

Extensiveness of Teachers' Competence in Using Table of Specifications in Constructing Formative Assessment Test Items in Public Secondary Schools in Hanang District, Tanzania

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Abstract

The study examined teachers' competence in using tables of specifications in constructing formative assessment items in public secondary schools in Hanang district, Tanzania. Using Bloom's Taxonomy, a mixed-methods approach was employed, with 119 participants selected from 712 individuals, including teachers, heads of schools, academic masters/mistresses, and district school quality assurers. The study used questionnaires, interview guides, interview schedules and document analysis guides for data collection. Research experts assessed content and face validity for quantitative instruments, while qualitative instruments were validated through peer debriefing and triangulation. Data was presented in tables and analyzed using descriptive statistics and thematic analysis. The study revealed that public secondary school teachers vary in their competence of using the table of specifications when designing formative assessment test items. Moderately proficient teachers adhere to all procedures, while others struggle with determining question numbers and distribution. Based on the findings, the study concluded that teachers who are teaching students in public secondary schools were inadequately utilizing the table of specifications when designing formative assessment test items in public secondary schools. The study suggests that the government should prioritize professional development training to improve teachers' competencies in setting formative assessment test items, enhancing student learning outcomes.

Keywords: Teachers' Competent, Table of Specifications, Formative Assessment Test Items Constructions, Public Secondary Schools.

Introduction

Effective teaching and learning at all educational levels depend heavily on assessments of students' academic performance. In particular, it plays a part in tracking students' development over time and allowing them to evaluate both their skills and their academic performance in a classroom environment. In the process, teachers must assess each student's academic progress and pinpoint their areas of strength and weakness in terms of providing engaging learning opportunities. Teachers must therefore emphasize how important it is to improve the efficient application of TOS in formative assessment setting procedures (Ole, 2020; Tosuncuoglu, 2018). Notably, the effective assessment methods emphasized using the table of specifications (TOS) more when creating test items. As a result, by using TOS, teachers can monitor students' learning through feedback and adjust their instruction accordingly. In a similar vein, the use of TOS becomes crucial not only for summative assessment but also for formative assessments, which depend on teachers' deliberate actions to determine how well students are learning. These efforts are in line with global initiatives to improve teachers' assessment expertise and duties (OECD, 2019; Jiang, 2020).

Furthermore, teachers' ability to effectively apply TOS in understanding the role of assessment students' advancement in secondary schools to the next level of education is a prerequisite for successfully utilizing TOS in the construction of formative assessment test items. The utilization of TOS becomes complex among teachers which lowers the quality of test items (Mbilinyi et al., 2021). Regarding teachers' proficiency with

the use of TOS, there hasn't been much study of how to apply appropriate formative assessment techniques that use TOS to gauge students' academic development. Likewise, not much research had been done on how well a TOS worked as a construction tool for formative assessment test items in public secondary schools. Also, the lack of attention teachers paid to the usability of TOS when creating test items raised questions among educational stakeholders about teachers' competencies in this area, which called for additional research.

However, in order to develop formative assessment test items that measure students' academic progress in the classroom, teachers must adhere to the table of specifications (TOS) (Rahman, 2021; Monteiro et al., 2021). Additionally, teachers occasionally believed that the main goal of formative assessment was to obtain evidence to support their decisions and provide them feedback on their students' development. Because of this, the successful implementation of formative assessment depends on teachers creating test items in accordance with TOS. The alignment of formative assessment test structure with the intended assessment results pertaining to students' academic achievements revealed the perceptions of teachers (Sewagegn, 2019). Yet, the fundamental aspect of teachers' restricted understanding of TOS in test items construction remains a challenging problem in public secondary schools and warrants more investigation. The review demonstrates that teachers' proficiency in creating assessments that are used in schools to assess students and ascertain their academic achievement was inadequate in the worldwide environment (Rahman, 2021). The study indicates that teachers often lack the skills to create effective test items and focus on formative feedback, potentially causing inappropriate academic progress. This highlights the need for further research on teacher competency using TOS in secondary school student assessment.

When creating test items that covered every step and element of the requirements table of specifications based on Bloom's taxonomy model, teachers encountered difficulties (Mahroof et al., 2021). Teachers' lack of knowledge and skills in using Bloom's taxonomy components in creating question types for six cognitive domain levels hinders academic achievement, as teachers need to effectively assess students using these components. This led to questions being raised concerning the validity and reliability of assessments that secondary school teachers generate. Teachers believe that students' academic success in secondary schools is directly correlated with their use of TOS (Yan Zi et al., 2023). Stakeholders, including communities, parents, and educational authorities, question the usefulness of the Table of Specifications (TOS) in creating test items, arguing that poor design affects secondary school students' academic achievement. Accurately creating assessment tests was delayed due to teachers' inadequate proficiency with TOS (Kissi et al., 2023). This makes it more difficult for students to grow academically and to improve their knowledge during class activities. Understanding the extent of teachers' abilities and competencies in test item construction was necessary in light of this substantial gap, especially with regard to the placement with TOS.

However, while creating test items to evaluate students' academic achievement, teachers have demonstrated a meager comprehension of the usefulness of TOS (Taura, 2023). When creating test items, the table of specifications is a crucial tool for evaluating students' academic performance (Adom et al., 2020). Teachers do, yet, point out a contrast that emphasizes the connection between test item development procedures in secondary school settings and the usability of TOS and how this relationship impacts students' academic performance. Students underperform on assessment tasks because of the difficulties test item designers face in creating assessments for use in educational contexts (Dube et al., 2020). Concerns concerning the precision of assessing students' academic performance are raised by this inconsistent use of TOS in test item creation. Teachers encounter intricate difficulties when creating test items that are in line with Bloom's taxonomy. These challenges arise from their need to comprehend Bloom's taxonomy and its utilization in evaluating students across a range of cognitive abilities. As well, these assessments help teachers identify areas in which they may be deficient in competencies and require additional support (Kapinga et al., 2021). In public secondary schools, the quality of assessments has become a key concern as teachers struggle to comprehend the connection between test item construction and cognitive ability.

Additionally, Tanzania's National Examinations Council (NECTA) released guidelines emphasizing the use of the table of specifications (TOS) in formative assessment construction for secondary schools. The aforementioned rules emphasized the need for conducting assessment, evaluations and observations of educational components that impact secondary school students' academic performance (NECTA, 2021). However, stakeholders noticed a disparity in students' academic performance between the intended emphasis

on formative assessment preparation and the results of summative examinations, even though the guideline placed a strong priority on TOS. In this instance, more research is deemed necessary to address the issue. Under the Tanzanian government's education and training policy of 2014, which is a new version of 2023, guidelines for assessment and evaluation techniques are provided for all educational levels, including secondary schools (URT, 2023). However, there was disagreement among stakeholders on the teachers' adherence to the policy, especially when it came to the way they prepared question items that matched Bloom's taxonomy and included the six levels of cognitive domains. Some studies reveals that teachers in the local context are not well-versed in using TOS for formative assessment in secondary schools, and the effectiveness of TOS in creating test items has not been extensively studied, this led to more investigations. Furthermore, there hasn't been much discussion of teachers' proficiency in applying appropriate formative assessment techniques that use TOS to gauge students' academic development (Kapinga et al., 2021). The usefulness of a TOS in creating formative assessment test items in public secondary schools has not been the subject of much research. But this circumstance raised questions among educationalists about secondary school teachers' capacity to use TOS to create formative tests that are used in schools. This study investigates secondary school teachers' competence in using TOS for creating formative assessment test items in public secondary schools, focusing on their awareness of NECTA recommendations and their adherence to TOS in developing formative tests.

Statement of the Problem

Educational stakeholders have serious concerns about formative assessment test items that are not set correctly and do not follow the TOS. The intended gains in formative assessment have not been fully realized despite cooperative efforts from the government, partner organizations, donor countries, and NGOs, raising questions regarding the accomplishment of goals within the educational system (Rahman, 2021). The proficiency of teachers in creating assessments in school setting has not been the subject of many studies (Mahroof et al., 2021; Ankomah et al., 2020; Amani et al., 2021). However, teachers have thoughtful doubts when formative assessment test items are poorly constructed and do not follow the Table of Specifications (TOS). This is because it makes it more difficult to measure the validity and reliability of teacher-made test items, which ultimately leads to students' learning outcomes being underachieved (Kahembe, 2020). Nevertheless, creating test items according to the TOS makes it difficult for teachers to assess how well their students are doing academically. Parents, students, NGOs, and the community at large are among the educational stakeholders who voice displeasure with students' progress in summative assessment results. Furthermore, in Tanzania's Hanang area, the particular problem of the table specifications' usefulness while creating formative assessment test items in public secondary schools has not yet received enough attention. In order to better understand how useful, the table specification is for creating formative assessment test items, this study looked at it in public secondary schools in Tanzania's Hanang district.

Research Question

To what extent are teachers competent in using the table of specifications when constructing formative assessment test items in secondary schools in Hanang district?

Significance of the Study

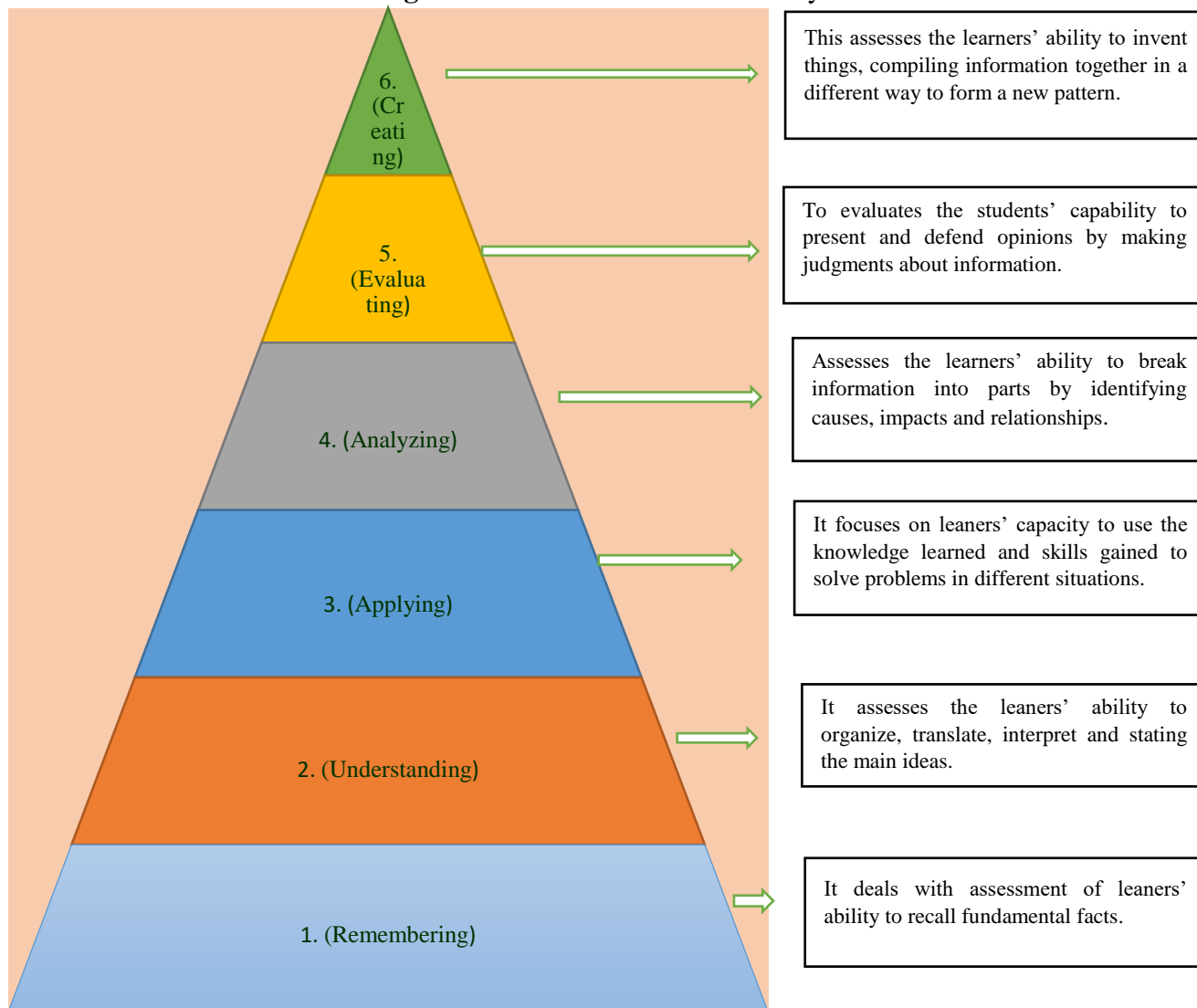
The study enhances teachers' competence in creating high-quality test items in Tanzanian secondary schools, demonstrates the practicality of TOS in formative assessment, benefits national examination moderators and coordinators, and raises awareness for policymakers and educational theorists in developing learner assessment procedures. The study explores the use of TOS in formative assessment test item development, focusing on teachers' competence in using the table of specifications. It aims to balance weighting with intended content, addressing knowledge gaps in Tanzanian secondary schools and global contexts.

Theoretical Framework

The study was guided by Bloom's Taxonomy, first introduced in 1956, is a model used by educationalists to create test items. It consists of three domains: cognitive, affective, and psychomotor. The revised taxonomy, updated by Anderson and Karthwohl in 2001, has six levels ranging from lower to higher order thinking.

Test items are constructed at these levels, with remembering being the first step and creating the most challenging. The ranked structure is used in education to classify learning objectives and promote critical thinking.

Figure 1 : Revised Bloom Taxonomy Model



Source: Revised Cognitive Domains (Anderson and Karthwohl 2002)

Bloom's Taxonomy is a useful framework for formative evaluation, classifying cognitive abilities into higher-order and lower-order thinking skills. It ensures formative assessment test items cover a wide range of cognitive skills, allowing teachers to evaluate students' comprehension at different difficulty levels. The TOS helps align test items with learning objectives, allowing teachers to specify specific information and cognitive abilities. The ambiguity in Bloom's Taxonomy's six cognitive levels makes it challenging for teachers to identify appropriate cognitive skills for formative assessment test items, affecting the consistency and accuracy of the TOS. Teachers in public secondary schools are proficient in using the Bloom Taxonomy (TOS) to create formative assessment test questions. The TOS helps guide students through different cognitive stages of assessment, from remembering to understanding. Teachers create high-quality test topics that enhance students' ability to articulate essential ideas and solve problems in various contexts. They encourage critical thinking, analyze test objectives, and evaluate students' ability to produce items and combine data in novel ways. This approach focuses on cognitive domains.

Literature Review

Ozturk (2021) studied the ability of pre-service teachers in Turkey to analyze achievement assessments using the updated Bloom's taxonomy. The study's main goal was to improve pre-service teachers' analytical abilities when assessing sixth-grade students' course content using the updated Bloom's taxonomy. The study used a purposively selected sample of 99 pre-service teachers and a single-group experimental design with pre- and post-tests. According to the study, pre-service teachers could only apply low levels of taxonomy and had very low capabilities when it came to interpreting achievement test results using the revised Bloom's taxonomy. It is crucial to understand that the study used reversed Bloom's taxonomy and was particularly concerned with pre-service teachers. The study did not sufficiently address the issue of in-service teachers' proficiency in using the Table of Specifications while preparing test items. Furthermore, because of the varied cultural and educational backgrounds of the participants in the prior study and the small sample size employed, the results of this investigation may not be applicable in other contexts. Furthermore, the study provides no direct information regarding the instructors' proficiency in creating formative assessment test items in public secondary schools using the table of specifications. Thus, in this instance, focus was placed on utilizing a table of specifications to directly comprehend the competency of teachers within the framework of formative assessment in public secondary schools in Tanzania's Hanang area.

Additionally, a study on teachers' test construction competencies in the examination based on multiple-choice exams was conducted in Ghana by Kissi et al; (2023). The study looked into the connection between the caliber of tests that Ghanaian senior high school teachers create and their proficiency in creating multiple-choice assessments. The Kwahu-South District's four senior high schools provided the sample, which was made up of 157 teachers. A self-designed questionnaire was completed by participants in order to evaluate their proficiency in creating multiple-choice questions. The study discovered that a number of issues, including content validity, handling item options, and test item assembly, were impeding teachers' ability to prepare multiple-choice exams. The quality of the multiple-choice questions that the teachers created was also found to be significant by the study. The idea of teachers' competency utilizing a table of specifications in the creation of formative assessment test items required to be thoroughly established in this current study, even in light of the features of their competence in multiple-choice test construction that were revealed. Similarly, using a self-created questionnaire to evaluate teachers' competency was a suitable method; however, because Ghana and Tanzania have different sociocultural contexts, this technique may restrict replication or application to other regions. However, the current study examined the teachers' proficiency in formative assessment test item construction in public secondary schools in Tanzania's Hanang area utilizing the table of requirements.

In Osebhohiemen's (2019) study, the effectiveness of the table of specifications (TOS) in creating teacher-made mathematics achievement assessments in Nigerian primary and secondary schools was investigated. Examining whether it would be possible to implement the TOS and achieve effective assessment was the main goal of the study. In order to collect data quantitatively, the research used a descriptive survey approach. According to the study, test-taking strategies used by teachers in elementary and secondary schools had been abandoned, which had a negative impact on students' academic performance and their appraisal. The study did not find much regarding the proficiency of teachers in creating formative assessment test items using TOS. The study also demonstrated the value of TOS in establishing achievement tests for Nigerian primary and secondary education. In this instance, the present study concentrated on Tanzanian public secondary schools' teachers' proficiency in utilizing TOS during formative assessment test items. Even though the study was highly useful, it was limited to a descriptive survey design, and the gaps were caused by inadequate attention to the research equipment utilized for data collection and the lack of a sample size. Therefore, in order to address these issues, it is important to carry out research on the teachers' proficiency in creating formative assessment test items in public secondary schools in Tanzania's Hanang area using the TOS.

In Ghana, Quansah (2019) looked at teachers' proficiency in creating assessments for use in the classroom. In order to conduct the study, a qualitative technique was used, and samples of end-of-term test papers from three (3) randomly chosen secondary schools that offered integrated science, math, and social studies were used. The study's conclusions showed that secondary school teachers in Ghana lacked sufficient expertise when it came to creating end-of-term exam items. In Ghana, this topic sparked conversations among

teachers working in the present. Regarding this, the study was restricted to qualitative methodologies, and the only method available for evaluating teachers' test-building abilities in the Ghanaian environment was document analysis. As a result, it is impossible to replicate the findings in other situations. As a result, it is essential to do additional research in the Tanzanian example centered on the proficiency of teachers in creating formative assessment test questions in public secondary schools located in the Hanang district utilizing the table of requirements.

Senjiro et al; (2023) conducted a study in Tanzania to investigate the role of formative assessment in the development of the four 4Cs creativity, critical thinking, communication, and collaboration among secondary school students. The study comprised observations of classrooms and interviews with thirty-two geography instructors from ten secondary schools in Morogoro Municipality, Tanzania. The findings suggested that the formative assessment procedures currently used in secondary education were not promoting the development of 21st-century abilities. The study found that insufficient administration and management of these technologies, as well as inadequate formative evaluation tools, were major causes. Regarding the prior study, it was critical to recognize the study's contributions. The previous study's findings, however, did not adequately articulate the problems with teachers' ability to use TOS while creating formative assessment test items. Additionally, the application of qualitative research methods allowed for a better understanding of teachers' viewpoints and classroom procedures, which improved learners' comprehension of formative assessment procedures as a tool for fostering 21st-century skills. This made it harder for the results to be applied in a wider setting. Furthermore, the study's investigation of the teacher's proficiency in applying efficient formative assessment techniques while adhering to TOS was inadequate. In public secondary schools in the Hanang area, it is crucial to use the study-based teachers competency using TOS in the creation of formative assessment test items in order to solve these restrictions. Amani et al.'s study (2021) examined Tanzanian secondary school teachers' understanding of creating excellent exams for the classroom. In order to determine what professional support secondary school teachers, require for test construction, the study will look at teachers' knowledge and proficiency regarding the processes involved in creating high-quality classroom assessments. A suitable sample of 246 secondary school teachers participated in the study. The research utilized a quantitative methodology, utilizing semi-structured questionnaires as a means of gathering data. The samples were taken from secondary school teachers, and the study explained how teachers were aware of and skilled in test construction techniques. This didn't do a good job of addressing the issue because the results could be biased, based only on personal experiences, and unable to be applied to other contexts. However, teachers, district school quality assurers, academic masters/mistresses, and public secondary school administrators in Tanzania's Hanang district provided the study's sample size.

In summary, the reviewed studies focused on various aspects of test construction and assessment practices in different educational contexts. Ozturk (2021) investigated pre-service teachers' skills in analyzing achievement tests based on the revised Bloom's taxonomy in Turkey. Kissi et al; (2023) examined teachers' test construction competencies in multiple-choice tests in Ghana. Osebhoiemen (2019) explored the usefulness of the table of specifications (TOS) in constructing teacher-made achievement tests in mathematics in Nigeria. Quansah (2019) examined teachers' skills in test construction in schools in Ghana. Senjiro et al; (2023) investigated the contribution of formative assessment practices to the development of 21st century skills in secondary schools in Tanzania. Amani et al; (2021) explored the knowledge of secondary school teachers in Tanzania regarding the procedures for constructing high-quality classroom tests. While some studies touched upon test construction procedures and teachers' competencies, none directly examined the extensiveness of teachers' competence in using table of specifications in constructing formative assessment test items in public secondary schools in Hanang district, Tanzania. Additionally, the findings from the reviewed studies were limited due to their specific geographic, economic, and sociocultural contexts, as most studies focused on a particular region or country, such as Turkey, Ghana, or Nigeria, and few studies were conducted in Tanzania, but specifically none done in Hanang district. Therefore, there was a need for research that explored teachers' competence towards usability of tables of specifications in constructing effective assessment practices in public secondary schools in Hanang district.

Methodology

This study used a mixed methods approach with a convergent research design. In order to fully comprehend the research challenge, this design entailed the simultaneous collection and analysis of both qualitative and quantitative data inside a single study (Creswell & Creswell 2018). Data for this study were gathered from a variety of sources in order to fully comprehend the research problem. Both quantitative and qualitative data were gathered concurrently, examined independently, and then connected to determine if the results agreed or disagreed (Creswell & Creswell 2018). The target population for this study included 712 people, including 632 secondary school teachers, 37 academic masters/mistresses, 37 heads of school, and 6 District School Quality Assurers (DSQA). There were 119 respondents in the sample size, comprising 95 teachers, 11 academic masters/mistresses, 11 heads of schools, and 2 district school quality assurers. The study collected data through questionnaires, interview guides, and document analysis guides, and validation was ensured by three research experts. A pilot study was conducted in two secondary schools, involving heads of school, academic teachers, and sixteen teachers. Data was analyzed using descriptive statistics with the aid of SPSS version 26. Thematic steps were used to identify themes, and document reviews were analyzed. Ethical considerations were followed throughout the research process.

Result

In public secondary schools in the Hanang area of Tanzania, the study sought to determine the degree of competence possessed by teachers in creating formative assessment test items using the table of specifications. The analysis of the data from the participants' answers, which was centered on teachers' proficiency while preparing test items at the school level using a table of specifications, kicked off the conversation. Using questionnaires given to teachers and interview guides from district school quality assurance and academic masters/mistresses, the research question was addressed. While the qualitative data was described and cited to elicit information from instruments, the percentage through quantitative data was interpreted by Taherdoost (2019), and the mean according to Chyung and Huchinson (2023).

Table 1

Extent to which are Teachers' Competence Using the Table of Specifications in Constructing Formative Assessment Test Items in Public Secondary Schools (n=95).

s/n	Statements	SE		ME		GE		VE		VHE		M
		f	%	f	%	f	%	f	%	f	%	
I	Teachers fully understand the content of the table of specifications skills before constructing a test item	9	9.5	26	27.4	22	23.2	27	28.4	11	11.6	3.05
ii	Teachers are aware of the appropriate use of action verbs about six cognitive domains	5	5.3	18	18.9	24	25.3	29	30.5	19	20.0	3.41
iii	Teachers are skilled in creating questions that assess different cognitive levels	5	5.3	13	13.7	23	24.2	27	28.4	27	28.4	3.61
iv	Competent teachers ensure that the TOS reflects a balanced representation of topics and skills	3	3.2	10	10.5	27	28.4	27	28.4	28	29.5	3.70
V	Proficient teachers in creating different types of test items (multiple-choice, essay, true/false, short answer) to assess a range of skills and abilities of students	2	2.1	7	7.4	33	34.7	30	31.6	23	24.2	3.68
vi	Teachers in the department can use the table of specifications to produce quality formative test items	5	5.3	9	9.5	22	23.2	37	38.9	22	23.2	3.65
vii	Teachers have the skill to adhere to all steps of constructing test items	4	4.2	14	14.7	16	16.8	28	29.5	33	34.7	3.75

viii	Teachers understand the use of revised Bloom's taxonomy	6	6.3	14	14.7	29	30.5	25	26.3	21	22.1	3.43
ix	Teachers can develop formative assessment test items for students	2	2.1	19	20.0	23	24.2	31	32.6	20	21.1	3.50
X	Teachers can prepare proper test items predicting good students' performance	4	4.2	10	10.5	20	21.1	32	33.7	29	30.5	3.75
Grand Mean											3.55	

Source: Researcher's field study (2024).

Key: f=Number of respondents, %=Percentage, M = Mean, (1) SE=Small Extent, (2) ME= Moderate Extent, (3) GE= Great Extent, (4) VE= Very Extent, (5) VHE=Very High Extent.

Table 1 data reveals that, among participant groups with minority backgrounds, the majority, 64.2%, reported that teachers had a very high and very extensive level of skill in developing formative assessment test items that predicted strong student performance. 21.1% of respondents said that teachers showed a high degree of skill in this area, whereas respondents from severely minority backgrounds 14.7% of respondents said that teachers' skills were restricted and that their competency in creating formative assessment test items for students in public secondary schools was only modest to moderate. This shows that even though teachers in public secondary schools possess the fundamental skills necessary to create formative assessment test items, some have yet to find success in these specific areas of creating assessment tests utilizing TOS. Teachers that lack the appropriate training to create effective specifications mismatch with one another, which results in inconsistent assessments used to gauge student success.

The average score for this item is 3.75, which shows that teachers have received sufficient training in creating excellent specifications. However, when it came to writing test items utilizing the TOS, they expressed reluctance, which caused the intended knowledge and skills of the students to be measured incorrectly. The researcher conducted a face-to-face interview with one of the district school quality assurers (DSQA1), that yielded the data, when asked if teachers are capable of creating formative assessment test items using a table of specifications. According to this quality assurer (DSQA1),

The content and techniques involved in developing a table of specifications (TOS) for formative assessment test construction in secondary schools are beyond the expertise of teachers. This is a result of their infrequent preparation of TOS, which leaves them unfamiliar with the required procedures. Because of this, while creating test items, teachers only draw from their own experience, which makes it more difficult to properly assess students (Personal Communication, DSQA1, 18th April 2024). Furthermore, academic mistress (AC1) was questioned about the same thing and observed that,

Yes, because they received professional training at several institutions prior to starting work, teachers have a thorough comprehension of the material in the Table of Specifications (TOS). But there are frequently issues with creating and applying TOS for each test construction. Due to the fact that some assessment exams may not fully address these objectives, it is difficult for them to evaluate students' attainment of particular objectives (Personal Communication with AC1, 6th March 2024).

The response given in both interviews suggests that although teachers have received professional training that has given them a thorough comprehension of the material contained in a Table of Specifications (TOS), they still have difficulties in effectively implementing the TOS when creating tests. The infrequent preparation of tables of specifications (TOS) for formative assessment tests by secondary school teachers resulted in a limited understanding of the content and procedures involved during the assessment, which delayed the teachers' ability to assess students accurately. The study's conclusion suggests that teachers' comprehension of TOS differed. While a very small percentage of teachers reported lacking the essential skills, the majority of teachers have the ability to create formative assessment test items. In any case, the results of this study are consistent with those of a study carried out in Ghana by Quansah (2019), which emphasizes the inadequate abilities of teachers in creating end-of-term test items.

The data in Table 1 shows that, while the minority of 23.2% indicates a great extent and the extremely minority of 14.8% indicates a small extent and moderate extent regarding the department's teachers' ability to use the table of specifications, the majority of 62.1% shows that teachers in the department use the table

of specifications to produce quality formative test items in very high and very extent. When creating the table of specifications for examinations, it was noted that a sizable portion of the department's secondary school teachers showed competency. This is explained by the admission that TOS acted as a thorough framework that offered significant insight into the strengths and shortcomings of students. The average score for this item, 3.65, indicates that teachers' instructional preparation was significantly influenced by the TOS because of their sufficient competency, which allowed them to create formative assessments that successfully met the individual requirements of their students. According to this research, when it comes to developing formative assessments for public secondary schools, teachers in the department are competent to use the table of requirements.

According to Table 1 data, 57.9% of teachers with a moderate level of competence were able to ensure a balanced representation of topics and skills by using the Table of Specifications (TOS) during the construction of test items for secondary school assessments. In contrast, 28.4% of teachers with a very minority identified a great degree of competence, and 13.7% with a small and moderate degree of competence indicated that the teacher had limited competence in ensuring a balanced representation in the TOS for student assessment. This remark implies that teachers can create examinations with a variety of difficulty levels when they utilize the table of criteria correctly. Teachers can evaluate their students' ability to attempt test items that guarantee a balance of several cognitive domains by using the table of specifications. The fact that teachers' mean score on TOS is 3.70 suggests that the tool aids in subject balancing and student assessment across multiple cognitive domains. The information gathered through a face-to-face interview with a district school quality assurer (DSQA2) revealed that:

The table of specifications makes it easier for teachers to create assessments with varying degrees of difficulty and evaluates students' accuracy in answering questions related to all subject areas. Teachers can make sure that the examinations adequately challenge students with varying abilities and cover cognitive features by integrating the table of specifications (DSQA2 Personal Communication, 22nd April 2024).

According to this material from DSQA2, teachers can create examinations with a variety of difficulty levels when they make efficient use of the table of specifications. While most teachers believed that using the table of specifications enabled them to design an exam that guaranteed a fair portrayal of the subject matter and, in the end, evaluated students' proficiency, other teachers disagreed.

The replies of the participants to the questions about the teachers' proficiency in developing several test items types (essay, multiple-choice, true/false, and short answer) to evaluate a variety of student skills and abilities are shown in Table 1. In response, it was found that while minority 34.7% indicated great extent competence and extremely minority 9.5% exhibited small and moderate extent competence of teachers concerning these areas, moderate 55.8% showed very extent and very high extent ability of teachers to utilize the table of specifications to develop various types of test items. Thus, when it came to creating formative assessment test items, teachers in public secondary schools showed a modest level of competency in using the table of specifications. The average score for this item is 3.68, suggesting that most teachers are in favor of developing various test items that gauge students' cognitive ability. During the in-person interview, one of the academic masters (AC5) stated,

Teachers prepare the TOS when constructing tests. When creating test items, some secondary school teachers frequently forget to create a table of specifications. As a result, when students take assessments, fewer learning objectives are met since the tests they design do not fairly represent cognitive domains (Personal Communication with AC5, 15th April 2024).

According to this AC5 remark, the test design is negatively impacted by the lack of a table of specifications, which makes it more difficult for students to appropriately assess their knowledge and abilities. Generally speaking, one real barrier is the teachers' lack of experience with TOS when it comes to creating formative assessment test items. Teachers find it difficult to successfully implement the professional training they have received on creating assessment tests based on adherence to TOS when creating the actual assessments.

According to Table 1 data, the minority, which comprises 25.3% of respondents, showed a great extent and 24.2% a small extent and moderate extent of awareness regarding this aspect, while the moderate group, which comprises 50.5% of respondents, displayed varying levels of awareness regarding the usage of action

verbs with connections to six cognitive domains, showing very high extent and very extent. This shows that a reasonable and methodical strategy to exam preparation is the use of action verbs in evaluating the cognitive levels of educational achievements. With the appropriate action verbs used, teachers may effectively use TOS when preparing test items, as evidenced by the item's mean score of 3.41. Teachers are knowledgeable about the proper usage of action verbs in relation to six cognitive areas. Regarding the data at hand, the qualitative analysis reveals that when one of the academic masters (AC3) was questioned regarding the teachers' abilities to craft assessments that gauge various cognitive levels and employ appropriate action verbs, they disclosed that:

Teachers often lack the knowledge and skills to create test items evaluating students at various cognitive levels, often due to a lack of familiarity with the table of specifications (TOS) methods. Despite training, some teachers struggle to apply this knowledge effectively to improve student performance (AC3 Personal Communication, 12th March, 2024).

This claim from (AC3) suggests that teachers are not proficient in creating formative assessment test items that fully correspond with various cognitive levels. Some teachers' lengthy academic careers are linked to their sporadic use of TOS protocols and choice of appropriate action verbs. The results were corroborated by Bloom's taxonomy, which was first proposed by Bloom in 1956 and later revised by Anderson and Krathwohl in 2001. According to this taxonomy, test items should cover six levels of cognitive complexity, ranging from basic recall to the capacity of learners to rephrase information to create a new pattern. This suggests that increasing teachers' proficiency and comprehension in the use of appropriate action verbs that are in line with the cognitive domains is crucial. Teachers that are more proficient in this area will be able to assess students' cognitive capabilities more accurately and with higher quality, which will improve educational outcomes.

The information in Table 1 showed the proof of teachers' proficiency in creating formative assessment test items in public secondary schools utilizing the requirements table. According to the data, 40% of minority teachers demonstrated very high and very extent understanding, while 23.2% demonstrated great understanding of the content of the table of specifications skills prior to creating a test item of the extremely minority, 14.8% demonstrated small and moderate understanding in this regard. The average score for teachers is 3.05, suggesting that they exhibited an uncertain level of proficiency in creating formative assessment test items in public secondary schools utilizing the table of specifications. Given that a minority of teachers demonstrated proficiency in creating assessment test items in secondary schools using the table of specifications, it appears that there may be a legitimate issue with teachers' use of the TOS. Teachers create examinations that do not make appropriate use of the table of specifications due to this carelessness. Before creating a test item, one of the academic masters (AC8) was requested to state whether or not teachers fully comprehended the content of the table of specifications skills. This information was revealed by the qualitative data. In response, this academic master (AC8) said; "*Teachers often disregard the table of specifications for test design, relying solely on the NECTA format for question generation, despite its importance in test construction*" (Personal Communication with AC8, 25th April, 2024).

Also, during face -to-face interview with one of the district school quality assurers (DSQA1) who expressed that;

Secondary school teachers understand the table of specifications, enabling them to create formative assessment test items. However, topics covered may influence the table of specifications, and they may use experience to create assessment tests (Personal Communication with DSQA1 on 18th April, 2024).

Evidence from the AC8 and DSQA1 show that there may be a practice and potential mismatch between teachers' understanding of how to prepare assessments effectively and how they really use the table of specifications as a tool to balance tests and make sure they are in line with the learning objectives. This claim was further validated by the researcher's discovery, upon document review, that there were no physical documents pertaining to TOS in secondary education. Despite how important it is to prepare the TOS, teachers in public high schools did not focus on doing so. These results were in line with a prior study carried out in Ghana by Kissi et al. (2023), which demonstrated the importance of teachers' competences in the construction quality examination. Teachers had to deal with a variety of issues of test designing, including processing item alternatives, assembling, test items and content validity.

According to the available data, a moderate teacher's ability to set assessments favorably is indicated by the typical grand mean score of 3.55 that was derived from the response about teachers' competency using the TOS in creating formative assessment test items in public secondary schools. This score implies that the majority of respondents have ability of using the table of specifications as an indication of its potential efficacy in helping public secondary schools create formative assessment test items.

In summary, the study found that the teachers demonstrated moderate level of competent in using the table of specifications when constructing formative assessment test items in public secondary schools. Majority of the participant reinforced those teachers had ability to prepare proper test items by adhering the all procedures of table of specifications that ultimately predicting good students' performance. This proper preparation of formative assessment played an essential role that allows teachers to create test that ensure balance representation of the topic eventually assess students' ability. All the educational stakeholders observed the importance of adhering the table of specifications as a tool that facilitates the creation of teacher-made tests that include different levels of difficulty and enables teachers to assess students' ability to correctly answering test items across all domains. The finding of this study emphasized the process of integrating the table of specifications that enhance teachers to ensure the assessments test cover the cognitive aspects and properly challenge students at different ability. Likewise, the findings emphasized the importance of enhancing teachers' competence in utilizing the table of specifications in the whole process of test items constructions at schools setting as proposed in the Bloom's taxonomy that test supposed to cover six levels of cognitive complexity ranging from basic recall towards the learners' ability to formulate things into a different way to form a new pattern.

Conclusion

Based on the findings, this study concludes that teachers who are teaching in public secondary schools have varying levels of competence in using tables of specifications (TOS) when writing test items. Some teachers exhibit limited adherence to TOS procedures such as determining the number of questions to be included in the test as well as distributing the questions on each topic based on the objectives intended to be tested. However, they hold high level regarding the application of TOS in test item preparation while others demonstrate moderate abilities in this area. The study suggests that academic achievement is correlated with effective formative assessment preparation that follows TOS procedures. Emphasizing the need for improved assessment procedures and professional development, the study underscores the necessity to enhance teachers' competence and application of TOS in creating test items.

Recommendations

The study's conclusions led to the following recommendations: teacher education institutions, such as colleges and universities, should integrating test item development into teacher education, creating guidelines for consistent formative assessment practices, and providing ongoing support to teachers. It also suggests that the government should periodically follow up on teachers' implementation of the table of specifications in public secondary schools to assess students' academic progress.

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