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**TITLE: USING ASSESSMENT FEEDBACK FOR DECISION-MAKING AT THE
SCHOOL LEVEL IN KENYA**

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ABSTRACT

Examination bodies have assessment data which if analyzed and shared can inform decision-making at various levels. As a principle, assessment data provides feedback that supports the learning processes but most of the assessment data remains frozen and under-utilized. This study sought to investigate the use of end of primary cycle school-specific three year summative assessment trends reports by classroom teachers, school heads, members of the school board and quality assurance officers and how they shaped individual and institutional decision-making at the school level. Relevant literature on practices of decision-making pointing to the down-up approach and evidence of its impact were reviewed. The qualitative case study design with qualitative approach to data collection and analysis was used. Out of a target population of 4000 primary school under pilot study, 50 primary schools were randomly sampled to participate in the study. Using Questionnaires, guided interviews were conducted among 50 teachers, 50 school heads, 20 members of school boards and 10 quality assurance officers. Both qualitative and quantitative analysis of data was used. Reflective and interpersonal analysis approach was used to analyze qualitative data for clues, patterns, and problem-solving strategies in order to shape the necessary categories of decisions made. The findings showed that teachers and head teachers used the school-specific assessment reports to make individual and institutional decisions ranging from subject topics to teach better to instructional materials to prioritize. School board members reported having a guided way of allocating available resources based on evidence availed by assessment reports of their schools. Quality assurance officers reported using them to map out schools and make administrative decisions on teacher-support in their precincts. The study recommends that examining bodies should use assessment data by mining and refining it for sharing to various target groups for informed decision-making at the school level.

Key words: Assessment, Feedback, Decision-making, School-Specific.

Introduction

The foundation of sound decision making rests in good measurement practices that produce accurate data at all levels of an education system. Assessment enables us to generate data on which decision making can be based. Various stakeholders in the education sector need to constantly check the learning and put various interventions in place to ensure quality education is accessed and delivered. For the effective decision making process, one of the roles of the examining bodies is to provide assessment feedback data in a format accessible by the various stakeholders for decision-making processes. Mehrens and Lehman (1991) suggest that decisions can be classified as either individual decisions; such as those made by learners and teachers or institutional decisions; such as those made by teachers, school management boards, quality assurance officers and other education system stakeholders. They classify educational decisions into instructional, guidance, administrative, research / programme evaluation decisions.

The OECD's Education Policy Committee launched the Review on Evaluation and Assessment Frameworks for Improving School Outcomes in 2009 to provide analysis and policy advice to countries on how different assessment and evaluation tools can be embedded within a consistent framework to bring about real gains in performance across the school system. The Review includes a thorough analysis of the evidence on evaluation and assessment, in depth review of evaluation and assessment policies in a range of countries and a synthesis report comparing country experience and drawing out general lessons for policy development.

Currently, many examining bodies in Africa have assessment data that is underutilized, not well mined, analysed and packaged for sharing with education stake holders. Decentralization of the use of assessment data goes a long way in enabling various education stakeholders to be accountable for learning and improving learning outcomes. In their review, OECD (2009) suggests that the effectiveness of evaluation and assessment relies to a great extent on ensuring that both those who design and undertake evaluation activities as well as those who use their results possess the proper skills and competencies.

It is not only what we have as assessment data but how we share it in a targeted and useable manner that will influence decision making in the education sector. This assessment feedback reporting then shapes the reliability and validity concerns that every examining body faces.

Who is making which decisions at the school level?

Teachers are often faced with the need of any information that can help them improve on learning outcomes. They can make individual decisions on which instructional materials to use to enhance conceptualization of various topics; the methodology to use to enhance classroom learning experiences; whether to team-teach or have in service capacity building on a specific topic; what learners are struggling with and what should be prioritized to improve learning outcomes? The use of assessment feedback data using a cohort that the teacher has handled personally becomes key in shaping the making of these individual decisions for the teacher. This brings to the fore the questions what assessment data should examining bodies be sharing and how should it be shared to enable the teacher to make these key individual decision.

Some studies have been carried out relating the teacher and assessment data. For instance, Dolton and Marcenaro (2011) undertook to use correlate the relationship between the teacher pay and the PISA score. They suggest that the quality of teachers is likely to be higher if they are paid more in relative terms and the former is considered to be a key factor predicting student academic outcomes. The study, in part, compares assessment data to teachers pay in a bid to seek out what makes for a quality teacher. It however does not inform the very teacher on what decisions they can make to be better teachers or to have better learning outcomes in.

Primary school management boards in Kenya are mainly charged with the responsibilities such as: mobilizing resources and using available resource prudently; giving support to teachers/ learners at the school level and coordinating the learning at the school level. These responsibilities call for both institutional and administrative decisions made by school management boards. The presence of assessment feedback data specific to the school that can inform decision-making processes such as which instructional materials to prioritize goes a long way in ensuring that the limited resources available are prudently used.

The quality assurance function is to oversee the curriculum implementation and often they have to respond to questions such as: is the quality of the entire learning program up to standard? How can we support teachers, learners and other educators to bring it to the desired standard? How do we target the support given to the teacher for better performance? This calls for building the capacity of quality assurance officers so that they can interpret and use assessment feedback data correctly to support the crucial role they play in making administrative decisions in their precincts. Can using KCPE SSR the QAS offers / can map out the schools under their areas of operation, observe trends in performance based on subject specific data available and move further to make research/ programme evaluation decisions? Teacher placement, capacity building and teacher appraisals are functions that can be informed by the analysis drawn from assessment data (citation). This approach of school level support is a prelude to policy level decisions and is the better approach to policy making using assessment data.

The assessment data available with examining bodies can be analysed and used to ensure the transition towards more accountability on improving learning outcomes. The question thus is how are the examination bodies mining, refining and sharing assessment data to inform various decision-making processes from the school level to the policy formulation level? Though much of the assessment data is of public examinations at primary and secondary school levels and is considered high-stake and summative, it can have positive and negative influences on learning if used to inform schools of how cohorts from that school are performing. Policy making processes are based on assessment data for decision-making. The assessment data from public examinations is valid and reliable and can be analyzed to shape policy dialogue when done in a timely and shared in an easy to access and interpret format.

The innovation of the school specific assessment data analysis as an online feedback reporting in Kenya provides easy to interpret analysis on how candidates performed as a trend on the cognitive levels of the Blooms Taxonomy per subjects at the end of primary school cycle. The school specific assessment data for three years is analyzed in the following four ways:

Performance Trends per Subject by mean using percentages; Subject Content Area Analysis; Subject Performance by Cognitive Skills and the General Performance Analysis.

The analysis takes into account that test items in each subject area have varied difficulty levels and thus important to compare the performance of each subject against the national mean of that particular subject for schools to make better interpretation of their standings. Research on how to select quality test items based on the item response theory for more provision of more accurate estimation of a candidates achievement exists (Bennett, 2010) giving strength to the use of summative test data to better inform teaching and learning processes.

Statement of the problem

Since 2017, primary schools in Kenya have been provided with online KCPE school-specific-three year performance trends; subject content analysis and cognitive skills analysis of their performance. The purpose of these school-specific reports was to paint a true picture of each schools performance against the national mean. While this was done to help improve learning outcomes, no study has been carried out to find out how the schools are using the assessment feedback data provided online in decision-making processes at the schools level.

Purpose and Objectives

Mainly this study set out to determine the use of assessment feedback data availed online to primary schools in Kenya for making school-level decisions.

The study desired to find out the extent to which schools were making use of the assessment data analyzed for them to make decisions and they nature of decisions that were made at the school level. Therefore, the following research questions were guiding:

1. How has the use of the KCPE digitized school specific assessment feedback data improved decision-making processes at the school level?
2. How has the use of the KCPE digitized school specific assessment feedback data enhanced school level management and accountability?
3. How does the use of assessment data as feedback improve teaching and development of teaching and learning materials/experiences?

Literature Review

Kellaghan and Greaney (2003, 2004) classified assessments in four categories: public examinations, national assessments, international assessments, and classroom assessments. They saw assessments as satisfying four needs: describing the knowledge and skills that constitute a quality education; measuring student achievement; evaluating progress toward the goal of a quality education; and, for translating assessment data into policy and instructional procedures that will improve the quality of learning. All the four classifications inform different decision-making processes based on the various purposes for each category of assessment.

For all stakeholders in education to gain confidence to use assessment data for decision-making, they have to have the assurance that the assessment data is authentic and has the credibility they can rely on. Public examinations such as KCPE have been conducted in

adherence to the principles of constructive assessment as suggested by Smith (1995). Some of the principles relevant to this study include:

1. Putting assessment as an integral part of learning with focus on deep, active learning and inclusion of higher order cognitive skills.

According to Fourie-Malherbe and Strydom (2016) a deep approach to learning entails making connections and active search for understanding (meaning), and developing of critical thinking. This is the desire of any educator for a learner more so the assessor of the learners abilities. Using assessment data to show the teacher and other educators on what it is that the learner is learning helps in shaping not only the individual decisions that the teacher has to make but the administrative ones as well to improve on the learning.

2. Assessment procedures and processes should be reliable.

Ensuring that assessment is reliable improves the use of assessment data for better feedback reporting and consequently sound decision-making. The results shared are as an outcome of test items that have met the threshold of reliability, validity, fairness and equity. The use of such assessment data should be encouraged as a principle and practiced for decision-making to enhance learning outcomes. Examining bodies offer public examinations that have the strength of being publically accepted in their countries by education stakeholders and other foreign examining bodies. They offer a sustainable pool from which reliable, regular and timely assessment feedback reports can be drawn for school level use in decision-making.

3. Assessment should provide feedback to support the learning process.

While we may carry out summative assessments, the feedback should be used to inform learning by providing the empirical evidence upon which decisions can be drawn. The targeted beneficiaries of any assessment feedback should include the learner, teacher, the school management, the quality assurance officers and parents.

The innovation of mining, recasting and digitizing the use of assessment data when giving feedback on the KCPE Examination with school specific analysis aims at: providing feedback to each school on the trends of KCPE performance over a period of 3 years; helping individual schools identify areas of weakness in all subjects at the school level; enabling the school to put in place appropriate measures to help improve their learning outcomes; enhancing the use of evidence in decision-making processes at the school level; imparting skills on the interpretation and use of the assessment feedback data; and enhancing the teachers' assessment and teaching skills.

Research exists that point at the predominant use of assessment data in improving the quality of education by various education systems. Three traditions have categorized research on quality education, UNESCO (2012, p. 31) on strengthening of education systems identifies 'Production -function studies' as those "which attempt to identify the inputs with the greatest impact on student achievement". These kinds of research like the World Bank (2010c) have found out the importance of textbook provision for quality education and the lack of impact of class sizes on the quality of education accessed. The research is critiqued for the simplistic fashion in which data collected is interpreted and the complexity of transforming inputs into

results linked to student achievement without using assessment data. Is it possible that the available assessment data can be analyzed to indicate performance of learners and help guide administrative decisions on which teaching and learning materials to prioritize?

Not using assessment data to inform policy formulation and increase accountability of an education system paved way for the another category referred to as the ‘system improvement’ research. This comprised of comparative analysis of quality related progress of the education system. Mourshed et al., (2010) describes these as research that identifies interesting sets of strategies that systems at different levels of student achievement have used in order to improve. They include international and regional assessments such as PISA, TIMSS, PIRLS and SACMEQ. These were used by policy makers who needed to know improvements of the education system by assessing various attributes in the student’s achievement, teachers, parents and the school environment. While an advance was made to include and analyse assessment data to inform policy, many of these studies remain largely not disseminated to the school level and are thus accessible only to few educators with interest in doing further research and not useful for decision making at the school level.

This study addresses that gap by availing analysis of assessment feedback data to a school based on the school’s own performance for a period of three years to help the school identify their own aspects and steer school level decision-making processes that will bring about the desired changes. Similarly, research done by IIEP (De Grauwe et al., 2011; Lugaz et al., 2010) indicates that schools as the basic unit of accountability tend to feel isolated as the ministry’s actual outreach to schools is limited and weak, an aspect also observed in study carried out by Mourshed et al., (2010). National examining bodies have a key role to play in ensuring that the assessment data at hand is availed in a manner that supports the decision making process in a timely manner. If assessment feedback data is mined, analysed and made accessible at the school level the more decision making processes are informed that could improve learning outcomes.

Theoretical and Conceptual Frameworks of the study

Decision making at the school level is a social activity that borrows from the theories of change and social development. Midgley (2014, p.13) defines social development as “ a process of planned social change designed to promote the well- being of the population as a whole within the context of a multifaceted development process.” The planned social change requires the use of empirical data and this study explores the use of school specific test data to shape the decisions made at the school level. Examining bodies have a role in ensuring that the assessment feedback data available to school communities for effective decision making. The aspect of mining, refining and sharing such assessment data is likened in this study to the ‘technology transfer’ alluded to by Bozeman (2000).

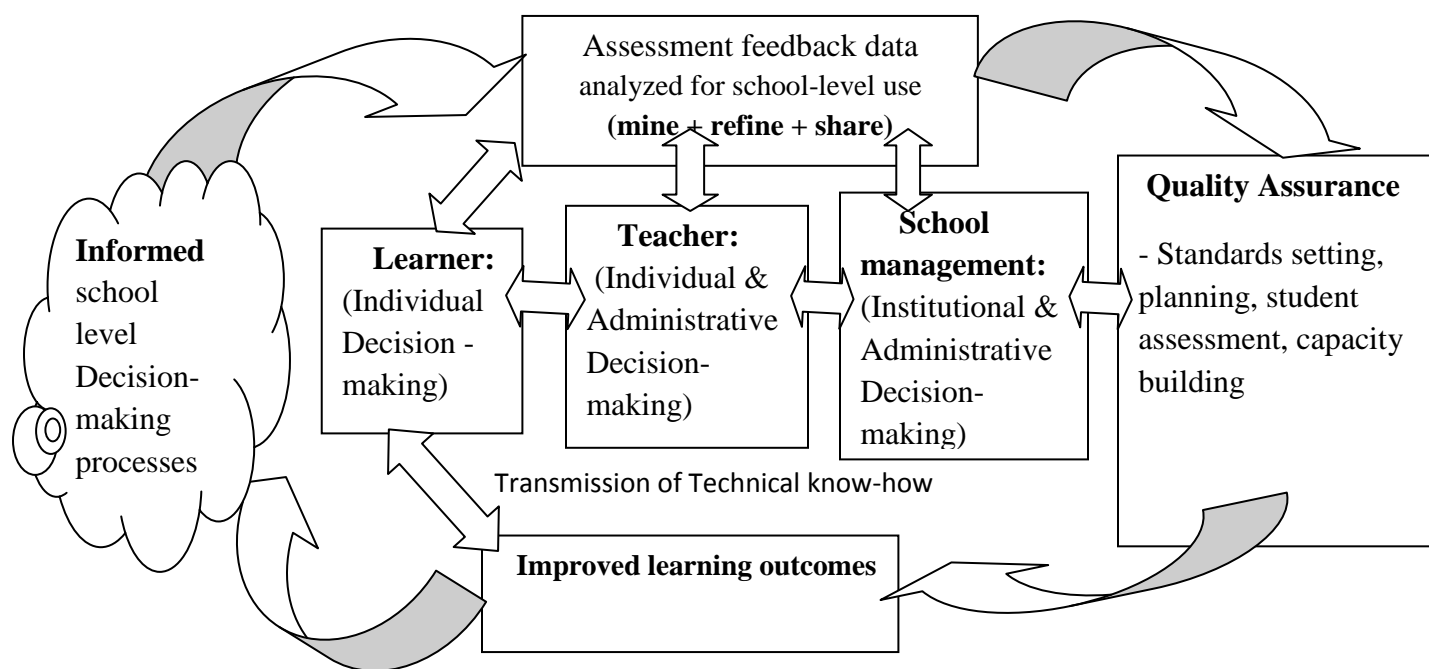


Figure 1: Conceptual framework on the use of assessment data.

Methodology

Research Design

The study used the qualitative case study research design. Malterud (2003, p.1) states that “qualitative research methods involve the systematic collection, organization and interpretation of textual material derived from talk or observation and that is used in the exploration of meanings of social phenomena as experiences by individuals themselves in their natural context”. This design thus aided the researcher in the describing behavior experiences phenomena and perspectives of the respondents.

Case studies are good for studying phenomena of qualitative research such as institutions, events, policy interventions, individuals, or even countries during a particular historical period as data interpreted is within the phenomena contexts allowing for the perceptions of the respondents. The focus of this study was to find out the extent to which schools were making use of the assessment data analyzed for them to make decisions and they nature of decisions that were made at the school level. The rich perceptions of the members of the school board, teachers and officers who do quality assurance on how this innovation helps in their decision-making processes are important in informing this study. Fifty schools are the cases used in this study.

Sample Size

Simple random sampling technique was employed. Out of a total of 4000 pilot primary schools, this study sampled randomly 50 primary schools. The respondents 50 teachers, 50 head teachers, 20 members of the school board and 10 quality assurance officers were randomly selected to participate in the study.

Data collection techniques

For the 50 sampled schools, semi-structured questionnaires were used to collect data from 50 teachers, 50 head teachers, 20 members of the school board and 10 quality assurance officers. Data collected was collated and classified into the thematic areas and descriptively analysed and interpreted as per the research questions.

Presentation and Discussion of Findings

The following are the findings of the study:

- **The use of the KCPE digitized school specific assessment feedback data in improving decision-making processes at the school level.**

Majority (70%) of the teachers interviewed were using the online school specific analysis feedback easily accessible from the KNEC Website. When asked how the assessment feedback data had helped them in decision making, the teachers reported that it had helped them make individual decisions that mainly fell into the following categories.

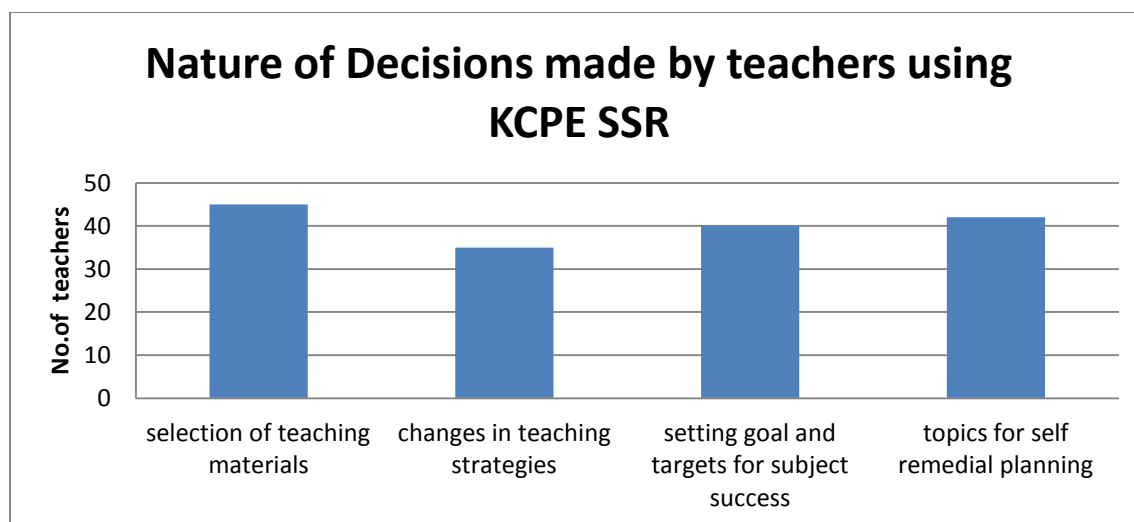


Figure 2: Sample Individual decisions made by teachers using KCPE SSR

It can be noticed that teachers are making individual decisions using assessment feedback data to improve learning with the majority, 45 out of 50 sampled making decisions on the selection of teaching materials for topics poorly performed.

Specifically, a science teacher from school Z had the following to say:

The online report is detailed and gives me subject specific topic analysis, I can relook at the poorly performed science topics and decide on how best to teach the topic like using teaching aids. Without that analysis

I just thought all was well in every topic.

While a mathematics teacher from school Y said:

I have decided to use more time practicing constructions since in the three years pupils have not performed well in that topic. The subject panel members think there is need to start teaching construction at Grade 4 and get each learner geometrical sets.

The teachers interviewed could pick out the topic their pupils were having difficulties in from the trend given and made individual decisions to change the teaching strategies and get the instructional materials that would be required. This is in line with the assertions of Kellaghan and Greaney (2003, 2004) that emphasise the need for translating assessment data into policy and instructional procedures that will improve the quality of learning.

Instructional decisions ensure the learner is guided by communicating the goals set by the teacher, motivation of the learner, providing encouraging positive feedback having identified weakness and strengths.

➤ **Use of KCPE SSR assessment feedback data in enhancing school level management and accountability**

This study reached out to school heads and members of the schools boards of management to find out how the assessment feedback data has contributed to decision-making at the school level. The appointment criteria for a school board member as stipulated in the Basic Education Act, (2013) ensures that the membership of any school board is made up of individuals from varied backgrounds. The assessment feedback data analysis given to schools considers this aspect so that members of any given school community can have a common tool that they can use when discussing at the school level on the school's academic performance. When asked how the assessment feedback data helps the school board members in decision making the figure below summarizes the findings.

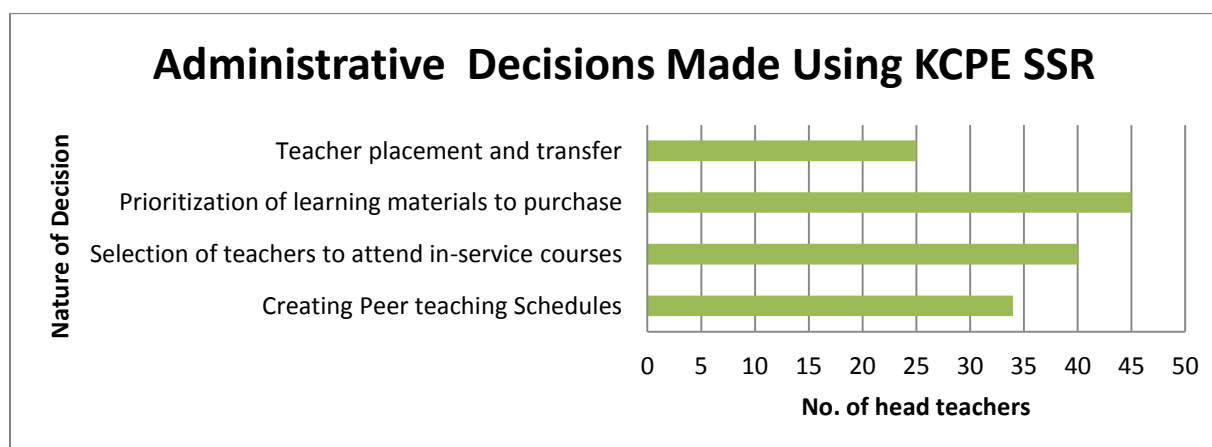


Figure 3: Nature of administrative decisions made by head teachers and board members

From figure 3 above it is noticed that majority of the head teachers were guided by the assessment data to decide on the learning materials to purchase as matter of priority. Who to send for in-service training too was decided based on the assessment feedback data of each school. School heads indicated that the assessment data analysis led to decision on team teaching from the sentiments below:

A school head from school Q said:

This analysis by topic has helped me identify topics some teachers are not good at teaching in Science, I have asked my colleagues to embrace team teaching. We all want the pupils to perform well.

A member of the school board of management at school S said:

That analysis made us identify the subjects in need of improvement given the three years outlook and some of these subjects had no instructional materials at all. So it was easy to decide on how to allocate money for buying textbooks to these subjects first. The report from KNEC can be trusted to guide us as board members.

Trusting the assessment data contributed to institutionalizing dependence empirical data for decision-making to promote social accountability among school managers.

Similarly, another member of the Board of Management at school R said:

*At school board meetings we get to approve budgets for buying textbook,
There is no way of checking if the textbooks are really what is needed.
using the assessment data analysis we can ask for justification for each purchase order.*

Empowering school boards of management on decisions-making using assessment data helps them make administrative decisions that directly impact on pupil learning based on empirical evidence provided by the national examining body.

The use of assessment data analysis is implied to be of great importance at the school level as it initiates common dialogue on learning related support based on the pupil performance trends posted. Better decision-making on how to change the downward trends is thus facilitated. The meager resources at the school level can be better allocated and accounted for.

➤ **The use of assessment data as feedback to improve teaching and development of teaching and learning materials/experiences**

The quality assurance officers after interacting with the teachers and the KCPE school specific assessment Feedback data analysis had these to say:

Quality assurance officer 1 from county E said:

Looking at the assessment feedback data analysis for the schools in my zone has enabled me identify subjects and topics for advisory support to the teachers. This makes me decide on subjects and topics in which teachers need in-service training based on the trends given and recommend it.

This resonates with the views of yet another respondent stated below.

Quality assurance officer 2 from county P said:

Knowing how a learner you taught performed makes the teacher better at curriculum content delivery and the assessment data analysis is very useful for that. We then use the school's analysis with other indices to hold the school management accountable. I see more and more teachers making Instructional decisions that enable conversations at the school level around their responses to these questions:

- ✓ *What experiences/ opportunities am I according the learners to apply knowledge learnt?*
- ✓ *Which topics am I not delivering on effectively, and what can I do differently?*
- ✓ *Who can I team up with?*
- ✓ *What support do I need?*
- ✓ *What windows of opportunity do I have to effectively intervene to improve learning?*

Implications for practice

Mining, refining and sharing assessment data feedback reports increases accessibility to data by various stakeholders at the school level. The use of assessment feedback data specific to a given school can be useful in facilitating individual and administrative decision-making and encourage school level accountability in improving learning outcomes.

Similarly, the findings imply that examining bodies have a rich resource that is assessment data and they should avail to educators a user friendly easy to access tool, like the digitized test data feedback, to use in enhancing school-level decision-making processes.

Further, teacher capacities in assessment are enhanced as they have opportunities to see the weaknesses and strengths of pupils (Ripley, 2009a), more so, through the use of assessment feedback data of the real pupils that they have taught themselves in the past years examining bodies should share detailed analysis of assessment data; this in turn would help teachers improve on the teaching and learning process and the formative assessment function.

Conclusion

Teachers, school heads, members of school boards and quality officers who interact with the assessment feedback data reported of improved decision making processes and holding each other accountable for better learning outcomes. The use of assessment data to strengthen decision-making at the school level should be enhanced as it would help inform teaching and

learning processes, ensure prudent use of resources and institutionalize accountability. It is possible to sustain this as public examinations have the strength of being publically accepted in the country by education stakeholders and foreign examining bodies.

Recommendations

It is the recommendation of this study that examining bodies re-design, digitalize and share the Public Examination assessment feedback reporting for improved School-Specific- analysis reporting. This would assist the schools to make decisions and work on improving on areas of weakness primarily leading to better understanding of the school's learning outcomes for planning, resource allocation and increase school level decision making and accountability.

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