

# Innovations in Assessment Practices Towards Quality Education in Tanzania

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## Abstract

*This article seeks to bring a controversial discussion on the mushrooming of preparation centres e.g. Qualifying Test (QT) centres, Form 4 Repeaters' centres and other covert sites, which can be taken as positive innovations tapped and recasted to bring quality education. These are seeking to bring an impact on quality education for they are also providing comparable employment and providing education that could not have been obtained without these centres. In addition, the article looks at assessment of students/individuals at such centres, their national examinations and certification/accreditation with the following three specific objectives: i) to consider assessment at the classroom level (partial assessment) of continuous assessment of a student; ii) to think outside the box of a possibility to conduct national examinations twice (public/secondary schools and the private candidates) at different times of the year with examinations that have the same equivalent weight; and iii) to provide credible accreditation to appropriate programmes/modules/curricula run by registered institutions. The article focuses on the provision of secondary education for the public in terms of public candidates and private candidates for the Ordinary Level Examinations as the agenda of measurement/assessment/evaluation conversation. The article concludes by providing approaches and concrete solutions that will influence the National Examinations Council of Tanzania (NECTA) and policy makers to make informed deliberations and decisions.*

**Key words:** Assessment, Curriculum, Examinations, Innovation.

## Introduction

This article has three specific objectives: i) to consider assessment at the classroom level (partial assessment) of continuous assessment of a student; ii) to think outside the box for a possibility of conducting national examinations twice (public/secondary schools and the private candidates) at different times of the year with examinations that have the same equivalent weight; and iii) to provide accreditation to appropriate programmes/modules/curricula run by registered institutions towards credible accreditation. The article indeed, focuses on the provision of secondary education for the public in terms of public/private secondary schools and private candidates for Ordinary Level Examinations as the agenda of the measurement/assessment/evaluation conversation.

*What has confused much of the discussion about system improvement in the past is that each system's journey is different: each school system starts from a different point,*

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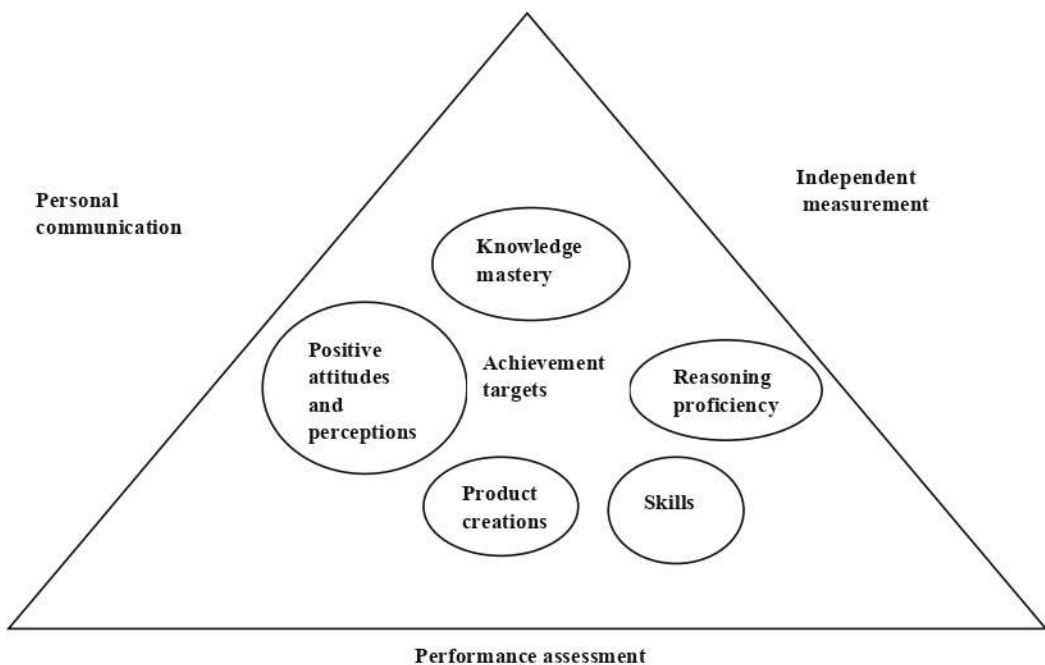
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*faces different and operates in a different social and political context. These differences often led the experts to give poor advice. Rather like in the hoary old tale of a weather worn farmer who, when asked directions by a lost traveler, replies, "Well I wouldn't be starting from here, if I were you." School system leaders, when looking for direction, are often told what to do from a starting point that is different from their own. Educators in a moderately performing system are better off in seeking inspiration from similar systems that are managing to improve, rather than from those that are configured and positioned very differently, even if they are the world's best -performing ones. (Source: McKinsey & Company, 2007).*

## The Assessments

At the school level, student assessment is based on demonstrated knowledge of course content standards through performance on homework, projects, papers, classroom participation, quizzes, exams and other measures as determined by the teacher. The specific measures used and their relative weighting vary from subject to subject. Every school has a responsibility to promote honesty and integrity on the part of all students. (Retrieved on March 15, 2013 from <http://www.wlww.k12.or.us/Page/248>).

**Figure 1: The Framework for Learning and Assessment**



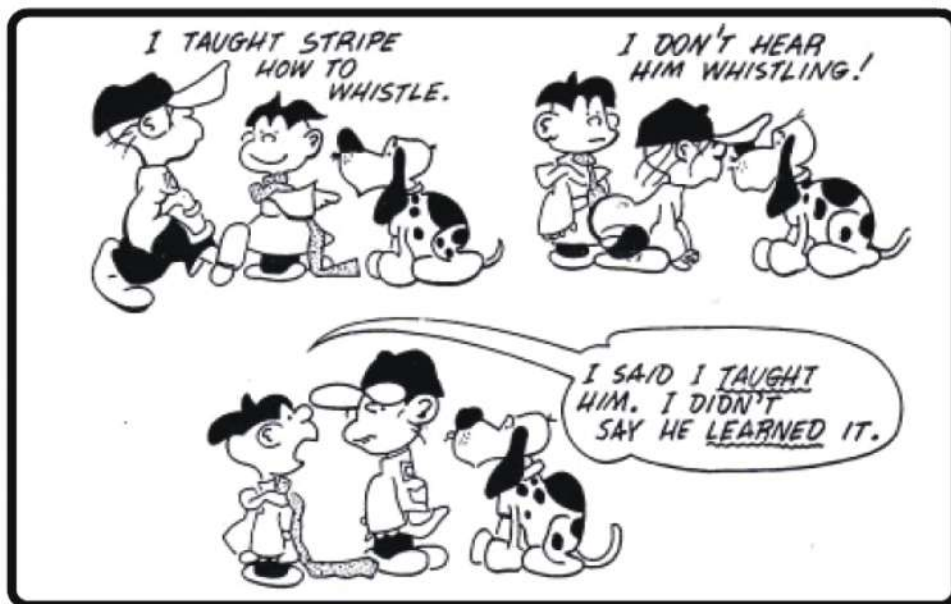
Source: Modified from <http://www.wlww.k12.or.us/Page/248>

## Classroom Assessment

Classroom assessment is a meaningful source of information for teachers, helping them identify what they taught well, what was not taught right and which areas teachers may need to modify to enrich the learning process. This kind of assessment does not require sophisticated mathematical analysis of assessment results. Teachers need only a simple tally of passing or failing students. Once teachers have identified good, average and poor students, and those needing extra attention, then they can address the teaching scenario in their classes as noted in Figure 1.

In the process of assessment, the teachers have to determine whether the questions address the best approach in assessing the students. Indeed, questions may be ambiguously worded or perhaps students misinterpret them. The questions could have come only from the cognitive domain and not the other affective and psychomotor domains.

**Figure 2: Demonstration of the Missing Gap in the Cognitive Domain**



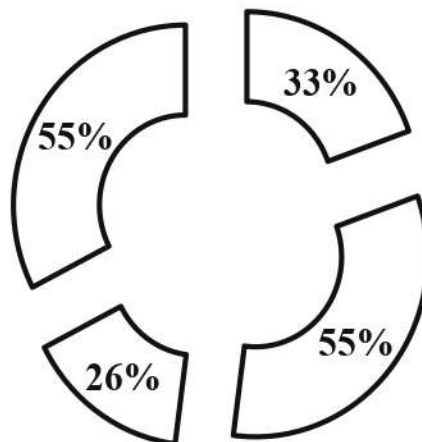
Source: Retrieved on 11/05/2022 from <https://www.google.co.tz/search?q=classroom+assessment&hl=sw&client=firefox->

Even within the Cognitive Domain, the questions need to be spread across the components of Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. This is in line with the Table of Specifications for setting examination papers within the Cognitive Domain of the Bloom's Taxonomy of Educational Objectives. It has been noted that in some of the examinations, either set by the classroom teacher or other teachers working in collaboration, tend to test knowledge only. When, for example, half the students answer a clear question incorrectly it is not a student learning problem, it is a teaching problem. This needs to be addressed and therefore, teachers must pay attention to actual teaching. Teachers need to refrain from saying that we taught the students because effective teaching cannot take place in the absence of learning.

Figure 2 is a cartoon demonstrating the concept, “I taught the student,” but the student cannot demonstrate what has been taught.

Indeed, students and teachers share the learning responsibility and a student has to show some personal accountability. Even with mannerly teaching efforts, there is no guarantee that all students will learn perfectly well. If a teacher focuses on few students in the class, his or her method of teaching needs to change. It has always been said that students learn from their mistakes. Taking data from the Department of School Inspection (2011), it is doubtful that the implementation of the curriculum is in order. Figure 3 illustrates the curriculum implementation in four randomly selected secondary schools. Each school was expected to implement the syllabus by 100%. The highest level implementation for four schools was 55% while the lowest was 20%, indicating a variation in the degree of implementation for each school. This clearly shows that teachers are not teaching the entire syllabus in the schools and hence affecting the assessment as well as the performance of the students.

**Figure 3: Curriculum implementation in selected four schools**

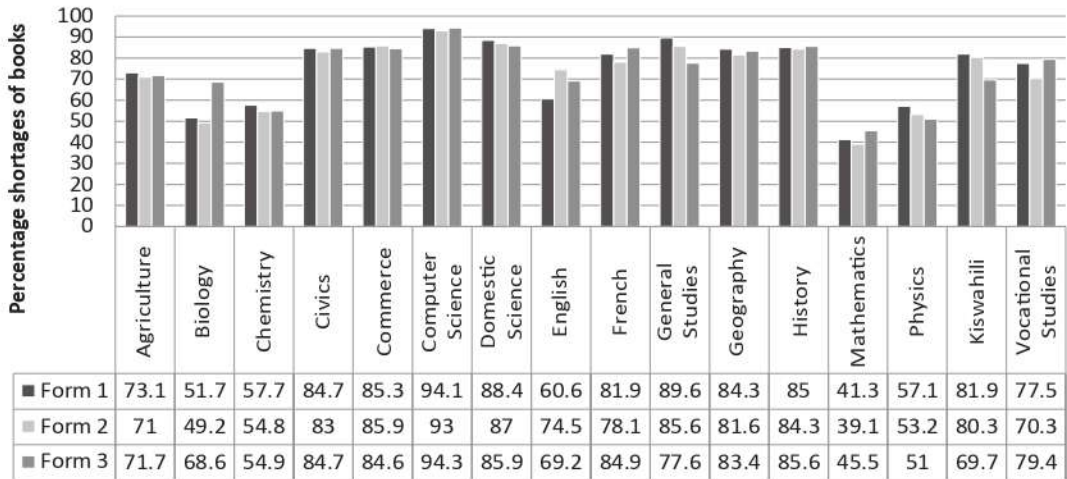


Source: Department of School Inspection in Tanzania (2011)

### **Assessing Book Shortages for the Year 2012**

When there is a dearth of books, what is assessed can be problematic. Students have to study and read and they can only do so through books. It has been found that computers are insufficient and books are unavailable. Figure 4 illustrates the shortage of books in Form 1, 2 and 3 in percentages. The biggest shortage is in Computer Science with almost 94% shortage. Shortages in Mathematics and the Science subjects are higher compared to the other subjects. Performance in Mathematics in Form 1 is 41.3%, Biology 51.7%, and Physics 57.1%, for the year 2012. This could mean that there is a sharing of two books per student on an average. The performance of the Certificate of Secondary Education Examination (CSEE) in these subjects is appalling. Something needs to be done to address such book shortages.

**Figure 4: Percentage Shortage of Books in Form1, 2, and 3 for the Year 2012**



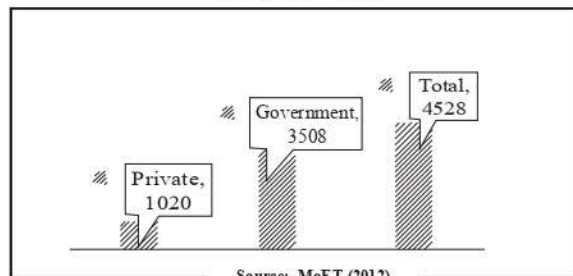
Source: National Examinations Council of Tanzania

In a nutshell, some teachers keep their assessments secret. Classroom assessments serve as meaningful sources of information instead of “teaching to the test,” teachers are more accurately “testing what they teach.” If a concept or skill is important enough to assess, then it should be important to teach; and if it is not important enough to teach, then there's little justification for assessing it (Little et al., 2009). That being said, there are other people who want some focus on assessing Multiple Intelligences as propounded by Gardener (2006). The article does not dwell on the Multiple Intelligences, though this is food for thought and will be dealt with later in this paper.

### Conducting National Secondary Examinations Twice a Year

Given the performance of Form 4 results and with modern technology, it is possible to conduct two examinations of the same weight in a year. Even in the National Examinations Council of Tanzania, there is a distinction between public (Figure 5) and private secondary schools as there are public and private candidates. Private candidates are getting secondary education via non-formal systems. These candidates are the ones to take the CSEE on a different time of the year. The argument is that the public and private secondary schools (Figure 5) would do the same examinations as it is being done now, in October; then the private candidates would do an examination with equal or similar weight on a different month. It is known that NECTA has many tasks and it is being stretched but the system being proposed might some relief to the

**Figure 5: Number of Secondary Schools in Tanzania in the Year 2012**



Source: MoET (2012)

examinations in October as is the case now. Taking the example of Cambridge, the examinations are done in May/June and October/November, although some subjects are only available in May/June or October/November.

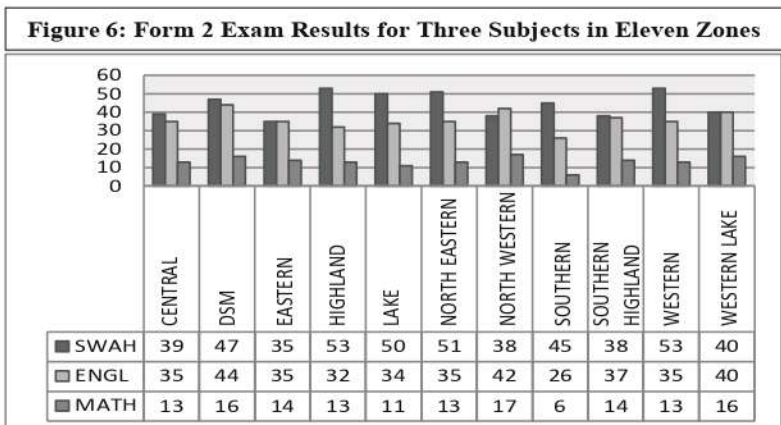
The syllabus for each subject should be in the NECTA's website. The rationale for such a move is that NECTA is responsible for setting examinations and therefore the syllabus has to be made familiar to those being examined. This enables every candidate to have the information needed in the NECTA Website. This is only applicable in areas where there is internet connectivity. However, with the booming of mobile technology, internet access may not be a problem any more, thanks to advanced technology for reaching the rural areas.

The mushrooming of QT and other centres would increase and offer employment. These centres would be of much use to those who want to take examinations as private candidates. These centres would have to be given some form of flexible guidelines in which the owners would have to keep out of mischief so that the statutes of the country are adhered to.

### The Performance of Form 2 Examinations

In 2012, we examined the performance of Form 2 candidates in seven zones (Figure 6). The subjects taken showed that performance in Maths was the poorest in all the zones. This subject was also low in the overall National Form 2 Examination. Mathematics is the language of science and technology and therefore needs special attention. Kiswahili and English are also important as languages of instruction, and are critical for the nation. The medium of instruction for Primary Education is Kiswahili while English is for Secondary and Higher Education. The assessment of students in either language has an impact on the performance of students. In the national language, most of the functions are conducted in Kiswahili in both educational systems and yet English though the official language, is still not doing well. Even the performance in Kiswahili for the Form 2 examinations was not good (39% and 53% respectfully for the Central and Western zone). In the exams, performance in the English language, in the said study was below 45% in all the zones.

By looking at all the subjects in the Form 2 examinations, performance shows that many of the subjects are weighted at 30% as the pass mark. We observed, that several subjects were below the line, as noted in Figure 7, and very few subjects are far above the passing mark. A lot of effort is needed to raise the bar of quality and therefore raise the pass mark.



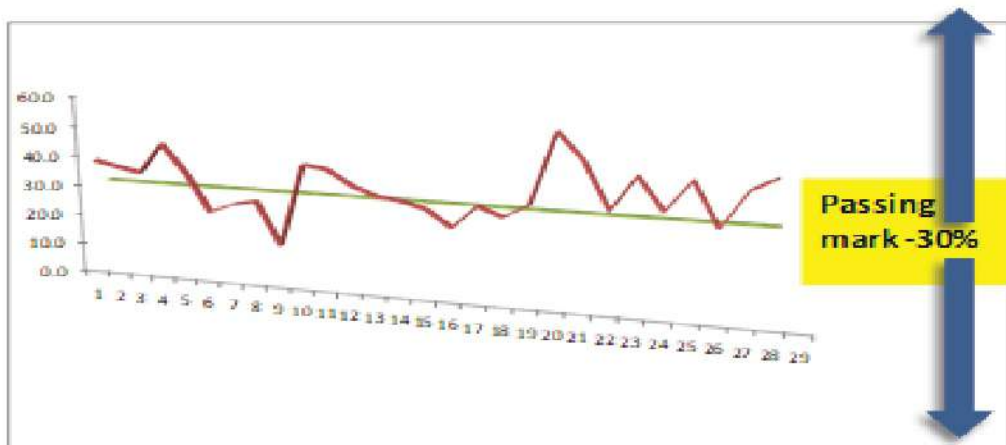
Source: National Examinations Council of Tanzania

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### Recognition and Credible Accreditation

The concept ‘credible accreditation’ raises some eyebrows, but the idea is to have teachers getting acknowledged for participating in particular courses/seminars/workshops. At some point, in-service training could be taken as part of continuous assessment for teachers. This will motivate teachers to take private NECTA examinations for their academic advancement. Indeed, teachers will improve their methods of teaching and their academic content. The national exams are taken as an opportunity to give feedback to teachers and their schools.

**Figure 7: Performance in Form 2 Examinations for the Year 2012**

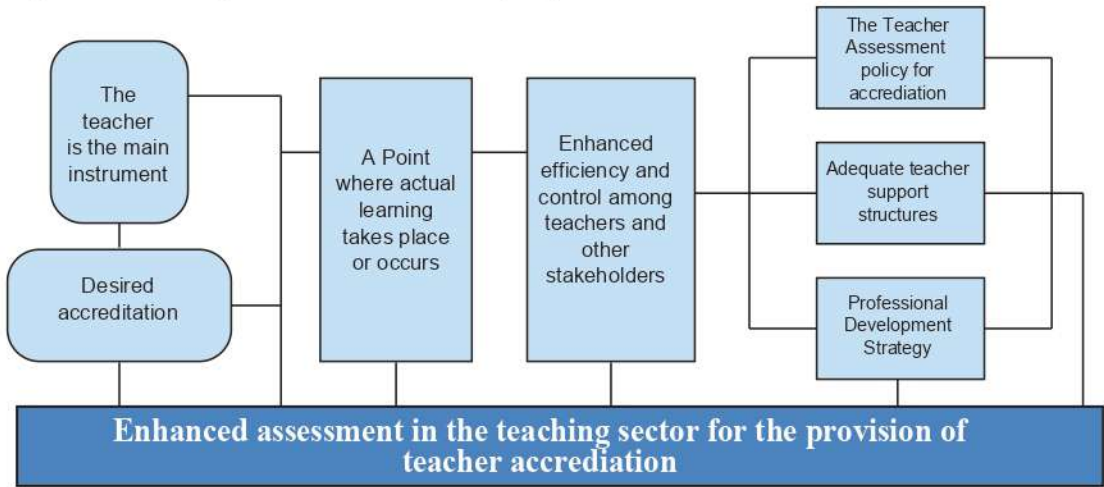


Source: Analysis from School Inspection Form 2 Exam Results for the year 2012

### Conceptual Framework for Teacher Accreditation

The teacher is the main instrument for bringing the desired change in learning, as acknowledged in Figure 8. He or she is in the classroom using participatory techniques that focus on learner-centred approaches. This is where the actual learning is taking place. It connotes that in a conducive learning environment, there is adequate assessment management structures under a decentralized system particularly in the Community Secondary Schools. The conceptual frame stipulates that any assessment policy with adequate teacher support structures would observe efficiency and control among teachers who are earmarked to bring the desired change, therefore raising the bar of the pass mark. This can only be done through a system that allows teacher professional development and accreditation. This is also a way of legitimizing the voices of teachers in the field for the entire education sector.

**Figure 8 : Conceptual Model for Developing Teacher accreditation**



*Source: The Author's Own Drawing*

In line with the conceptual framework for the teacher accreditation, a different thought can also come forth by looking at the thinking of Socrates. He was walking holding an illuminated kerosene lamp at midday, and when the sun was brightest. When asked why, he said that people are in darkness and therefore the illuminated lamp was for them to see! The state of his time sentenced him to death in a democratic court. In Figure 9, Socrates says that we have to continue studying for the state examinations. There is no replacement for examinations as teachers give students exams; so teachers should be given exams for their planned accreditations.

**Figure 9: A Cartoon Demonstrating Socrates Approach of Learning**



**Source:** <https://www.google.co.tz/search?q=classroom+assessment>

## **Division 1 and Total Student Population for Form 4 Students**

The decrease of students getting Division 1 has been fluctuating and as it appears, it does not obey any specific formula. In the year 2001, the percentage rate was 4.5% with a student population (candidates) of 50,820, while in 2002, the percentage rate was 6.4% for Division 1 and yet the student population was 49,512. In the year 2003, the percentage for Division 1 was 7.2% yet the candidates examined were 62,359. When the candidates increased approximately four times in a six-year period, the percentage of Division 1 was 1.9 for the year 2009 with candidates totaling 248,336.

One clear inference is that as the number students/candidates increased, the percentage of Division 1 has gone down fast. In the year 2010, the percentage of Division 1 was 1.5% and candidates were 352,840, while in the year 2011 with less candidates (339,330), the percentage for Division 1 was 1.5. Therefore, the number of candidates getting Division 1 is not a function of the total number of candidates, though this needs further research and statistical analysis. Even for the year 2004, a year which had the highest number of students passing CSEE (91.5%), Division 1 was only 4.8% of the total number of candidates.

Surprisingly for the year 2012, Division I was 0.45% out of 367,756 candidates. This is the lowest percentage of Division I in the last decade (2003 – 2012). The argument being presented is that Division I may have an impact on the total quality of the pass rate. The number of candidates getting Division I can be a stimulant for the entire education system.

## **Performance in Individual Subjects**

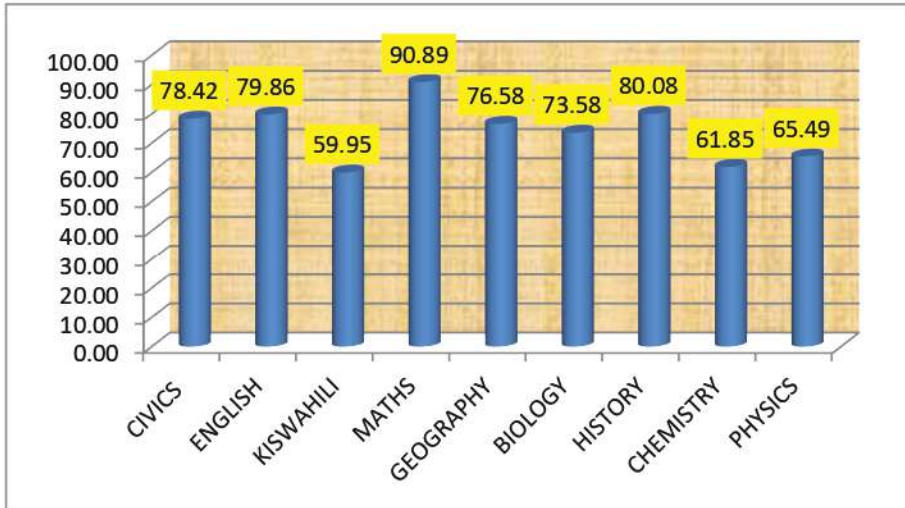
Considering individual subjects, there was a big variation as observed in the Ministry of Education and Vocational Training (MoET) for the year 2012. It has been noted that the pass rate by subject for CSEE was highest in Kiswahili (50.4%) and Civics (49.4%) for the year 2010. As it was expected, the lowest was in Mathematics (16.1%) for the year 2010 and 14.6% for the year 2011. It was further noted that boys were doing better than girls in science subjects. As for the year 2012, two figures though similar conceptually, gave a different perspective. By examining the percentage failure, as in Figure 10, they are high, with the highest failure rate in Mathematics and the best performance was in Kiswahili. Also, by looking at the figures with percentage passes, a different picture emerges, as in Figure 11. The percentages in the pie chart indicate that Chemistry was next to Kiswahili with a pass rate of 38%.

As Figure 10 illustrates, a nation that passes its lingua franca is good but the same nation cannot afford to fail the subjects that nourish development. These subjects enable the creation of the wheel of technological development. Since then, there has always been a cry for improving the sciences and Mathematics, and yet candidates continue to display dismal performance in these subjects, for both boys and girls (Njiku, 2019).

Students are not well coached on subjects on which they should pay attention, when they are in Form 2. It is important to note that this is the class where streaming decisions are made whether to take Arts or Science subjects in Form 3. The importance of each subject needs to be clearly elaborated along with the interests of the students. This will enable the students do better and have fair assessment of their school work in the classroom. If assessment is aimed to raise the bar of quality, full attention should focus on what is going on in the classroom. Action research in the class needs emphasis, and teachers who conduct action research in the

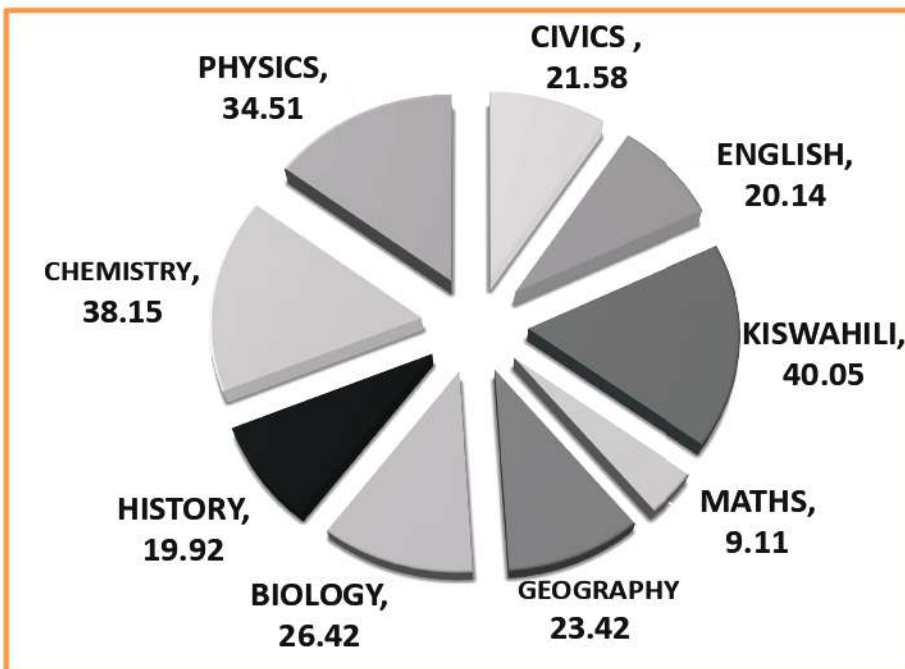
classroom should be given a recognition award. This can be done in collaboration with Higher Learning Institutions.

**Figure 10: Failure rate in Selected Subjects**



Source: Modified from National Examinations Council of Tanzania

**Figure 11: Performance in Eight Subjects for the Year 2012**

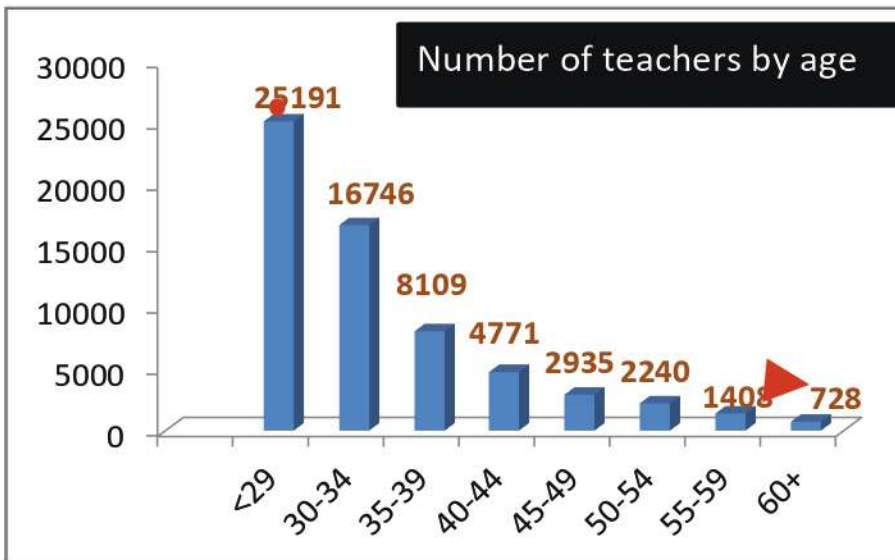


Source: Modified from National Examinations Council of Tanzania

## Teachers by age

By examining teachers by age (Figure 12), 39% are under the age of 29. One can therefore infer that students in secondary schools are assessed by young teachers, who are gaining more experience as they continue teaching. Their assessment cannot be questioned but obviously this is the age they have to deal with the heckles of life; therefore their concentration on school matters may be jeopardized. This can also be the peak age for excellent assessment of the students but whichever way, this age factor can contribute to the assessment of students for better or worse as it will depend on the age and attitude of the teachers. Additionally, teachers in this age are not too sure whether to remain in the teaching profession to look for greener pastures somewhere else. One can say this is a risky group to rely on in the assessment of students although they sometimes may do a wonderful job.

**Figure 12: Number of Teachers by Age**



Source: Modified from Best Statistics in Education for year 2012

## Availability of Computers in Secondary Schools

Computers are very handy in assisting teachers in the process of assessing students. The excel sheet is indeed remarkable for the calculations as well as recording marks. In this regard, for example, in the entire country, there were 15,458 computers in secondary schools and those functioning were 13,229 (MoET, 2012); this was 85.6%. In addition, out of these computers, about one third were for office use and the remaining 9,439 computers were for training, although not all were functional. In the same year, there was a total of 65,086 teachers in secondary schools, implying that for every seven teachers, there was a computer they could share. Looking at the number, it is obvious that more of these gadgets are needed for efficient assessment of 1,602,752 students (Government only). This is an area that needs a lot of attention. User friendly computers need to be injected in the educational system so as to facilitate a fair play of assessment. Additionally Yapp (2005) says:

*This is the greatest time in human history to be a teacher. Our societies and economies demand education like never before. Our increasing knowledge of how we learn and how the brain works, together with the availability of powerful Information and Communication Technology (ICT) tools, make this a time when the creativity, professionalism and aspirations for a learning society are at premium. The teaching profession is a noble profession. It is a profession that creates all the others (Yapp, 2005).*

In addition, ICT allows teachers to create, store, and deploy multimedia resources and activities to work with different visual, auditory and kinesthetic materials. Learning is about connections, the opportunity to move around a subject matter with the aid of ICT, allowing learners and teachers to develop a key understanding of the range of a subject and see how things fit together.

### **Multiple Intelligences**

Gardner (2006) developed in 1983 the theory of multiple intelligences. It suggested that the traditional notion of intelligence, based on Intelligence Quotient (I.Q.) testing, is far too limited. Instead, he proposed eight different intelligences to account for a broader range of human potential in children and adults. He defined intelligence as the ability to solve problems, or to create products, that are valued within one or more cultural settings. These intelligences are interlinked with ICT skills as follows:

- |  |   |
|--|---|
| 1) <b>Linguistic intelligence</b> ("word smart")                       | 5) <b>Musical intelligence</b> ("music smart")        |
| 2) <b>Logical-mathematical intelligence</b> ("number/reasoning smart") | 6) <b>Interpersonal intelligence</b> ("people smart") |
| 3) <b>Spatial intelligence</b> ("picture smart")                       | 7) <b>Intrapersonal intelligence</b> ("self smart")   |
| 4) <b>Bodily-kinesthetic intelligence</b> ("body smart")               | 8) <b>Naturalist intelligence</b> ("nature smart")    |

### **Drawbacks of the Computer**

The computer has its drawbacks. The gadget is unable to judge the mood or feel of the pupils; it lacks the human touch; feedback is limited; it cannot evaluate the level of pupils' knowledge; and it cannot reflect back. However, despite its negative side, the computer is becoming one of the most widely used pedagogical tools in education (Retrieved on April 2, 2013 from [http://www.xplora.org/ww/en/pub/myeurope/home/practice/ict\\_stories/ict\\_bobek.htm](http://www.xplora.org/ww/en/pub/myeurope/home/practice/ict_stories/ict_bobek.htm)).

Davitt (2005) argues that no matter how hard we avoid it because it is difficult to measure, the fulcrums of the learning are the mouth and the ears. We have to make learning a social process, with the help of tools like the classroom data projectors. If there is a world of information out there it should not be constrained to a 32cm screen window of the computer.

## **Conclusions**

The article has presented an argument of having NECTA conduct examinations for public and private schools on one date and private candidates who are in a non-formal school setting on a different date. This will allow fair marking of examinations for both candidates, and these examinations will have similar equivalent weights.

The assessment for students is dealt with in an enticing manner to make way for better approaches to learning. These assessments have to be thorough and be used for enriching classroom interaction. Also these assessments can be used by teachers in creating action research for their own advancement, in raising the bar of their professional development. This is in line with having some kind of recognition to teachers and finding a way of providing accreditation for them.

The performance of examinations has been raised and an argument given to ensure that teachers do not use exams to guide the teaching process. There is a need to improve the performance of students and to find a mechanism to address the dilemma of the medium of instruction, whether to continue using English or Kiswahili to the full or become bilingual like Cameroon where English and French are used. The informed decision on the language of instruction can have a big impact on the development of the country.

The teaching learning materials, in particular books and computers have been identified as necessary in the teaching and learning process, although they are in a very serious short supply. Even the few available computers are not all functioning well. This is an area that needs attention like the problem of the language of instruction. Finally, there has been a concern for the age of the teachers to be able to handle the teaching and learning materials. It has been argued that at this age teachers are most energetic and dynamic. This should have been an advantage to the educational system and not otherwise.

## **Recommendations**

Private candidates could do similar weighted examinations in February and public and private secondary schools could do the examinations in October each year as is the case now. The dates are just being suggested and, therefore, appropriate dates can be considered.

Students are being tested more or less on the component of knowledge instead of spreading the assessment for the entire Table of Specifications (ToS). Perhaps it is not too early to consider the assessment of Multiple Intelligences as developed by Gardner (2006). This might sound like an innovation but looks like the best way of measuring the unknown talents of the students in the Community Secondary Schools.

User-friendly computers need to be injected in the educational system so as to facilitate fair play of assessment in the secondary schools. This has to be complimented with the availability of books, which are critical for fair assessment. This will enable teachers to focus on completing teaching the syllabi in all schools and that they should test what they teach; in addition, the examinations should only be a guide in the teaching process.

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