

PRIMARY SCHOOL TEACHERS' KNOWLEDGE AND SKILLS OF MEASUREMENT AND ASSESSMENT: A CASE OF SWAZILAND

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Abstracts

The study purposed to find primary school teachers' knowledge and skills of measurement and assessment and to elicit their views of teacher role of measurement and assessment. Within a descriptive survey, a questionnaire was used to collect data. The sample consisted of 72 primary school teachers randomly selected from 40 Swaziland schools. The findings revealed that primary school teachers had some knowledge of measurement and assessment, however lacked skills in using a variety of assessment techniques. The study further found out that as much as primary teachers view assessment as important in improving teaching and learning, they do not use it in planning for their lessons. The study also revealed that oral assessment and practical assessment has frequently been used in primary schools even though such observation and project techniques are rarely exploited. In light of these findings, the study - concluded that mainly primary teachers assess learners to monitor learners' progress instead of providing instructional planning. The study recommends that the teacher training colleges and the University of Swaziland should extend the scope of measurement and evaluation course to adequately equip the primary school teachers.

Key words: *assessment, knowledge, measurement, primary teachers, Swaziland.*

Introduction

Swaziland's educational system has historical links with the educational system of Britain dating back to the colonial period. For this reason, measurement and assessment have not completely moved away from the pre-independence period, which is screening learners for the next grade. According to an official from the Examinations Council of Swaziland, assessment in the primary schools was mainly aimed at promoting learners to subsequent classes. Teachers were involved in the construction and administering of their own tests from Grade one to Grade six. This process was by then referred to as standards. Standard six examinations were administered as an external up until 1964. After that, it was phased out and replaced by the current Grade 7 examination called the Swaziland Primary Certificate Examination (SPC). The first SPC examination was written in 1965.

It has since been noted that most teachers do not consider assessment as part of their daily teaching role. They tend to leave assessment for the end of instruction, sometimes at the

end of the month or term. They have not seen assessment before and during instruction as a very important activity for the achievement of planned learning. The actual fact is that, assessment is an integral part of teaching and learning process. It should provide ongoing feedback to both teachers and learners before and during the teaching and learning process. Teaching and learning cannot work independently of each other. Moreover, assessment should help a teacher to plan for his/her teaching. Therefore, assessment should be designed in such a way that the teacher gains understanding of what learners should know and not know in order to make responsive changes in teaching and learning. Otherwise, assessment that comes at the end of the term or year helps no one as the damage would have been done.

It is often assumed that every teacher is able to conduct classroom assessment, and that he/she accurately measures all the child's learning. It should also be noted that, the assessment goes beyond learners taking paper-and-pencil tests, and teachers scoring and assigning them grades. Airasian (1991) contends that assessment is an all-embracing term covering any of the situations in which some aspects of a student's learning is measured. Assessment as an integral part of teaching-learning should bring out the potential that exists within the learners. It must also create an opportunity for them to demonstrate what they are able to do. Teachers, therefore, need not only to have the knowledge and skills required in assessment, but also need to be conversant on how to collect evidence which will both inform their assessments and support their judgement.

The purpose of this article is to find primary school teachers' knowledge and skills of measurement and assessment. Hence, this paper sheds more light on identifying areas/competencies that primary teachers need more information as far as the learners' views of measurement and assessment are concerned.

Literature Review

Eggleston and Kerr (1969) imply that measurement of learners' attainment is an integral part of any educational process. Teachers in a classroom require information concerning the levels of attainment by their learners. Duminy and Steyn (1990) argue that, teachers seem to confuse the terms, measurement, evaluation and assessment. These scholars say assessment has to do with the collection of data or information about the knowledge and skills that learners have learned. Measurement has to do with assigning value to the data. In emphasis, Biehler and Snowman (2000) state that evaluation involves a rule governed system to make judgements about the value of a set of measures. Measurement therefore, is a key element of assessment which assigns numbers to certain attributes of individuals in a quantitative form (Oosterhof, 1999). With this regard, one can infer that measurement depends on information that has been gathered in everything that goes on in the classroom through assessment both formal and informal.

Black and William (1998) define assessment broadly to include all activities that teachers and learners undertake to get information that can be used diagnostically, to alter teaching and learning, while Margetts and Woolfolk, (2007) perceive classroom assessment as a process of acquiring information and making judgements about learners' learning. Moreover, Popham, (2009) refers to assessment as those formal and informal procedures that teachers employ in an effort to make accurate inferences about what learners know and can do. Rowntree (1977) and Popham (2009) posit that sometimes teachers use the results of classroom assessment to improve an underway instructional programme. In reference to the descriptions of classroom assessment by the above scholars, it is apparent that assessment is a central pillar of the teaching and learning process. Teachers do not only collect all information about the knowledge and skill that the learners have, but further, make judgements about the acceptability of each student's level of learning. Conner (1991) argues that the information gained from carefully organised assessment procedures do not satisfy the requirement of the National Curriculum assessment. Assessment contributes further, to teachers' understanding of their children as

well as helping them to extend their knowledge of the learning process. (Conner, 1991) further acknowledges that a central feature of improved assessment is the development of the teacher's observational skills and careful reflection with others on the ways in which these observations are interpreted.

Oosterhof (1999) points out that informal assessment usually occurs in a more casual manner. He says that it may include observation, inventories, checklists, rating scales, performance and portfolio assessments, participation, peer and self-evaluations and discussion. On the other hand, Popham (2009) explains that formal assessment usually requires a written document, such as a test, a paper or examination. It differs from the informal assessment in that it is given a numerical score or mark based on student's performance. The informal assessments on the other hand, are not usually graded at all sometimes, and do not contribute to a student's final grade as formal assessments usually do.

An assessment therefore, especially informal, is part and parcel of a teacher's everyday service to learners, not merely as a motivation, but as a direct contribution to the learners' awareness and appreciation of themselves (Popham, 2009). It is for the same reason that Margetts and Woolfolk (2007) refer to it as the 'heart of effective teaching'.

However, more often than not, results of classroom assessment are used simply to distribute grades to learners. Sometimes teachers administer tests that they have not constructed, but have simply extracted from textbooks. This often leaves a lot to be desired because; the teachers are the people who have direct impact on their learners. They are aware of their learners' experiences and needs. Popham (2009) notes that classroom assessments have a direct impact on learners and teachers that large scale tests do not. Popham (Ibid) further explains that because the assessment happens close to learners both in time and space, the classroom assessments can provide the kinds of detailed individualised feedback that have long been known to promote learning and achievement. How is it then that teachers rely on assessment instruments constructed by people who in most cases do not know the needs of that particular group?

Conner (1991) argues that assessment should be frequent otherwise learners will not receive the feedback vital for success. Boston (2002) is of the opinion that frequent short tests are better than infrequent long ones. Teachers need to be aware that assessment is curriculum related. Therefore, teachers get immediate feedback on what to teach next, and identify areas that need covering again. In the process, teachers are sensitized to children's development.

The Role and Function of Assessment

Rowntree (1977) explains that the major role of assessment is to provide for instructional planning and to evaluate the effectiveness of the teaching by the teacher. Biehler and Snowman (1997) advance that classroom assessment is conducted to provide information about the extent to which learners have acquired the knowledge and skills that have recently been taught. These scholars further, suggest that learners should be assessed to diagnose their specific strengths and weaknesses, and to identify particular causes of learners' learning difficulties.

Furthermore, Broadfoot, Winter and Weeden (2002) posit that one other role played by assessment is not only informing the current teacher about what to do next, but further to inform the learners about their progress. The parents also get to know about their children's progress from the results obtained from assessment. The scholars also say that the next teacher(s) and the public are also informed of the individual pupil's progress by means of feedback from assessment. Therefore, an on-going proper assessment plays a role of a formative feedback to both teachers and learners towards achieving the learning objectives.

In addition, the feedback as acknowledged by Conner (1991) should be used by the teacher to revise and develop further instruction. Moreover, as learners are informed about their own learning they understand what is required of them. They are able to set their own goals and evaluate their own performance while motivation and all important ownership is improved.

Tanner and Jones (2006) argue that appropriateness of an assessment procedure will always be influenced by the original purpose of the assessment, and the intended audience of the results. Teachers, therefore, should always ask themselves why they should assess their learners. According to Broadfoot et al. (2000) assessment is classified according to its purposes. These scholars further enlighten that the assessment terms are not descriptions of kinds of assessment, but rather, of the uses to which information arising from the assessment is put. In other words, each component of assessment should fit the purpose. *Formative Assessment*

Conner (1991) describes formative assessment as a procedure that provides information on the achievement of individual learners, which will assist in the planning of the learners' future work. Broadfoot et al. (2000) admit that some teachers are faced with challenges as they develop formative assessments. The initial challenge being that these teachers cannot clarify for themselves what they understand by formative assessment they cannot also decide how they can make initial changes to their practice that will help learners actively engage in their own learning and be clear about their current performance and decide what they need to do next. In addition, Broadfoot et al. (2000) bring forward another challenge as being that teachers find formative assessment as time consuming. It may be true that the introduction into the classroom of formative assessment strategies, such as sharing objectives and self-assessment may appear to consume time for teaching. Teachers on the other hand, need to spend more time marking and giving feed back to the learners.

Collecting and interpreting data formatively are another challenge for teachers (Jones and Tanner, 2006). These scholars claim that any assessment can be formative if it is used not just to categorize a child as a 'A' or 'F', but to identify how performance can be improved. An assessment becomes formative if the information collected is used by the teacher or by the pupil in the learning process to promote the learning.

As alluded earlier, teachers need to internalise the function of formative assessment, and not view it as something in competition with teaching. Rather, they should view assessment as an integral part of teaching and learning. They should desist from using assessment as a tool solely for ranking learners and schools (Heritage, 2009)

Diagnostic Assessment

Conner (1991) the diagnostic purpose of assessment is the only way of identifying student's learning problems. Broadfoot et al. (2000) define a diagnostic function of assessment as that which indicates how current performance differs from expected performance. These scholars further states that diagnostic assessment can be used to identify specific problems that a pupil may be experiencing.

Teachers in the primary schools in Swaziland seem to think revision of work before a test or examination is diagnostic assessment, yet it is not. Diagnostic assessment needs to be done in all stages of teaching and learning. For instance, when a teacher gives a class a spelling exercise and realises that one child or more always confuse letters in the words, meaning that he/she spells them wrongly. The teacher can always diagnose the underlying cause of the problem by using any instrument that the teacher feels suitable. For instance, if a child is unable to add two digit numbers with regrouping, the teacher has to assess the child using problems that are relatively easy to answer and below-average performance. That means the teacher has to give the child a problem or problems that do not require regrouping. Teachers should diagnose knowledge or skill in a single subject area in depth not across many subject areas. Despite the big numbers in the classrooms in Swaziland each child needs individual attention.

Portfolio Assessment

Another development in assessment is the portfolio. According to Margetts and Woolfolk (2007), portfolio assessment is a systematic collection of the student's work in one or more

areas, showing effort, progress and achievement. Stiggins (1997) cited by Eggen (2001) earlier on, defines portfolios as purposeful collection of student's work that are reviewed against preset criteria.

According to Broadfoot et al. (2002), portfolios include a collection of work in progress, revisions, student self-analysis and reflections on what the student has learned. The scholars further argue that, the collection must also include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection.

In primary schools as stated by Margetts and Woolfolk (2007), portfolios are increasingly being used in teacher student and parent conferences to discuss a student's learning. In other words, the learners share their learning with their parents. The parents play an important role as they ask questions to gain further insights into their student's learning in the process the learners take control of their learning.

Though portfolio approach assessment may seem time consuming in preparation, they are a highly effective way to engage parents actively and constructively talking with their child about his/her learning (Margetts and Woolfolk 2007). Furthermore, portfolios provide tangible evidence of learners work linked to outcome standards. Further, they allow opportunities for teacher-student collaboration in choosing what to be included in the portfolios, and increase pupil's ownership of learning as opposed to comparing a student to others in the group (Broadfoot et al. 2002).

Summative Assessment

Summative assessment is testing that occurs at the end of a unit or period of instruction and assesses accomplishment (Gallagher, 1998). The scholar further explains that it is designed to determine the extent to which instructional goals have been achieved. Harlen (1997) explains that summative assessment is an important and necessary part of education and of learners' experience. Harlen claims that summative assessments provide useful information about standards for the next teachers of the learners. However, Harlen comments that the information provided by end of year examinations is rarely in a form that would aid the planning of a new teacher taking the class. This, (Harlen, 2007) argues, is because the time and emotion invested in such assessment is limited for a teacher to know the progress of a child well. Otherwise, summative assessment is supposed to represent the culmination of an assessment and learning strategy based on short and medium term formative assessments (Tanner & Jones, 2006).

Broadfoot et al. (2002), stress that an increased focus on summative assessment is a key mechanism of accountability as far as teachers are concerned. These writers further argue that the positive effects of the focus on summative assessment have been that many teachers' understanding and use of assessment have improved. The expectations of achievement levels have risen year on year, and teachers and schools have been made accountable for the progress they have made.

Nevertheless, summative assessment is also a very important technique on its own, especially, if it is used for internal purposes, meaning within the school under control of the teacher within the limits of the school's policy on assessment (Harlen, 1997). The information gathered regularly from teacher made tests, or externally developed tests, or special tasks can be kept and used to check up on what learners learned from a series of lessons overtime. The information can be used for reporting to parents and learners at regular intervals, and passed to other teachers on transfer from class to class.

In the context of Swazilandsummative assessment is possible and is widely practised. However, it could be more effective if the summative assessments in all stages of the primary school life including grade 7 would include all achievements of the child throughout the year. In other words, all the data collected in all assessments contribute to the final mark of the child, than to judge the fate of the learners with for example, a one hour test in the final examination. Moreover, teachers would stop focusing on only what learners need to pass, meaning the

classrooms would be dominated by the curriculum and pedagogy instead of being dominated by examinations.

Continuous Assessment

Continuous assessment (CA) is defined by Pasiona (1993) as a systematic and objective way of finding out how well each student has learnt given objectives. In CA, all test results are used to find weaknesses or learning difficulties, so that appropriate remediation can be given to learners who have 'not mastered' or learned that objective(s) well enough to go to the next objective.

The purpose of CA is to help every child to become a successful learner. In view of Conner (1991), the goals of CA include improving learning among learners whilst, improving teaching by helping teachers to teach towards clearly defined objectives. The CA also was intended to help teachers to prepare tests that are based on those objectives and further provide effective remedial instruction or enrichment activities.

In addition, Conner (1991) points out that reducing the number of learners who repeat a grade or drop out of school is another goal for CA. Furthermore, (Pasiona, 1993) argues that since CA is systematic, it deliberately links all instruction and testing objectives. These instruction and testing objectives determine what is to be taught and test measure what was taught and what was specified by the objectives. CA is diagnostic in nature (Gronlic, 1996). This means that the information derived from the test results is used for diagnostic purposes. The teacher should analyse the test results to determine whether a student needs remedial help or even enrichment for those who seem to master all the objectives.

Continuous assessment is an on-going process determining how well each pupil has learnt at all stages of the learning process, not just at the end of the year or at the end of the primary schooling (Harmmersley and Atkinson, 1995). This suggests that assessment is done at the end of a lesson, at the end of a unit, at the end of a school term and at the end of a school year. What is good in this type of assessment is that any decision to be made at any point in time concerning the pupil, takes into account all previous decisions about him or her. This is contrary to making a decision about a pupil based on a single examination at the end of the year.

Pasiona (1993) states that the CA programme is based on the principles of mastery learning. The scholar explains that the basic theory underlying mastery learning is that, given enough time and appropriate instruction, all learners can learn a given objective. Individuals differ in the amount of time they need to learn a skill or concept. They also learn in different ways. It is therefore, the responsibility of the teacher and the school to provide the conditions; enough time to learn, appropriate teaching methods and a good learning environment that will enable every single child to become a successful learner.

In Swaziland, it is observed that CA was rejected because of the huge numbers in the classrooms. However, teachers can lessen the load by opting for assessment techniques such as group discussions, peer assessment, group interviews and debates. As the learners engage in the discussions and presentations the teacher is able to observe whatever he/she has set as objectives. Though the learners may be in groups or pairs the teacher is able to identify each child's strengths and weaknesses without comparing the child with the others in the group. Peer assessment makes the load even easier for the teacher as the learners' self-judgements about each other, serves as a base of the teacher's observation.

Various scholars have made important contributions to inform this study by providing salient information on understanding the main purpose of assessment and measurement. From the above discussion it is clear that a combination of assessment tools to evaluate learners is essential. Assessment of learners' learning in the classroom by teachers occupies a central role in the teaching and learning process and is an essential component of classroom work. Teachers need information about the level of their learners' knowledge, progress and difficulties they may be experiencing. This assessment provides a framework for setting educational objectives

and planning in response to the educational needs of learners (Cannon and Newble, 2000). Furthermore, teachers should be aware that measurement and evaluation go beyond assigning value and making decisions about learners' achievements or performances. The feedback from these processes should provide the learner with a sense of what he/she might do to improve his/her learning. The feedback data is too useful in helping learners to gauge themselves as to where they are in relations to the teaching and learning objectives. Conner (1991) states that the usefulness and effectiveness of classroom assessment hinges on the quality and importance of the feedback provided, as well as appropriateness of subsequent actions by both learners and teachers. The purpose of formative assessment is to guide the teacher in planning and improving instruction and help learners improve learning, while summative assessment provides a summary of accomplishments. Summative assessment helps teachers also for future planning. Therefore both approaches are equally important in teaching and learning and they should not be downplayed.

Methodology of the Study

Sample

The target population of this study was Swaziland primary school teachers teaching grade 5–7 and principals of the primary schools. Given these criteria, 20% of the primary teachers in the higher part of the Lubombo region was randomly selected as the sample for the study. The study had a sample of 72 primary school teachers. The schools in the higher part of Lubombo region were classified into two groups: urban and rural schools. There were 23 teachers from the urban schools and 49 teachers from the rural schools who participated in the study. The demographic data of respondents included gender, age, teaching experience and professional qualifications.

Gender of Respondents

The study showed that of the 72 respondents 41.7% were males whilst 58% were females, indicating that females comprise more of the primary school teaching force.

Table 1. Age of respondents.

Age	Response	%
Below 25	1	1.4
25 – 35	42	58.3
36 – 45	18	25.0
45 – 55	10	13.9
56+	1	1.4
Total	72	100

Table 1 indicates the respondents' age range. 58.3% of the 72 respondents fell in the 25-35 year age category. The next highest category was the 36-45 year bracket. The least represented category was the 45-55 years with only 13.4% while only 1 respondent fell over the 56 year category.

Table 2. Teaching Experience of respondents.

Years	Frequency	%
Below25	23	31.9
5 - 10	18	25.0
11 - 20	22	30.6
21+	9	12.5
Total	72	100

The teaching experience of respondents in table 2 showed that 31.9 had taught less than 5 years, 30.6% fell between 11-20 years, 25% between 5 – 10 years and 12.5 had taught for 21 years and above.

Table 3. Professional Qualification of respondents.

Qualification	Response	%
Certificate	7	5.04
Diploma	55	76.4
Bachelors Degree	10	13.9
Total	72	100

Table 3 showed that out of the 72 respondents 76.4% hold Diplomas in education while 13.9% were Degree holders and only 9% had a Primary Teacher's Certificate. The indication is that all the teachers who participated in the study were qualified and therefore, were able to understand the instrument.

Table 4. Respondents with course in measurement and assessment.

Responses	Frequency	%
Yes	55	76.4
No	17	23.6
Total	72	100

Information from table 4 shows that 76.4% of the respondents were trained in measurement and assessment, while 23.6% said they never did this course. However, the majority of the teachers knew the fundamentals of assessing children. Of interest to the research is the number of teachers who claimed they never had training in assessment. If qualified teachers like these lack knowledge on assessment, then perhaps all is not well in our teacher education institutions.

The teachers responded to the following research Questions:

1. What knowledge do primary school teachers (PSTs) have about measurement and assessment?
2. What do PSTs see as the role of measurement and assessment in the classroom?
3. What assessment techniques were PSTs trained in during their pre-service or in-service training, if any?
4. What challenges do PSTs encounter in their attempt to assess pupil's learning?

Data Collection

Within a survey approach, a questionnaire was used for data collection procedure. The questionnaires were piloted on a group with same characteristics as the identified sample which were not part of the study. Ambiguities of instructions and wording were identified and corrected. Self-administered questionnaires were personally delivered by the researcher to the respondents in the identified schools. The researcher delivered the questionnaire personally, to the school head using this as an opportunity to establish a rapport with the Principals and make explanations where necessary. The principals of the schools were requested to hand over the questionnaires to the identified respondents. The questionnaire consisted three parts: personal information, where the respondent ticked the appropriate space, a 5 point scale to which respondents rated their responses from 1- strongly agree with 5 – strongly disagree. The third part was open ended questions to which the teachers responded in their own words. The principals handed the questionnaires out to the identified respondents.

Data Analysis

The data was analysed using SPSS 9.0TM to compute the frequencies and percentages.

Results of Research

Table 5. Percentages of the PSTs' knowledge of measurement and assessment.

Statements	SA	A	NS	D	SD
1. Assessment integral and helpful to teaching and learning process	79.2	20.8	0	0	0
2. Classroom assessment involves both measurement and evaluation of achievement	54.2	43.1	2.8	0	0
3. Frequent assessment motivates learners	56.9	33.3	9.7	1.4	0
4. Purpose of assessment only to select learners to next grade	6.9	22.2	4.2	44.4	22.2
5. Diagnostic text used to identify learners' specific learning problems	33.3	41.7	20.8	4.2	0
6. Purpose of formative assessment to give feedback to the teacher	22.2	62.5	11.1	2.8	1.4
7. Learners should assess self and peers	20.8	47.2	18.1	2.8	5.6
8. Teacher to test learners before instruction	34.7	31.9	21.9	11.1	1.4
9. Teacher to use a variety of assessment strategies in one lesson	44.4	45.8	6.9	6.1	0
10. Assessing learners during instruction improves learning	63.0	31.0	7.0	0	0
11. Teachers be aware of emotional impact of assessment	41.7	45.8	9.7	2.8	0
12. Classroom assessment be based on instructional objectives	41.7	45.8	6.1	6.9	0
13. Assessment should enable learners to measure themselves against stated objectives	44.4	38.9	9.7	0	1.4
14. Portfolios are more valid indicators of learners' abilities and achievement	18.1	30.6	50.0	0	1.4
15. Feedback to learners should help the learner to improve	43.1	43.1	8.3	5.6	0
16. Product assessment should include the process	26.4	48.6	18.0	6.9	0
17. Continuous assessment (C. A.) enables teachers to have an input into the final score of each learner	25.0	44.4	13.8	15.3	1.4
18. The Ministry of Education should in service teachers on classroom assessment	45.8	36.1	15.3	2.8	0
19. Teachers should give feedback to learners	59.9	33.3	4.2	2.8	1.4
20. Feedback to learners should be both supportive and challenging	61.1	33.3	2.8	2.8	0

SD-Strongly agree; A-Agree; NS-Not Sure; D-Disagree; SD-Strongly disagree

As seen in Table 5, the majority of the PSTs had knowledge of some aspects of measurement and assessment, but lacked some understanding of assessment that they ought to have possessed as qualified PSTs.

For Item 1 (see table 5) 79.2% of the PSTs strongly agreed and 20.8% agreed to the idea that 'assessment is an integral part to teaching and learning'.

With regard to the assessment being used solely for selection of learners to the next grade, for Item 4, 44.4% of the PSTs disagreed with the idea that 'assessment is administered for the purposes of selecting learners only'. However, 22.2% of the PSTs strongly agreed that assessment is for selection only while 6.9% agree that learners are assessed solely to be selected to the next grade. Though the results show that the majority of the PSTs know that assessment is administered for other purposes other than selection, it was also noted that there are teachers who lack this knowledge.

In relation to formative assessment, for item 6 (see Table 5) 22.2% of the PSTs strongly agreed that formative assessment gives feedback to the teacher if learning has taken place. This is in line with what Conner (1991) describes as an important procedure that provides information on the achievement of individual learners, which assists in planning of the learners' future work. About 62.5% agreed that this type of assessment is informative to the teacher and the learners as well. The indication is that the teachers do have knowledge on this aspect of assessment. It is then assumed that assessment of learning is not left until the end of month.

With regard to portfolio assessment (see Table 5) item 14, the results indicated that 50% of PSTs lack knowledge of this type of assessment, while only 30.6% agreed that portfolios are valid indicators of learners' abilities and achievement. The response indicated that knowledge of this type of assessment is low. Almost 50% of respondents agreed that portfolios are valid indicators of learners' abilities; the number that was not sure of this is a cause for concern. Teachers need to know more about current trends in assessment as portfolios allow opportunities for teacher-student collaboration in choosing what to be included and increase pupil's ownership of learning as opposed to comparing a student to others in the group (Broadfoot et al. 2002).

With regard to continuous assessment (CA) as enabling the teachers to have an input into the final score of each pupil, 69.4% of PSTs agreed that CA does give the teachers an opportunity to contribute to the final mark of each pupil. The number of responses supporting this statement is also interesting because, primary teachers refused to produce CA for inclusion in the final examination marks, yet they know that CA is a useful contribution to the learners' final assessment. Maybe teachers need to be in-serviced to change their views about this type of assessment so that they may begin to see its value.

Information collected on knowledge of PSTs on measurement and assessment the results showed that many respondents agreed that classroom assessment should be based on instructional objectives (see table 5) item 12, 41.7% strongly agreed that assessment should be based on objectives, 45.8% responded positively while 6.9% responded negatively and 6.1% were not sure. The researcher's interpretation of this data was that the majority of teachers are aware that assessment should be based on lesson objectives.

The finding on assessment during teaching indicated that 63% of PSTs strongly agreed that assessing learners during teaching and learning improves the teaching-learning process and 30% agreed with the statement. The results reveal that PSTs agree with Popham, (2009) who sees assessment as formal and informal procedures that teachers should employ in an effort to make accurate inferences about what learners know and can do. A small percentage of 7% of the respondents were undecided. They could not say whether assessment during instruction improves learning or not. However, the general interpretation is that PSTs know that assessment during teaching indeed enhances learning. The responses on mounting of provision of in-service workshops for teachers as reflected in Table 5 item 18 indicated that 45.8% strongly agreed, 36.1% agreed with the statement while 15.3% were not sure if they needed the workshops and 2.8% felt that in-service workshops were not necessary. The indication is that most teachers feel they need further knowledge on assessment because their information base and their skills need to be upgraded.

Findings from Open Ended Questions

To find out when teachers assess their learners, the respondents were given four alternatives: before teaching, during the course of teaching, at the end of the month or at the end of term. The respondents had to indicate more than once when they assessed learners. The data collected from item 21 of the questionnaire revealed that about 50% of the 72 respondents assessed their learners during the course of the teaching only, while 38% assessed the learners before instruction, during the course of instruction and at the end of the month. About 12% only assess learners at the end of the month. The inference from the results is that teachers know that assessment has to take part during teaching, but the majority of them do not know that they need to pre-test learners to find the prior knowledge and skills that learners might have. Data also indicated that there are teachers who lack knowledge that assessment should be an on-going process; meaning assessment does not have to be left until end of the month.

The findings from items 22 and 23 of the questionnaire on whether PSTs knew why they assess learners, 72% were able to say that they assess learners to check the learners' progress. 46% said they assess learners to evaluate the effectiveness of the teacher and teaching method. 54% of the respondents indicated that they assess learners to evaluate the effectiveness of the teacher and teaching method. 54% of the respondents indicated that they assess learners to find out if the set objectives are achieved or not. Only 28% gave the diagnosis reason for assessing learners. Some respondents gave reasons like "To compare them", "to get an end of month mark". The indication from the results is that, the predominant reason for assessing learners by primary school teachers is monitoring progress, followed by checking the effectiveness of the teaching method. Out of the 72 respondents none mentioned the main role of assessment, which is planning what to teach next.

What was noted was that though most of the PSTs responses in the ratings showed they have knowledge on assessment, their responses in the same issues in the open ended questions displayed the opposite. Some responses were either not relevant to the questions or no response at all. In general the findings on the reasons for assessment, where the respondents had to express themselves indicated teachers' lack of knowledge. For example, some respondents on reasons why they assess their learners gave responses like: "to compare them", "because every child is a successful learner", "to handle knowledge and information".

On purposes and function of assessment such responses were given, "assessment serves to design methods of assessment which will assess how well learners have proficiency", "to find competence", "to find the intelligence of the child". Some of these responses were incomplete, for instance the respondents could not say to find proficiency or competence in what aspect.

From the open-ended section of the questionnaire, item 24, regarding the challenges that teachers encounter when assessing learners, 85% responded to this one; while about 15% did not respond. The responses indicated that 55% of those who responded complained about the high numbers in the classroom, hence learners copy from others making it difficult to find out if learning has taken place or not, and insufficient time to pay individualized attention to each child, thus, having no time for diagnostic assessment. The 15% of the respondents indicated that most learners perform well orally, but when it comes to writing they are unable to give correct responses. From this concern the researcher concluded that teachers mainly rely on paper and pencil testing. That is why they complain about copying among learners. They might be lacking in some assessment skills and practices. A possible indication is that the teachers lack knowledge of some assessment tasks in which there are multiple answers or skills that cannot be demonstrated only in paper and pencil format of assessment. Whenever they think of assessment they only think of written tests. These tests are always accompanied by marking lots of learners' scripts in overcrowded classrooms and that is why they complained of insufficient time.

In item 25 of the questionnaire the respondents were required to list other assessment techniques they used other than the paper and pencil tests. The findings indicated that the

most popular assessment technique among PSTs is the oral testing including debate which was represented by response rate of 72% followed by practical work 56%, group discussion 26%, observations 18% and none used class projects. The researcher's interpretation of the findings was that observation and projects are least popular among PSTs as means of assessment. Group discussions were not commonly used as well. Teachers were unable to mention long term assessment practices like class projects. The indication was that the knowledge of assessment techniques and mastery of assessment skills was limited among most primary teachers. There is a tendency to restrict assessment techniques to what is easier rather than what is important to assess.

Conclusions

The findings of the study revealed that the PSTs mainly assess the learners to monitor their progress. In contrary to Rowntree (1977), who emphasizes that the major role of assessment is to provide for instructional planning the PSTs tend not to often deploy assessment to plan for next lesson and to identify the learners with learning problems.

In relation to the assessment techniques, although a variety of assessment techniques are used in primary schools, there are those who are rarely used or not used such as; projects, debates, observation and discussions. The techniques that are less frequently used are those in which a teacher is significantly involved as an observer or facilitator. In spite of the fact that a growing body of literature points to use a wide range of assessment techniques, the PSTs' used assessment procedures tend to be still narrow and limited in scope. Popham (2009) claims that teacher tendency restricts assessment techniques to what is easier rather than what is important to assess.

In relation to the challenges that the PSTs come across with assessment, the findings reveal that while teachers are expected to spend a great deal of their time on assessment, they are not adequately prepared to meet the challenging demands of classroom assessment. Time, for instance, need not be a major problem because assessment should go along with teaching. Dembo (1994) argues that teachers find assessment as an extra task, yet it is not something extra, but part of everyday teaching and learning. The primary teachers should utilize the teaching time to assess, and it gives the idea that teachers mainly believe that assessment should always be in the form of written tests. Black and Dylan (1998) maintain that teacher's inability for knowledge and skills prevents to use effectively a variety of assessment techniques in the classroom. The assumption is that maybe teacher education training programmes in Swaziland do not sufficiently expose teachers to a variety of classroom assessment practices and techniques. Moreover, the majority of the PSTs' responses indicated that they feel they need skills on measurement and assessment.

Recommendations

Based on the findings of this study, the following recommendations can be made: the teacher training colleges and the University of Swaziland need to widen the scope of measurement and evaluation course to adequately prepare teachers for challenging tasks of assessment. The in-service department has to run assessment workshops for PSTs in Swaziland to update and expose them to new assessment techniques. Teachers should develop a culture of reading literature on measurement and assessment to familiarize themselves with current concepts and practices of educational assessment. The National Curriculum Centre should empower PSTs on how to develop, compile well-tested test items into item banks where untrained and inexperienced teachers could have access to such resource. Finally, further research on the attitude and perception of learners towards classroom testing should be done.

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