basic education for every Filipino. One of the modifications aligned with the progressive roll-out of the new curriculum was on the assessment and rating of learning outcomes stated in the DepEd Order No. 73, s. 2012 with emphasis on the standards-based assessment and rating system in public and private elementary and secondary schools nationwide. It is guided by the philosophy that assessment shall be used mainly as quality assurance in the attainment of standards through formative assessment which tracks student's progress, promote self-reflection, and personal accountability for one's learning and provides a basis for describing student performance.

The way of assessing learners inside the classroom with respect to standard-based assessment was fully implemented in 2015 as when Department of Education released the new policy guideline referred to as DepEd Order No. 8. S. 2015. The distinctions between the two types of assessment, namely, formative and summative assessments were elaborated further.

With the new policy given by the Department of Education, assessment evolves with different meanings and purposes which teachers should understand and undertake in their classroom practice. It allowed educators to reflect that assessment should not be used only for grading students, but also gathering information to improve instructional practices (Aliponga & Gonzales, 2012).

It is true that teachers conduct assessment to gather data regarding students' performance but it does not end that way because learners should also be informed by the teachers how well they are doing inside the classroom. At the same time, parents will be very eager to know the performances of their children. Likewise, school administrators and other teachers should also be provided with the assessment results of the students' performance, thus illustrated the other purpose of assessment - the assessment to inform. The

information provided through classroom assessment is very necessary inputs for teachers, students, school administrators and other stakeholders as basis for decision making. Doing assessment therefore, have different purposes and all the purposes are important if and only if procedures on assessment are being practiced appropriately.

With the new policy on classroom assessment, the DepEd leads the battle for providing quality education and had placed a bond of responsibility and accountability to the teachers. The adaptation and implementation of policy regarding classroom assessment is not an easy task and cannot be mastered overnight. Teachers then must be skilled in teaching and possess ample understanding of the objectives and standards of the curriculum to initiate classroom assessment appropriately.

Evidence suggests that teachers' knowledge of teaching and learning strongly impact the way they teach, and the way students learn and succeed (Brown, 2004). To illustrate, Kahn's (2000) case study of assessment in secondary school classes revealed an eclectic array of conflicting assessment practices, seemingly because the teachers held differing perceptions of teaching and student learning. Therefore, it is imperative that researchers and teacher development providers gauge teachers' assessment pedagogy before implementing targeted professional development programs.

As far as classroom assessment is concerned, teachers must have an extensive training to implement assessment to the fullest. However, Guskey (2003) believe that few teachers receive much formal training in classroom assessment. With lack of specific training, teachers rely greatly on the assessments being offered by textbooks and instructional materials' publisher. When there are no appropriate assessments available, teachers then construct their own. Teachers treated assessment as tools or devices to administer right after instructional activities are completed and to use the results for grading students (Guskey, 2003).

DepEd already provided trainings regarding the new policy guidelines on classroom assessment as an inclusion on the K to 12

Seminar for Grade 10 teachers in 2015. However, limited number of teachers nationwide has attended trainings on assessment. Others in their initiative have reproduced a copy of the DepEd Order for their own consumption and interpretation of the policy guidelines regarding classroom assessment. It is unavoidable that teachers have different understanding regarding assessment and the reliability on the result is uncertain. It is also notable that what teachers know about classroom assessment is not entirely practiced in the field. It is an issue between theory and practice on classroom assessment. Torrance and Pryor (2002) pointed out that all assessment practices influence student learning; however, they argued on how teachers practice assessment inside the classroom is an empirical question.

With this assumptions and claims, investigating the teachers' knowledge and their current practices on classroom assessment will become a strong force leading to a professional development program for teachers which targets improvement under areas of limitations and weaknesses in assessing students inside the classroom.

Specifically, the study sought to gain perception to the following questions which guided the study:

1. What do public secondary school mathematics teachers know about classroom assessment?
2. How do public secondary school mathematics teachers use assessment in their teaching practices?
3. Is there a significant difference in the assessment knowledge and practices when the participants were grouped according to years of teaching experience, highest educational attainment, and attendance to seminar-related to assessment?
4. What in-service training in classroom assessment can be proposed?

## **Literature Review**

The societal expectations and knowledge about learning and motivation cited by Earl and Katz (2006) has a strong implication on teachers' practices inside the classroom. One among these practices is the use of formal and informal assessments (Weaver, 2013; Banks,

2012) to gather unique information about the student (Banks, 2012), to modify teaching and learning (Crooks, 2001), and to provide qualitative feedback (Huhta, 2010).

The formal and informal assessments are important features of formative assessment (Dunn & Mulvenon, 2009). The benefits of formative assessment were provided by Boston (2012), Cooper and Cowrie (2010), Stiggins et al. (2004), and Marzano (2003).

However, the differences between formative and summative assessment (Shepard, 2005) can be determined by actual procedure, analysis of data, and how the results are being used (Dunn & Mulvenon, 2009). The DepEd Order No. 8, s. 2015 defined and illustrated formative and summative assessment aligned with assessment for learning, assessment as learning, and assessment of learning. Principles of assessment was discussed by Magno (2015) as well as its impact in enhancing learning (Earl & Katz, 2006). Despite the importance of assessment in the teaching and learning, there is still misunderstanding on the purpose of assessment (Guskey, 2011).

Different tools, methods, (Assessment Handbook, 2000) and learning resources (British Columbia Ministry of Education) are utilized in the assessment practices. In addition, multimedia in education (Neo & Neo, 2001) and differentiated learning (Tomlinson, 2001) are used to motivate students and to cater their different learning needs.

Teacher quality is an important factor in the effectiveness of classroom assessment. Some of the attributes of teacher quality are literacy (Khadijah & Amir, 2015), educational attainment (Education Policy and Data Center, 2012), professional development program (Garet et al., 2001), class size, degree, and experience (OECD, 2015; Harris & Sass, 2011; Goe & Stickler, 2008).

Classroom assessment has been a topic of most researchers nowadays focusing on teacher's knowledge, perceptions, preferences, and beliefs as well as their current practices which also became the interest of this paper due to its applicability and relevance to the present educational system.

Among the reviewed studies, Frey and Schmitt (2011) found out that the best approaches to assessment are performance-based, teacher-made test and formative assessment; however, paper and pencil test remains the predominant assessment format (Frey & Schmitt, 2011; Ndalichko, 2017). Moreover, the evolution of assessment perspectives and practices is evident (Wallace & White, 2015) and teachers are becoming more aware with various range of formative assessment strategies and beginning to utilize them on a more reliable basis (Volante et al., 2010). Among the practices that went beyond tests includes journal, observation, questioning, self-assessment, and unique forms of quizzes (Suurtam et al., 2010).

To illustrate classroom assessment practices, Gonzales and Aliponga (2012) used the Classroom Assessment Preferences Survey Questionnaire for Language Teachers (CAPSQ-LT) to study and compare the classroom assessment preferences of the Japanese language teachers in the Philippines and English language teachers in Japan. Their study revealed that the language teachers from Philippines and Japan mostly practiced assessment as learning and least on the assessment practices on assessing to inform. In addition, assessment for learning was preferred by the Japanese language teachers in the Philippines while assessment of learning and the communicative and administrative function of assessment being termed as assessment to inform were preferred by the English language teachers in Japan. In addition, there is no significant difference in the preference for assessment of learning and assessment as learning among the two groups.

Similarly, Balinas and Saefurrohman (2016) described Filipino and Indonesian junior high school teacher's classroom assessment practices in English Language Learners (ELL) classes and revealed that both Filipino and Indonesian Junior high school teachers used assessment for learning as the main purpose of assessment. Their study also explained the teachers' sources of assessment items and task wherein Filipino teachers prepared and made their own assessment while Indonesian teachers used items from published textbooks. The method for providing feedback is through written comment while the final report is through total score test and later, grade. The time spent

on assessment are also covered in their study.

Teachers have positive attitudes in educational assessment and have a perception of being competent but demonstrated low educational knowledge regarding classroom assessment (Alkharusi et al., 2014). Teachers commented on techniques of classroom assessment as hard task to embrace and hard to value and apply (Tariq, 2013; McMillan et al., 2010). In fact, what teachers said is not reflected during their teaching and classroom assessment. Their claims were not clearly embedded in their practice showing limited ability to use different methods and tools to assess students (Susuwele-Banda, 2005). On the other hand, Fuggan (2014) revealed existing problems on teachers' practice of classroom assessment relative to assessment innovation, assessment strategies and assessment material.

Teachers regarded classroom assessment as test or grade (Alkharusi et al., 2014; Wallace & White, 2014), used as motivation (Alkharusi et al., 2014) and at the same time as an enhancement of the current level of achievement of pupils (Tariq, 2013). Though teachers follow classroom processes (Tariq, 2013), they are not good in communicating with students the criteria they will assess (Ndalichako, 2013). Consequently, teachers provided oral and written feedback to pupils and reported assessment results that improve students' learning.

The barriers that could influence the classroom assessment practices are reasons like conflicts among value and belief system, agenda (McMillan et al., 2010); teachers' knowledge, skills and experiences, lack of teacher support, inadequate teaching and learning resources (Susuwele-Banda, 2005); large class size; and inadequate training (Ndalichko, 2017; Gonzales, 2013; Mcmillan et al., 2010; Susuwele-Banda, 2005). Based on the findings of the following researchers from the reviewed studies, they concluded and recommended the targeted professional development and greater attention to in-service training to teachers to enhance their knowledge and skills in conducting classroom assessment that facilitates teaching and learning (Alkharusi et al., 2014; Fuggan, 2014; Gonzales, 2013; Ndalichako, 2013; McMillan, et al., 2010; Volante et al., 2010;

Susuwele-Banda, 2005).

## **METHODOLOGY**

### **Research Design**

A mixed-method research design (Fraenkel and Wallen, 2009) was used in the study using three ways and they were: (1) survey, where the researcher gathered information from the participant with the use of questionnaire and checklist; (2) observational, where the researcher viewed and recorded the participants in a natural environment; and, (3) focus group, where the researcher engaged to gather information using verbal communication on a context of social interaction.

### **Participants of the Study**

Eighteen (18) junior high school mathematics teachers from four (4) public secondary schools in Alicia, Isabela were selected as participants through purposive sampling technique.

### **Instrumentation**

The instruments used in this study were the Classroom Assessment Survey Questionnaire (CAPSQ) adopted from Dr. Richard DLC Gonzales, Classroom Assessment Observation Sheet, and Focus Group Discussion Guide. Experts have investigated the validity of the instruments, and they were piloted and garnered a good psychometric property with Cronbach's alpha coefficient of 0.696, 0.821 and 0.930, respectively. As a result of the pilot testing, items were reviewed, and some were deleted or revised after data analysis.

### **Data Gathering Procedure**

The preliminary step in data gathering procedure was to ask permission from the Schools Division Superintendent of Isabela through channels to conduct the study simultaneously with the content validation of the research instruments. The researcher sought the help of the experts to check, verify and substantiate the instruments.



After permission was granted from the SDO and the validation of the instruments were finalized, the pilot testing of the instruments were initiated. Proper communication was done with the school heads of different schools' subject for pilot testing. The participants were 30 mathematics teachers at public secondary schools of neighboring towns like Angadanan, San Isidro and Echague.

The floating of survey questionnaires started upon the approval of the school heads of different public secondary schools in Alicia, Isabela. The researcher arranged schedules with the participants in their most convenient day and time for observation and focus group discussion. The observations were made inside the classroom through the aid of the classroom assessment observation sheet while in the focus group discussion, each participant handed a copy of the FGD guide and flashed in a presentation for guidance while the discussion is on progress. The documentation is done through note, pictures, and videos.

### **Data Analysis Tools**

To find answers on the questions presented in this research, an organized gathering of data was carried-out and categorized. Descriptive statistics were used such as frequency and percentage, mean, and standard deviation. Since this study used a Likert scale, data were analyzed at the interval scale with qualitative descriptions. Additional data analysis procedure included t – test for independence to examine the existence of differences in the assessment of knowledge and practices when grouped according to selected variables.

To analyze the data gathered through interview and focus group discussion, the researcher drew out pattern from different concepts to describe the situation and gain insights to practices. It involved classifying, categorizing, and summarizing data to recognize similarities and differences.

## RESULTS AND DISCUSSION

### **Knowledge on Classroom Assessment**

Based on the focus group discussion conducted by the researcher, the participants revealed what they know and understand about classroom assessment.

The participants considered classroom assessment as a process of asking questions, giving activities, and exercises to the students.

They agreed that “classroom assessment is a test to measure the extent of learning, to evaluate the level of students’ performance, to know whether they meet the standards, and to measure students’ understanding, skills and performance.” In addition, classroom assessment is done for the purpose of recording student progress and ranking which is evident on their statements. Majority of the participants admitted that they used classroom assessment in diagnosing students’ prior knowledge and their strengths and weaknesses.

The participants regarded the result of classroom assessment as their bases for re-teaching, remediation, and enrichment. They also revealed the different forms of assessment they are practicing in oral, written and performance. They considered classroom assessment to measure their own performance in teaching. The participants also determined that they are practicing classroom assessment frequently before, during and after the lesson, and as need arises depending on the students’ performances.

The data gathered from the FGD were linked to what Crooks (2001) said that teachers conducted formal and informal assessment procedures to modify teaching and learning activities to improve students’ attainment. As Huhta (2010) explained that since teachers use the result of assessment as basis for instructional decision, then it involves qualitative feedback.

The views of the participants about classroom assessment were also synonymous on what Wallace and White (2015) found out on

their research that revealed three distinct stages in the evolution of assessment perspectives and practices—from traditional to more reform-based namely: test-oriented, task-oriented, and tool-oriented. The test-oriented assessment perspective is primarily concerned on the notion that assessment was simply another name for a “test” or a “grade.” Task-oriented assessment perspective on the other hand, involves a distinction between tasks that were graded and tasks that were not necessarily graded but used to assess students. Furthermore, tool-oriented perspective was a distinction between assessments used for grading purposes, and to support student or teacher learning.

However, the participants replied differently when the researcher asked them the differences between formative and summative assessment. This connotes different views on the two forms of assessment. According to some of the participants,

*“Every day kaming nagpapaformative assessment pero minsan di lahat ay renerecord namin, depende kasi yun sa resulta.”* (Formative is done every day and may or may not be recorded because it will depend on the result.)

Likewise, some of the participants also claimed, *“Hindi namin renerecord ang formative assessment, pero kung mataas ang nakuha nila renerecord namin yun at sinasali namin as summative assessment na kasali sa pagcompute namin ng grades.”* (Formative assessment is not recorded but sometimes recorded if the result is high since it is considered already as summative which will be the basis for grading.)

The participants have a notion that when the result of the given task to their students is low, then it is not recorded and only recorded if there are satisfactory results.

Shepard (2005) mentioned that formative assessment is commonly contrasted to summative assessment which the latter is used to record student outcomes with the purpose of external accountability. However, Dunn and Mulvenon (2009) clarified that in determining differences of formative and summative assessment, one

must look on the actual procedure, analysis of data, and how the data are being used. For consistency, DepEd Order No. 8, s. 2015 states the definition and description of formative and summative assessment aligned with the concept of assessment for learning, assessment as learning, and assessment of learning.

In terms of grading, reporting and promotion, one of the participants admitted that she talked about classroom assessment with their school heads in certain circumstances like the case of failing student. The participants further explained that parents were invited for a meeting with the school head, and together with the concerned teachers they were able to decide what solutions can best help the failing student.

Consequently, most of the participants declared that they make ways to help their students pass their subject even those who are always absent or tardy in their class. Remedial activities were given. Home visitations were conducted to identify the reason of absenteeism of students. Most of the participants agreed that teachers have the discretionary authority whether to pass or fail an absentee student.

The areas of assessment where participants are known to be very knowledgeable must be sustained through constant practice. However, in as far as FGD and observation are concerned, there were some areas on assessment parallel to the DepEd Order No. 8, s. 2015 which are needed to be deepened and be well understood by the participants. First, formative assessment will be recorded but not included in the computation of grades. Second, collaborative assessment must be practiced equally with individual assessment. Third, long quizzes are regarded as written works but also as performance tasks. Lastly, peer assessments should be practiced extensively. More importantly, reorientation on areas of assessment where the participants have limited knowledge is needed to correct misconceptions. These include the following: what is the definition of performance standards; how to report a final grade; how to retain a learner who did not meet expectations; and who is the proper discretionary authority for absentee students.

This implies a need to improve knowledge on classroom assessment through professional development program since this contributes into quality teacher which is reported by the Organization for Economic Co-operation and Development (OECD) (2015) as an important factor in students' success. Furthermore, the findings are similar to what Alkharusi et al. (2014) found in their study that professional educational assessment programs for teachers should be continued and tailored to the needs and nature of the teachers' classroom realities.

### **Classroom Assessment Practices**

Based on the classroom observation, it is completely evident that students were assessed individually, and it is moderately evident that learners were assessed collaboratively. The activities that are carried out during individual assessments which were found to be very evident are practice exercises, open-ended questions, assignments, quizzes, and recitations. Other activities are essays, observations, and open-ended questions. The participants used role play, games, and practice exercises in assessing their students collaboratively.

Tariq (2013) supported the findings of this study since he found out that teachers apply different techniques of formative classroom assessment as assigning homework and tests during and after the lessons. Teachers also provided oral feedback to pupils. Ndalichko (2013) supported the findings of this study since he found out that most used forms of assessment are class exercises, tests, and quizzes. However, it is contradictory on the findings of Frey and Schmitt (2011) who reported that essays were the most common assessment format. Also, opposite to the findings of this study, Suurtamm, Koch and Arden (2010) observed that assessment practices went beyond tests to include the use of journals and self-assessment.

Since teacher-participants widely practiced individual assessments, little opportunity for the teachers to make inferences on how group assessment affects individual student's performance. One of the features of K-12 classroom assessment is all about collaboration in both formative and summative assessment (Department of

Education, 2015). Teachers should practice collaborative assessment equally with individual assessment.

Inside the classroom, it is moderately evident that seating arrangement facilitated interactions among students, at the same time space inside the classroom and learning resources were also moderately evident.

The seating arrangement usually composed of two columns of chairs, aisle at the center, and each column consists of five to six rows, while every row has 4 to 6 chairs. The teachers' desk usually placed in front that allowed teachers to directly monitor students at work. However, during individual assessments, the teacher could not easily move to check students' work and usually stayed in front of the class most of the time. During the collaborative assessments, it was observed that there was a little movement and interaction on the part of the students. The students find it difficult to move around, to form a group, and to work with each other. Mostly students were working in their own seats though they are instructed to work with their group mates. As Mcleod (2003) stated that space in the classroom directly affects the teachers' instructional program. It also affects the students' experiences and how they behave and pay attention to instructions.

OECD (2015) confirmed that one of the predictors of teacher excellence in teaching is class-size. Larger class size is associated with less time spent in teaching. DepEd Order No. 22, s. 2013 cited that the ideal class size is from 45 to 55 and when compared to other country's ideal class size, it is incomparable. In terms on how teacher-participants delivered their lessons, discussion is completely evident, and the students are very active with an aid of multimedia presentations.

Neo and Neo (2001) stressed that by using multimedia, the communication of information can be done in a more effective manner, and it can be an effective instructional medium for delivering information. The evolution of multimedia has made it very possible for learners to become involved in their work. This would make them active participants in their own learning process, instead of just being passive learners of the educational content.

The observed assessment procedures before, during, and after the lesson were very evident. On the other hand, sharing and evaluating learning intensions, and success criteria to the learners were slightly evident, and it was moderately evident that teacher-participant tracked learner progress in comparison to formative results prior to the lesson.

The participants' classroom assessment preference is assessment for learning, followed by assessment of learning and assessment as learning, and the least preferred classroom assessment practice is the assessment to inform.

These findings are comparable with the findings of Balinas and Saefurrohman (2016) that described Filipino and Indonesian junior high school teachers' classroom assessment practices in ELL classes and revealed that both Filipino and Indonesian Junior high school teachers used assessment for learning as the main purpose of assessment.

In contrary, Gonzales and Aliponga (2012) in their study exposed that assessment as learning was mostly practiced by the language teachers from the Philippines and Japan. However, Gonzales and Aliponga (2012) supports the finding of this study that the least on the assessment practices focuses on assessing to inform. In addition, Japanese language teachers in the Philippines preferred assessment for learning, while the English language teachers in Japan are more concerned with the assessment of learning and the communicative and administrative functions of assessment are being termed as assessment to inform.

The participants most preferred practice in assessment tasks and activities are questions or tasks that allow them to know whether their students can recall or remember what is taught in class (Mean = 4.28, SD = 0.75). This was followed by questions or tasks that enable students to explain ideas and concepts (Mean = 3.78, SD = 0.88); to analyze a situation or condition (Mean = 3.72, SD = 0.89); to use learned information or concepts in a new way (Mean = 3.61, SD = 0.98); and to justify a stand or decision (Mean = 3.56, SD = 0.92). The least preferred practice is questions or tasks that give opportunity for their students

to create a new product or point of view or idea.

The classroom observation also revealed how frequently the participants practice the different assessment approaches; multiple choice, graded recitation, assignments, and performance assessments are practiced very frequently. Observations, class presentations, and classroom assessment techniques are practiced occasionally, while true-false or right-wrong, matching-types, fill-in the blanks or short constructed response, essay, portfolio assessment, and term papers or projects are rarely practiced by the participants.

### **Proposed In-service Training on Assessment**

Based on the main findings of the study, the areas needed for professional development on classroom assessment were identified as (1) formative and summative assessment, (2) collaborative assessment, (3) performance task (4) promotion of learners (5) differentiated learning and assessment, (6) multimedia in assessment, (7) assessment procedures, (8) alternative assessment, and (9) product-oriented performance-based assessment.

### **Formative and Summative Assessment**

The FGD revealed that formative assessment was recorded and graded if the result is satisfactory. It is no longer recorded and graded if the result is unsatisfactory. Formative was taken as summative depending on the results and vice-versa. There were an inconsistent and interchanging purposes of doing assessments. Thus, misconceptions on using assessments for the purpose of recording and grading must be corrected.

### **Collaborative Assessment**

From the observations and FGD conducted, it was revealed that participants were practicing individual assessments more than collaborative assessments. Formative-collaborative assessments (peer assessment) were moderately practiced by the participants while summative-collaborative assessment was not evident. Thus,



collaborative assessment must be practiced in both formative and summative with varied tasks and activities as mentioned in the DepEd's new policy guidelines on classroom assessments.

### **Performance Task**

FGD revealed that the participants regarded long quizzes as written works but not as performance task. At the same time, it shows that there was a limited knowledge about the definition of performance task. Teachers should improve their knowledge regarding the definition of performance tasks and its different forms.

### **Promotion of Learners**

FGD uncovered that the participants make exemptions to the absentee students given that underlying reasons of absenteeism is acceptable. On the other hand, the participants in the FGD have explained circumstances when results of assessments are needed to be referred to the school head. To have a clearer idea about this matter, reorientation of DepEd Order No. 8, s. 2015 that described this area on assessment is highly recommended.

### **Differentiated Learning and Assessment**

It was revealed that majority of teacher-participants assessed their students with same activities that were participated by the entire class at the same time. Consequently, it was slightly evident that teacher-participants assessed their students with different activities at the same time. These findings mean that most of the teacher-participants practice giving one type of task or activity that is applicable to all. Differentiated learning and assessment, therefore, was being disregarded since different avenues for learning were not provided. Differentiated learning and assessment should be well-established by teachers in their classroom practices to cater different students' needs and abilities.

## **Multimedia in Assessment**

With the aid of multimedia presentations, it was observed that students were very active during the class discussions and assessments. Performing assessments in a different and modern way can motivate learners in their learning. It is proper then that teachers should be well-equipped with skills in using innovations in education.

## **Assessment Procedures**

There were three weaknesses in the conduct of assessment procedures before, during, and after the lesson. First, sharing learning intentions and success criteria to the learners were slightly evident. Second, tracking learners' progress in comparison to formative results prior to the lesson was moderately evident. Third, evaluating whether the learning intentions and success criteria have been met after the lesson were slightly evident. With these, teachers should be guided in the said assessment procedures for improvement in the conduct of assessment in the different parts of the lesson.

## **Alternative Assessments**

The alternative assessments which were not evident in the actual teaching of the participants were composed of journals, portfolios, and self-reflections. Thus, alternative assessments were occasionally practiced by the participants. Teachers revealed that students were slow in accomplishing tasks in relation to alternative assessments while teacher-participants have experienced difficulty in checking results from alternative assessments. If teachers only give specific, measurable, and attainable tasks that can be accomplished by their learners within the given set of time, students will be able to finish the tasks on time as well as teachers will be no longer experiencing difficulty in checking. Rubrics can aid teachers in checking alternative assessments.

Hence, to practice alternative assessments without difficulties, teachers must be knowledgeable in the preparation, utilization, and evaluation of different alternative assessments.

## **Product-Oriented Performance-Based Assessment**

As observed in the classroom, the least preferred practice in assessment tasks and activities were questions or tasks that can give opportunity for students to create a new product or point of view or idea. An assessment that allows learners to produce a new creation is called a product-oriented performance-based assessment which must be introduced and be utilized by teachers.

The limitations on practices of classroom assessment that have been discovered can become the barriers in the proper implementation of K – 12 classroom assessment. Thus, a professional development program on assessment was proposed towards the advancement of knowledge and for better practices which empower mathematics teachers in assessing learners effectively and efficiently inside the classroom.

The in-service training program on assessment proposed in this study should be participated by all public secondary school teachers in Alicia, Isabela to address the need of improvement in the area of classroom assessment. In this way, succesful implentation of K-12 classroom assessment will be achieved.

## **References**

- Alkharusi, H., Aldhafri, S., Alnabhani, H., & Alkalbani, M. (2014). Educational Assessment Profile of Teachers in the Sultanate of Oman. *International Education Studies*, 7(5), 116-137. <http://dx.doi.org/10.5539/ies.v7n5p116>
- Banks, S. R. (2012). *Classroom assessment: Issues and practices*. Waveland Press.
- Crooks, T. (2001). The validity of formative assessments. British Educational Research Association Annual Conference, University of Leeds, September 13–15, 2001. *New Inquiries in Reading Research and Instruction*, 42-47.

- Department of Education (DepEd). (2015, April 1). *DepEd Order No. 8, Series of 2015. Policy guidelines on classroom assessment for the K to 12 basic education program*. [https://www.deped.gov.ph/wp-content/uploads/2015/04/DO\\_s2015\\_08.pdf](https://www.deped.gov.ph/wp-content/uploads/2015/04/DO_s2015_08.pdf)
- Dunn, K. E., & Mulvenon, S. W. (2009). A critical review of research on formative assessments: The limited scientific evidence of the impact of formative assessments in education. *Practical Assessment, Research, and Evaluation*, 14(1), 7. <https://doi.org/10.7275/jg4h-rb87>
- Earl, L., & Katz, S. (2006). *Rethinking classroom assessment with purpose in mind. Assessment for learning, assessment as learning, assessment of learning*. Western and Northern Canadian Protocol for Collaboration in Education (WNCPE). [https://www.edu.gov.mb.ca/k12/assess/wncpe/full\\_doc.pdf](https://www.edu.gov.mb.ca/k12/assess/wncpe/full_doc.pdf)
- Fraenkel, J. R. & Wallen, N.E. (2009). *How to design and evaluate research in evaluation (Seventh Edition)*. New York: McGraw-Hill.
- Gonzales, R. D., & Aliponga, J. (2012). Classroom assessment preferences of Japanese language teachers in the Philippines and English language teachers in Japan. *MEXTESOL Journal*, 36(1), 1-18. <https://doi.org/10.2139/ssrn.2746287>
- Huhta, A. (2010). Diagnostic and formative assessment. In *Spolsky, Bernard and Hult, Francis M. The Handbook of Educational Linguistics*. Oxford, UK: Blackwell.
- McLeod, J., Fisher, J., & Hoover, G. (2003). The key elements of classroom management: Managing time and space, student behavior, and instructional strategies. ASCD.
- Ndalichako, J. L. (2017). Examining classroom assessment practices of secondary school teachers in Tanzania. National Examinations Council of Tanzania. <https://bit.ly/3MRROPn>

- Neo, M., & Neo, K. T. (2001). Innovative teaching: Using multimedia in a problem-based learning environment. *Journal of Educational Technology & Society*, 4(4), 19-31. <http://www.jstor.org/stable/jeductechsoci.4.4.19>
- Saefurrohman & Balinas, E. S. (2016). English teachers classroom assessment practices. *International Journal of Evaluation and Research in Education*, 5(1), 82-92. <https://files.eric.ed.gov/fulltext/EJ1094623.pdf>
- Stiggins, R. J., Arter, J. A., Chappuis, J., & Chappuis, S. (2004). *Classroom assessment for student learning: Doing it right, using it well*. Assessment Training Institute.
- Suurtamm, C., Koch, M., & Arden, A. (2010). Teachers' assessment practices in mathematics: Classrooms in the context of reform. *Assessment in Education: Principles, Policy & Practice*, 17(4), 399-417. <https://doi.org/10.1080/0969594X.2010.497469>
- Tariq, M. A. (2013, December). Engaging Professionals: Investigating in Service Teachers Use of Formative Classroom Assessment. *Universal Journal of Educational Research*, 1(4), 318–322. <https://doi.org/10.13189/ujer.2013.010407>
- Wallace, M., & White, T. (2015). Secondary Mathematics Preservice Teachers' Assessment Perspectives and Practices: An Evolutionary Portrait. *Mathematics teacher education and development*, 16(2), 25-45. <https://files.eric.ed.gov/fulltext/EJ1052604.pdf>