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## The Contribution of Classroom Assessment Techniques in Developing Problem-Solving Skills in Non-Formal Secondary Education in Tanzania

### Abstract

This study aimed to explore the contribution of assessment techniques in developing problem-solving skills among learners in non-formal secondary education in Tanzania. Qualitative approach with phenomenology design was employed in this study. 32 learners and 8 teachers that made 40 participated in this study. The interviews, focused group discussion and observation were methods used to collect data. Purposive sampling was employed to all participants in this study. The study findings revealed that the assessment techniques used by teachers had little contribution in developing problem-solving skills among learners. The study findings revealed that teachers aimed at enabling their learners achieve high marks in their examinations and not focusing on developing problem-solving skills. Another study finding showed that assessment techniques used by teachers were mostly based on cognitive domain rather than on psychomotor and affective domains. The study recommends that teachers should use the assessment techniques with the aim of enabling their learners attaining good grades as well as attainment of problem-solving skills to enable them solve challenges they face in their day-to-day life.

**Keywords:** Problem solving, assessment and non-formal secondary education.

### Introduction

Problem solving is the vital skills people ought to have in the era of global rapid change of 21<sup>st</sup> century. This draws from the fact that problem-solving skills

enable people get solutions to difficult situations they pass through because these skills demand adequate knowledge, competence and cognitive techniques that lead to solving a problem (Mahanal, Zubaidah, Setiawan, Maghfiroh, & Muhaimin, 2022; Yurtseven, Baysal, & Ocak, 2021). There is also a strong relationship between problem solving skills and the achievement of sustainable development goals (SDG's) for 2030 as a result of this; teachers have to nurture problem solving ability among learners. According to Chu, (2014) one of the ultimate goal of teachers in the 21<sup>st</sup> century should be to prepare learners for a deep understanding of knowledge as well as competence such as problem-solving to enable them to cope with global challenges Chu, (2014). Other studies show that teachers have to promote the higher order thinking skills among learners (Kapur, 2020; Jamari, Mohamed, Abdullah, Zaid, & Aris, 2017; Mahanal et al., 2022). The traits of problem solvers include good decision making, seeking an opportunity through problems and normally appreciate others (Yurtseven et al., 2021).

In order to develop problem solving skills teachers have to guide their learners to follow appropriate steps. For example, Kapur, (2020) provides five steps of problem-solving that are: what is the problem, what are the causes of problem, what are the possible alternative to this problem, which alternative should be applied and evaluation of the problem solving. Similarly, Mahanal et al., (2022) gave out seven problem solving process that are: defining the problem, assessing it, collecting relevant data, developing different solutions, evaluating alternative solutions, selecting the best answer and generalizing the results. Moreover, teachers are supposed to use different assessment techniques such as performance-based assessment and avoid techniques that require recalling knowledge which are most frequently used by teachers (Dogonay & Bal, 2010). Therefore, it is worth to investigate on how assessment techniques contribute in developing the problem-solving skills among learners in non-formal secondary education in Tanzania.

### **Why Problem-Solving Skills?**

Problem solving skills are very useful skills that help people solve problems face them in their day-to-day life. Problem-solving skills helps people to provide solutions to their individual and life problems (Kapur, 2020). Studies show that problems are an integral part of people's lives (Kapur, 2020) Sungur & Bal, 2016; Yurtseven et al., 2021). According to Kapur, (2020) problems do face people in different places in their life such as family, personal, profession and business. In addition, problem-solving skills are recognised to be the skills that are very important for learners and other people to succeed in the 21<sup>st</sup> century and in the digital economy place (Kivunja, 2015). In addition, problem solving skills helps people to become competent and able to manage the modern challenges of the 21<sup>st</sup> century (Jamari et al., 2017). Problem-solving skills further, enable people

to communicate effectively and use of the knowledge in a certain context (Kim & Tan, 2013). Therefore, basing on the importance of problem-solving skills, there is a great need for youth and adult learners in the non-formal secondary education to be equipped with problem-solving skills to enable them solve the challenges face them in their day-to day life since education they get is for their immediate use.

### **Study Objectives**

This study is guided by two objectives as indicated below as follows:

- Explore the kind of assessment techniques used by teachers in non-formal secondary education.
- Examine how the assessment techniques used by teachers develop problem-solving skills among learners.

## **Conceptual Framework**

### **Assessment techniques**

Assessment is a crucial part of any teaching and learning activities (Tosuncuoglu, 2018). Studies show that through assessment teachers can grade their students, give feedback and structure the teaching strategies required (Dixson & Worrell, 2017; Tosuncuoglu, 2018). Assessment has a key role in teaching and learning process (Kelley, Fowlin, Tawfik, & Anderson, 2019). According to Poehner (2007) sees assessment as the process of gathering data to measure the strengths and weaknesses of students' learning including knowledge, skills, attitude, and beliefs of the learner. There are three types of assessment techniques that are formative assessment, diagnostic assessment and summative assessment. Formative assessment is the ongoing process assessment for learning that teachers use every day during teaching and learning process and understanding to identify learning needs and adjust teaching appropriately (Wiesnerová, 2012). Summative assessment is used to measure what students have learnt at the end of unit, to promote students to ensure that they have met required standards on the way to earning certification for school completion or to inter certain occupation (OECD, 2008). Diagnostic assessment is done at the beginning of the topic or a course to assess the knowledge, interests, lived experiences, strengths and weakness of a learner (Sanga, 2016).

According to Sanga, examples of diagnostic assessment tools are aptitude tests, fitness examinations, questioning, interviews, self-assessment, observation and discussing board responses. Assessment has different functions in the teaching and learning process including informative, corrective, motivational, developmental, regulative, formative, prognostic and differential (Tosuncuoglu,

2018; Wiesnerová, 2012). Basing on the importance of assessment in any education activities particularly in teaching and learning process, problem-solving skills are also crucial component learners needs to be equipped through assessment techniques to enable them solve daily challenges and respond the ever-changing world of the 21<sup>st</sup> century.

### **Global Context of Problem-Solving Skills**

As it is stated earlier that problem solving is the vital skills needed to be attained by the students and people in the 21<sup>st</sup> century, these skills are also highly needed in the high-developed countries. In European context for example, literature shows that there is a radical process of a structural change in many working places that need people to have problem-solving skills to meet demand of high mass production as well as flexible production techniques (Hamalainen, Cinannato, Malin, & De Wever, 2014). In addition, Goos, (2013) asserts that one of the most important skills in the working place in the most European countries is problem solving. Though problem solving skills enables people solve their problems but these skills increase production, bring good performance, make conflict resolution, build teamwork spirit, make people respect each other and bring peace. The 2012 PISA report shows that in Australia, Italy, Brazil, England (United Kingdom), Korea, Japan, Macao-China and Serbia students performed significantly better in problem solving than other students participated in the study (OECD, 2014). The study by OECD, (2014) also shows that students in vocational programmes in Shangai-China, Turkey, the United Arab Emirates and Malaysia have significant better performance in problem solving than those study mathematics, reading and science. Similarly, students enrolled in general study in German and Hungary have strong performance in problem solving (OECD, 2014).

### **Tanzanian Context of Problem-solving Skills**

The problem-solving skills are crucial element in non-formal secondary education particularly in Tanzania so as to enable non-formal secondary school learners solve problems face them in their day-to-day life. In order to prepare her youths for effective and efficient competing within 21<sup>st</sup> century, Tanzania secondary education curriculum has been designed to inculcate all today needed skills including problem-solving to enable learners respond to the rapid global change of science and technology. Analysis in the lower secondary school curriculum which covers both formal and non-formal secondary education TIE, (2013) is given in this section through comparative analysis. The objectives of this curriculum contain a number of elements including an element problem-solving. Similarly, the Tanzanian curriculum after being analyzed was observed that to contain an element of developing problem-solving skills to non-formal

secondary school learners through promoting the acquisition and appropriate use of literacy, social scientific, vocational, technological, professional and other forms of knowledge, skills and understanding for the development and improvement of the condition of man and society (TIE, 2013). In particular, the curriculum inculcates a sense and ability for self-study, self-confidence and self-advancement in new frontiers of science and technology, academic and occupational knowledge and skills thereby building non-formal secondary school learners with an ability to have aspects of five minds for the future (TIE, 2013). For example, Mathematics subject features problem-solving skills, English and Kiswahili subjects feature analysis, synthesis, comprehension and composition which all-together leads to problem solving skills.

### **The Context of Non-formal Secondary Education in Tanzania**

The Non-Formal Secondary Education (NFSE) program in Tanzania is provided for people who missed the opportunities to join ordinary level of secondary education and those who lacked credit to go for further studies (Kanukisya, 2012; Mushi, 2012; Shirima, 2020). According to Kanukisya, (2014) most of learners in non-formal secondary education are coming from middle-income families. Again, Lauglo (2001) asserts that non-formal secondary school learners tend to come from the poor families. The non-formal secondary education is conducted for two years while formal secondary education is taking four years (Mushi, 2012). According to the Tanzania Institute of Education, (2020), non-formal secondary education in Tanzania has two stages. Stage I is commonly called Qualifying Test (QT) in which Form One and Two levels are studying in the first year, followed by QT. Stage II, in which Form Three and Four levels are studying in the second year followed by Form Four National Examinations. Since the syllabi of non-formal secondary education is two years, thus, learners in non-formal secondary education needs to be equipped with problem-solving skills. This is because most of learners in non-formal secondary education are youth and adults who have multiple social responsibilities in which problem-solving skills may be a solution to the challenges facing them in their endeavours.

Nevertheless, assessment is seen as a procedure or techniques used to obtain the information on students' progress on learning, it may contribute in developing learners' problem-solving skills that may enable them solve challenges they face in their day-to-day life. Different studies have been carried out on assessment towards learners achieving in their learning. For example, Kimaro (2019) in Tanzania investigated the influence of self-efficacy and competence on continuous and comprehensive evaluation practices among primary school teachers. Sanga (2016) explored the teachers' educators' practices in assessment and their implications for student learning in Tanzania. Again, Byabato and Kisamo (2014) investigated the implementation of school based continuous assessment (CA) in Tanzania Ordinary secondary schools and its implications on

the quality of education. These studies did not pay attention on the contribution of assessment techniques in developing problem-solving skills among learners in non-formal secondary education in Tanzania. Therefore, this study wants to fill the identified gap.

## **Methods and Sample selection**

Given the nature of the objectives of this study, qualitative approach was employed. Creswell, (2014) argues that qualitative approach is used to explore for and understand the meaning individuals or groups ascribe to social or human problem. As such, this study deployed qualitative approach because the study required thick description of the phenomena. The study tried to find out data in a natural setting that was non-formal secondary education centres context. In addition, since teachers and learners in non-formal secondary education are the ones experienced the curriculum implementation specifically assessment techniques, phenomenology design was worthy to be used in this study. In phenomenology design, the researcher has normally some of the connection, experience in the situation (Williams, 2007).

Furthermore, non-probability sampling was used as a technique to get sample whereby the purposive sampling was employed. Ray, (2007) assert that that purposeful sampling technique usually identifying and selecting individuals or group that are especially knowledgeable or experienced with a phenomenon of interest. In this study, learners and teachers in non-formal secondary education context deemed to have rich understanding of the issues of interest had to be purposively sampled. This study included 32 learners and 8 teachers that makes total of 40 participants. However, the researchers reached this number (40) of the sample size because of saturation of data collected were reached.

### **The Location of the Study**

This study was carried out in four non-formal secondary education schools in Kinondoni Municipal Council (MC) in Dar es Salaam Region. Study shows that many educational institutions doing adult education programs are located in urban or cities (Mushi, 2012). Therefore, Dar es Salaam Region specifically Kinondoni Municipal Council was chosen due to the following reasons: Firstly, most of the non-formal secondary education learners are found in Kinondoni MC in Dar es Salaam Region (Ministry of Education, Science and Technology [MoEST], 2019). Secondly, in the past couple of years, the non-formal secondary education learners in Kinondoni MC have been comparably performing well in the Form Four National Examinations (National Examination Council of Tanzania [NECTA], 2018). There is no evidence that there is relationship between learners who perform well and the attainment of the problem-solving skills. However, the researchers assumed that there is retrospective relationship between a student with a good performance may likely to have problem solving skills.

## **Data collection methods**

Data in this study was collected through interviews, observation and Focused Group Discussion (FGD). In-depth interview was used so as to get inner feelings of participants towards phenomenon. Literature shows that an interview is a valuable method of gaining a description of activities and events that took place in the past, or those which you cannot gain through observation method (Maxwell, 2005). Both teachers and learners were interviewed in which each interview took 30 minutes for every participant in the school contexts. The observation method also was used in this study. Observation method was used because it suffices what other methods such as interview and group discussion may bring it seem to give the researchers an opportunity to look at what is taking place in the real natural setting (M.D. Gall, J.P. Gall, & Borg, 2007). The classroom observation was used to gather data on the assessment techniques used by teachers in relation with development of problem-solving among learners. Each classroom observation took 40 minutes as scheduled per lesson. Focused group discussion also was used to some learners. Justification for using focused group discussion is that this method enables the researcher to obtain rich data in a short time and getting the in-depth information and very interesting data from large group of people with different ideas, opinions and feelings towards the phenomena as Mishra, (2016) states. This study had 4 focused group discussions in which 24 learners were involved in the FGD. Each group had 8 learners from each non-formal secondary education centre. Each focused group discussion took one hour in the non-formal secondary education centres settings.

## **Data analysis procedures**

In the course of this study, analysis of qualitative information was subjected to thematic analysis technique. The analysis was done basing on the six steps given by Creswell (2014) as follows. The first step is organizing and preparing the data for analysis. In This step the recorded notes of in-depth interviews and focused group discussion were transcribed from Kiswahili language to English language. In connection to this, the notes from classroom observation were sorted and arranged in a good manner. The second step is reading all the data. All data from in-depth interview, observation and focus group discussion were read several times until the researchers got the sound meaning or message. The third stage is coding all the data. The researchers started coding immediately after the first in-depth interview. The researcher took a piece of raw data and analyse them and be presented as a memo. Every memo was labelled with a concept which reflects interpretation of what was being said by interviewee by using different colours that differentiated from one interviewer to another such as yel-

low, green, pink and blue. Information from focused group discussion was labelled by using numbers such as participant 1, participant 2, and participant 3 respectively. The fourth step is using coding process to generate themes. In this step, information and descriptions from participants about instructional strategies towards developing critical thinking among learners were used to make categories or theme. The descriptions from participants resulted into six themes. The fifth step is advancing theme. The observational descriptions and quotations from participants during in-depth interviews and focused group discussion were used to expand the themes. The sixth step is interpreting the data. The data were interpreted depending on the lesson learnt by the researchers from the data presented. Every theme was interpreted by giving the meaning from the data presented.

## **Ethical Considerations**

This study was very sensitive to the ethical issues since it dealt with youths and adult learners and their teachers in non-formal secondary education context. Literature shows that studies involve collecting data from participants, researchers should consider to protect research participants from possible harm and how to secure privacy and confidentiality and make a plan on how to do this (Gall et al., 2007). Basing on this argument, researchers highlighted and took into considerations three main issues as follows: First, people with authority were recognized by seeking permission to carry out the research in the municipal council where this study were carried out. Second, the consented participants were provided with the informed consent forms and being asked to have the right of data dissemination from the interviewees, observations and focused group discussion. The third issue was confidentiality where pseudonyms was used the interviewees and all members in the focused group discussion in this the study. For example, teachers were labelled Teach 1, Teach 2, Teach 3... Teach 8. Consequently, learners in this study were labelled Learn 1, Learn 2, Learn 3... Learn 32.

## **Study Findings**

### **Formative Assessment**

The study found that teachers used formative assessment in assessing learners. During interview with teachers and learners as well as FGD with learners it was revealed that the kind of formative assessment given to learners were quiz, weekly test, monthly tests, mid-term test and terminal examinations and pre-mock examination. For example, one of the learners during FGD from centre 4 states:



Our teacher usually gives us oral questions, quizzes and homework. Again, our teacher gives us the weekly tests and mid-term test. (Lean 32).

Similarly, during interview, one of the teachers from centre 2 mentioned the kind of assessment techniques she used and reasons of using them as she heard:

I do like giving several home works, assignments, weekly tests and quizzes. This is because through doing this my learners become competent and enhancing them for the coming examination such as terminal examination (Teach 7).

During classroom observation, it was observed that teachers used formative assessment in assessing learners. It was observed that six teachers in center 1, 3 and 4 occasionally provided assignments, quizzes and home works to learners while teachers in center 2 regularly provided formative assessment to their learners. Teachers in centre 2 gave questions to learners after finishing the lesson every day without minding if the topic has finished or not. For example, a history teacher provided quiz to learners as one of the questions as follows, "*Examine for the rise of state in pre-colonial African societies*". Again, a mathematics teacher from centre 1 provided assignment to learners which poses the disposition of problem-solving skills. One of the questions in an assignment this teacher gave students is this below:

Jane was given 30 shillings to buy guavas and avocados. One guava cost 2 shillings while one avocado cost 3 shillings. If the number of guavas bought is at least twice the number of avocados, show graphically the feasible region representing the number of oranges and mangoes she bought, assuming that no fraction of oranges and mangoes are sold at the market.

The findings indicated that teachers were using formative assessment with intention of preparing learners for summative assessment. Nevertheless, teachers used formative examination with a purpose of preparing learners for the future examinations; some of the questions in the formative assessment portrayed the dispositions of developing problem-solving skills among learners nevertheless.

### **Summative assessment**

The study established that teachers used summative assessment as was the practice scheduled in the school calendar for measuring students' progress at the end of the semester, terminal and per annum. This was revealed to all participants during FGD and interview that teachers used summative assessment techniques such as terminal examinations, annual examinations and mock examination. During FGD and interview learners unveiled that some of their fellow learners did the examination provided by the Institute of Adult Education (IAE) while others did not. The study sought to find out why some learners did not do examination provided by the IAE. In working on this matter, one interviewed learner from centre 3 explained:

In order to be registered to do examination of IAE we must pay thirty thousand Tanzanian shillings (30,000/=). Some of our fellow students who fail to pay such amount are not allowed to do this kind of examination (Learn 11).

On top of that, the study sought to know the reasons why teachers were using summative assessment to assess their learners the way they did. During interview, teachers mentioned five reasons. These reasons include one, to know if learners; two, to prepare learners for the final examinations; three, to check the effectiveness of their teaching methods; four, to make learners study hard; and five understood what teachers taught, to help teachers to know learners' ability in learning and discovering the strengths and weakness of the learners.

These findings show that teachers were using summative assessment as for the purpose of evaluating learners learning progress as well as teaching process. As it was revealed in the interview when teachers were mentioning the reasons for using summative assessment it was observed that no one teacher mentioned the reason of developing problem-solving skills and other important skills needed to be achieved by learners to cope with technological change of science and technology of 21<sup>st</sup> century.

### **Oral and Written Feedback**

The findings revealed that teachers provided both oral and written feedback occasionally. The study sought to find out if teachers were giving feedback to the learners during teaching and after both formative and summative assessment. During FGD and interview, learners said that their teachers gave them both oral and written feedback seldom. Learners in the FGD also said that their teachers gave them feedback rarely outside the classroom. For example, one learner during FGD from center 3 heard:

We normally find our teacher at our own time in the office to ask him to mark our work and giving us feedback in the office (Learn 26).

Another interviewed learner from center 4 disclosed that her teacher seldom provided feedback as she elaborated:

However, our teachers give us both oral and written feedback, she gives us occasionally such as after doing examinations. She come in the class and make correction for the difficult questions we failed (Learn 18).

During classroom observation, it was also observed that teachers seldom provided both oral and written feedback during and after teaching and learning. It was observed that oral feedback given to learners who were asking questions after the lesson in all centres. For example, a teacher in center 2 was marking the assignment, quizzes and homework on the exercise books but oral feedback was given to the class if there was a question that seemed to be difficult to the majority of learners.

The findings show that teachers gave both oral and written feedback occasionally. This implies that the problem-solving skills were less developed among learners. This is because through giving feedback is where teachers provide scaffolding to learners. Teachers paid little attention on feedback and aimed enabling learners understand well the questions that they missed up and leaving behind the goal of developing the problem-solving skills among learners.

### **The Intended objectives of Assessment**

The study findings revealed that the intended objective of assessment was to enable learners pass their examinations and make improvement. This was revealed to all teachers during interview when they asked how they achieve their intended objectives towards assessment. For example, one of the teachers during interview from centre 2 narrated:

I achieve my intended objective through assessment. This is because results show me where I have done mistake, also assessment help me to know how many learners have passed and failed my test or examinations. Hence, I know the extent to which my objective is achieved and from their I know what to do for improvement (Teach 5).

Another teacher during interview supported by saying that the intended objective of her assessment was good performance of her learners as she stated:

My main goal is good performance of my learners in my subjects. Thus, through tests and series examinations determine the achievement of my intended objectives (Teach1).

These findings clearly have indicated that the intended objective of teachers was good performance of their learners not developing problem-solving skills and other important skills that can enable learners to cope with life changes and challenges. This is because during interview no one teacher dared to mention the intended objective of developing problem-solving skills and other today needed skills that may support learners in their day-to-day life and in their endeavours of 21<sup>st</sup> century.

### **Discussion of the study findings**

The study findings have indicated that teachers used formative assessment with intention of preparing learners for summative assessment and improving their learning. The findings are in support with the argument given by Johansen, (2013) that formative assessment is a major source for improvement of students' learning. Similarly, Bhagat and Spector, (2017) assert that formative assessment is aiming at helping learners succeed in their learning. The present study findings are also aligning with such of Saeed, Tahir, and Latif, (2018) in Pakistan who found that teachers believed that formative assessment could play more pivotal role in promoting students learning. Other findings by Saeed et al. revealed that teachers were using different assessment techniques without

knowing its purpose. The present study findings are out of step with a quasi-experimental study by Parno, Wahyuni, and Ali, (2021) in Indonesia revealed that problem-based learning STEM formative assessment is suggested to be used in the field to increase problem-solving skills among learners.

On top of that, the study findings revealed that teachers used summative assessment aiming at evaluating their learners at the end of the course, semester, term and annum. These findings are contrary to the recommendations given in a descriptive study by Olela, Allida, and Role, (2021) in Kenya that when teachers assess students should focus on students' acquisition attitude, valued and skills needed for today's needs. This means that problem-solving skills is among of today's required skills in the 21<sup>st</sup> century needs to be developed even through summative assessment techniques. This is similar with what Ukobizaba, Nizeyimana, and Mukuba, (2021) observed that the application of summative assessment strategies like problem-based and cooperative learning is bound to strengthen students' mathematical problem solving. Contrary, Harlen and Crick, (2002) assert that summative assessment has impact on students' motivation on test anxiety low achievement and teachers and curriculum. Again, Glazer, (2014) note that the major function of summative assessment is to make sure that formative assessment is done accordingly. This entails that the development of problem-solving skills among learners is not one among of the functions of summative assessment.

Furthermore, the study findings established that teachers provided both oral and written feedback occasionally and it was used for improving students learning. These findings are in line with the argument given by Glazer, (2014) that one among of the targets of feedback is to enhance learning and motivate students to study. Similarly, Hattie and Timperley, (2007) assert that feedback is one among influencing factor on students' learning and achievement as well as is used as instructional purposes. This imply that feedback may develop the problem-solving skills among learners depending on how teachers targeted it. The present study findings also go against with a quasi-experimental study by Caceres, Nussbaum, Gonzalez, and Gardulski., (2019) who established that feedback contributes more in allowing learners solve problems with much efficiently. This entails that feedback is a good factor in contributing the development of problem – solving skills among learners. Similarly, Fyfe, De Caro, and Rittle-Johnson, (2015) suggest that there is a need to consider the cognitive requirements of different types of feedback because the problem solving skills can be optimized by considering learners' characteristics and learning environment. In addition, a study by Medina, Conway, Davis-Maxwell and Webb (2013) revealed that provisional of both oral and written feedback among pharmacy students improved their problem-solving skills. The present study findings are out of step with that of Chevalier et al., (2022) who carried out a quasi-experimental study in Switzerland and found that the delay feedback has positive effect on computational thinking development in educational robotic.

Besides, the study findings revealed that the teachers' intended objective of assessment was to enable their learners do good in their examinations at the end of the course. The development of problem-solving skills among learners was not one among of teachers intended objectives. These findings has some similarities with the three main objectives of assessment given by Struyven, Dochy, and Janssens, (2013) that are plan the teaching methods, to know the degree and results after test or examination and to provide feedback for improvement. In addition, the study findings are in alignment with such of Amin Umar, Dauda, and Kolomi Mutah, (2016) in Sudan who observed that observed that one of the objectives of assessment is to raise students' level of academic performance and increases their motivation for learning. The study findings also are in apparent with the argument given by Sewagegn (2020) that the learning objective and assessment are linked and do play an important role in the students' learning success. Similarly, the study findings are in agreement with a qualitative study by Sanga, (2016) in Tanzania who established that the purpose of assessment is for improvement such as achievement obtained in criterion-referenced assessment and norm referenced assessment. These findings contradict with the assertion given by OECD, (2008) that the objective of assessment specifically formative assessment is to meet the goal of promoting lifelong learning and builds learners' skills of learning to learn.

## **Conclusion and Recommendations**

Based on the study findings, the researcher concluded that teachers in non-formal secondary education assessed learners focusing on improving learners' learning and good performance in their examinations. The assessment techniques were not structured to improve both learners learning and attainment of problem-solving skills. This was done perhaps teachers in non-formal secondary education were not aware about that the assessment techniques may be structured in developing problem-solving skills among learners apart from improving learners' performance. In addition, the kind of assessment techniques used by teachers based much on cognitive domain rather than affective and psychomotor domains. Conclusively, the assessment techniques used by teachers had low contribution in developing problem-solving skills among learners in the non-formal secondary education visited.

Basing on the results of this study, the policy makers, curriculum developers, school quality assurers and teachers should intervene the situation of which assessment techniques should be for not only improving learners and grading but also developing problem-solving skills among learners. Curriculum developers should design the syllabus that show the assessment techniques that cut across

all types of domains of Bloom (cognitive, affective and psychomotor). In addition, school quality assurers should inspect and give technical advice for teachers' non-formal secondary education on how to make the assessment techniques that may contribute in developing problem-solving skills among learners. Teachers in the non-formal secondary education should make sure that they use three types of assessment that are formative assessment, diagnostic assessment and summative assessment with the intention of developing problem-solving skills among learners apart from improving students learning and academic performance. Teachers also need to frequent immediate feedback both oral and written in order to equip learners' problem-solving skills that may support them in solving the challenges face them in their daily life and respond to the ever-changing globe.

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## **Wkład klasowych technik oceny w rozwój umiejętności rozwiązywania problemów w nieformalnym szkolnictwie średnim w Tanzanii**

### **Streszczenie**

Celem podjętych działań było zbadanie wkładu technik oceny w rozwój umiejętności rozwiązywania problemów wśród uczniów w nieformalnym szkolnictwie średnim w Tanzanii. W badaniu zastosowano podejście jakościowe z fenomenologią. W badaniu wzięło udział 32 uczniów i 8 nauczycieli, co stanowiło 40 osób. Wywiady, zogniskowana dyskusja grupowa i obserwacja były metodami użytymi do zebrania danych. Dobór celowy został zastosowany do wszystkich uczestników tego badania. Wyniki badania ujawniły, że techniki oceny stosowane przez nauczycieli miały niewielki wkład w rozwój umiejętności rozwiązywania problemów wśród uczniów. Nauczyciele dążyli do umożliwienia swoim uczniom osiągnięcia wysokich ocen na egzaminach, a nie skupiali się na rozwijaniu umiejętności rozwiązywania problemów. Inne wyniki badania pokazały, że techniki oceny stosowane przez nauczycieli były w większości oparte na domenie poznawczej, a nie psychomotorycznej i afektywnej. Badanie zaleca, aby nauczyciele stosowali techniki oceniania w celu umożliwienia uczniom uzyskania dobrych ocen, jak również osiągnięcia umiejętności rozwiązywania problemów, które pozwolą im rozwiązywać wyzwania, z jakimi spotykają się w codziennym życiu.

**Słowa kluczowe:** rozwiązywanie problemów, ocena, nieformalne kształcenie średnie.