

Attitude of Physics Teachers towards Practicability of Physics Subject Continuous Assessment on Students Performance in Secondary School in Kilimanjaro Region, Tanzania

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Abstract

This study examined the attitude of teachers towards practicability of physics subject continuous assessment on student's performance in secondary school in Kilimanjaro region Tanzania. The sample of this study included 35 secondary schools, 35 heads of schools, 70 physics teachers, 05 District secondary education officers and 05 District school quality assessors officers. A stratified simple random technique was used to select physics teachers. Research instruments included questionnaires and interview guides. For quantitative data analysis the researcher used both descriptive and inferential statistics and descriptive data were analyzed using frequencies, percentages and mean scores. With regard to inferential statistics, independent T-test was used. Qualitative data analysis, the researcher used thematic analysis. The findings indicated that physics teachers had negative attitudes towards practicability of physics subject continuous assessment on student's performance. The findings indicated that there is no significant difference in the mean attitudes scores of public and private secondary school physics teachers on practicability of physics subject continuous assessment on students' performance. The study concluded that the attitudes of physics teachers were negative towards practicability of continuous assessment. The study recommended that education stakeholders should put much emphasis to physics teachers to have positive attitudes towards practicability of physics subject continuous assessment.

Keywords: Attitudes, practicability, continuous, assessment, physics, performance, teachers, students

1. Introduction

Assessment is a systematic, continuous process of monitoring various pieces of learning to evaluate learners' achievement and instructional effectiveness. It also refers to activities that are designed to measure learners' achievement from an instructional programme (NECTA guideline, 2021). Assessment is any procedure or activity that is designed to collect information about the knowledge, attitude, or skills of the learner or group of learners (Yambi, 2018). Continuous assessment is normally carried out during instruction. Its purpose is to improve teaching and learning (Abejehu, 2016). This type of assessment is based on a variety of information sources such as portfolios, teacher's observation, project report and many other forms of alternative techniques. Globally there has been a strong movement in recent years to use Continuous Assessment scores in improving curriculum standards as a basis for assessing learners' performance such as in USA. (Fraser, 2016). One of the most important and significant developments in African countries notably Kenya, Zambia, Ghana, Liberia and Tanzania educational system was the introduction of the use of Continuous Assessment (CA) in evaluation of pupils and students at all levels of schooling.

In the Tanzania context, assessment is either formative or summative. Formative assessment is similar to continuous assessment which is integrated in the teaching and learning process. The goal of formative assessment is to provide constructive feedback to enhance learning process (Bennett, 2011). As per National examination guidelines, teachers are required to assess students continuously at the school level and submit some of the students' grades to the National Examinations' Board (NECTA, 2003), (Ndalichako & Komba, 2014). To resolve this, the National Examinations Council of Tanzania (NECTA) introduced a system of evaluation using CA as a component in grading the final examination results of candidates. On implementing this, NECTA elaborates that, candidates' continuous assessment marks shall be obtained through terminal tests (two terms in a year), and one project (NECTA, 1991 & 2004). Later on NECTA ignored and stopped the use of CA as NECTA claimed that teachers are said to manipulate students CA scores. Currently NECTA introduced the use of CA scores from schools which include tests, terminal, annual examinations, projects and Regional mock examinations. These contribute 30 percent of the final national examination results which NECTA compiles through the PReMS System. Furthermore, school quality assurer shall have the capability to monitor and evaluate teaching and learning process by focusing on the kinds of assessment activities used by teachers (NECTA guideline, 2021). The major purpose of NECTA to demand CA scores from schools is to check whether teaching and learning in schools is taking place. National Policy on Education in Tanzania, 2014 observed that the existing practice in most institutions of learning that basing on the assessment of students work on final examinations and on one-short examination only is no longer tenable.

Likewise Physics subject is among optional science subjects in which physics teachers use theoretical teaching, laboratory practical activities, quizzes, weekly and monthly tests as well as mid-term, terminal, annual and regional mock examinations in preparing CA scores to final national examinations during the fourth year of O-level secondary school leaving certificate. Despite physics subject in Tanzania context O-level secondary school is opted with very few students but the performance in national examinations have been relatively low all the years regardless high scores of CA from schools which are sent to the NECTA.

Similarly, the National examination council of Tanzania has been conducting students' final examinations before completion of four years in o-level secondary school certificate with the involvement of continuous assessment scores from school system which could have been thought to raise students' performance in physics subject. But the attitude of secondary school physics teachers and students towards practicability of continuous assessment in

physics subjects in O-level secondary schools might have not been clearly documented which called for the current study. Therefore this study investigated on attitude of teachers towards practicability of physics subject continuous assessment on student's performance in secondary school in Kilimanjaro region, Tanzania.

2. Statement of the Problem

In pursuit of student's academic performance, school continuous assessments are of great importance. In an attempt to help teachers improve in their students' performance, the Ministry of Education Science and Technology (MoEST) through NECTA has put in place continuous assessment framework for secondary school students (NECTA guideline, 2021). Educational stakeholders have been motivating students' to perform well through school continuous assessment to final national examinations results. Despite these efforts, student's performance in physics subject in Tanzania secondary schools in national examinations is still not encouraging as is still below average. The resultant feature has been inconsistent low performance of students in physics subject in Secondary school national Certificate examinations (Tobi, 2015). This undermines the future of many students that are in schools that persistently perform relatively low in physics subject despite the presence of high continuous assessments scores as most students lie in D and F grades(NECTA results 2017-2020). What therefore remains disturbing is whether a correlation between continuous assessments adopted by physics teachers and its practicability in O-level secondary on students' performance in final National Examinations results. The schools physics continuous assessment scores which are sent to NECTA are differently with final students examinations results. Studies by Abiby (2018), Makipaa (2019), Ugochukwu (2021), Mutambo (2018) & William (2016) found that clarity is required on teacher's attitudes on issue dealing with physics continuous assessment in contribution to the final national examinations. However little attention has been paid on the attitude of teacher's towards practicability of physics subject continuous assessment on student's performance in secondary schools. In filling this gap, the current study therefore investigated on the attitude of teachers towards practicability of physics subject continuous assessment on student's performance in secondary schools in Kilimanjaro region Tanzania.

3. Research Question

The study was guided by the following research question:

What are the attitudes of physics teachers towards practicability of physics subject continuous assessment on students performance in secondary schools in Kilimanjaro Region?

4. Research Hypothesis

Ha. There is a significant difference in the mean attitudes scores of public and private secondary school physics teachers on practicability of physics subject continuous assessment on student's performance.

5. Significance of the Study

The study aimed to explore the attitudes of teachers towards practicability of physics subject continuous assessment on students' performance in secondary schools in Kilimanjaro region. The findings of this study helped teachers to get ideas on continuous assessment if contribute to students performance in final national examinations. Also the findings of the study contributed knowledge to the field of research in education context in secondary schools on the attitudes of teachers on practicability of physics subject continuous assessment on student's performance.

Moreover, the findings of this study should inform the policy makers to improve on continuous assessment practices in secondary schools for effective teaching and learning to achieve educational goals. Likewise, the findings of this study could add value to the theory that guided the study. The findings were deep rooted in how student's performance could be influenced by validity test theory.

6. Theoretical framework

The study was based on the Validity Test theory which was propounded by Kelley 1927), General conceptions of validity theory grew out of basic concerns about the accuracy of score meanings and the appropriateness of score uses and they have necessarily evolved over time as test score uses that have expanded, as proposed interpretations have been extended and refined, and as the methodology of testing has become more sophisticated. The theory has relevance to this study because the theory is particularly applicable to the teaching and learning of various subjects including preparation of continuous assessment tests on physics subjects since it seeks to integrate various strands of evidence into a coherent account of degree to which existing evidence and theory support the intended interpretation of assessment scores for specific uses. Validity test theory therefore supports the arguments that assessment results can be used as determinant of teacher's competence that forms the basis of this study. This indicates that if all these evidences and arguments of this theory are well integrated in practicability of continuous assessment had direct impact on secondary school in influencing students' academic performance in Tanzania secondary schools. The validity Test Theory has three relating attributes of validity to practicability of continuous assessment implementation. First attribute is construct this may be established through effective the adherence of a measure to existing theory and knowledge of the concept being measured. To achieve construct validity, teachers have to ensure that their indicators and measurements are carefully developed based on relevant existing knowledge. Second attribute is content this examines the extent to which the measurement covers all aspects of the concept being measured. This determine that whether continuous assessment aims to measure a class of students' level focusing on reading, writing and speaking components in school system for good students academic performance. The third attribute is criterion which focuses on the extent to which the result of a measure corresponds to other valid measures of the same concept. This attribute evaluates how well a test can predict a concrete outcome, or how well the results of teachers test in class approximate or correlate with the results of another test. In order to assess criterion validity, teachers in school system need to calculate the correlation between the results of their measurement and the results of the criterion measurement. If there is a high correlation, this gives a good indication that teachers test is measuring what it intends to measure.

7. Empirical Review

This section contains empirical review based on the attitude of physics teachers and students towards practicability of physics continuous assessment on student's performance in secondary schools.

Makipaa (2019) in Finland conducted a study about Perceptions of Finnish Upper Secondary School Students of the Assessment Practices of Their Teachers. The data were collected in 2018 as a part of Finnish upper secondary school teachers' in-service training and consist of responses from 918 students at four upper secondary schools in Finland through web-based questionnaire. It was revealed that the assessment practices used by Finnish upper secondary school teachers are traditional; teachers tend to use examinations at the end of the courses in spite of the national curriculum, which states that teachers should assess in versatile ways and

give opportunities for the use of self and peer assessments. The previous study overlooked on the approach and design employed. Thus the current study employed convergent design with multiple instruments of data collection. For this case questionnaires, interview guide and document analysis schedule were employed to obtain information from the respondents on the attitudes toward practicability of continuous assessment on students performance in secondary schools.

The study conducted by Chukwuemeka et al. (2017) in Abia state in Nigeria, investigated on Perception of Teachers and Students on Continuous Assessment in Secondary Schools. The study employed descriptive survey and the study was carried out using ex-post-facto design. Two research questions and two null hypotheses were employed in the study and Data were collected from 530 teachers and their students in selected government secondary schools from the three education zones. Items questionnaire titled “Teachers Students Continuous Assessment Questionnaire” (TSCAQ) was used to collect data. The study revealed that teachers both senior and junior students perceived that continuous assessment was effective tool in measuring the performance of students by the teachers and that its implementation is vital for their academic achievement. However the previous study used only questionnaire as the major instrument of collecting data. The effect of using only questionnaire could have limited in-depth understanding of the problem hence the current study employed multiple instruments of data collection such as questionnaire and interview guide which provided adequate information from both qualitative and quantitative data regarding the attitudes of teachers and students towards practicability of continuous assessment on students performance in secondary school to fill the gap.

Beshir (2017) conducted a study on teachers’ attitudes towards continuous assessment of students’ learning in secondary schools of Jijiga city administration. This study was intended to examine teachers’ perception towards continuous assessment of students’ learning in secondary schools of Jig-jiga City Administration. The available three government secondary schools were taken as a sample from Jig-jiga city administration. Based on this, a total of 268 respondents that were teachers, principals, vice-principals, department heads, students, and supervisors were selected as the samples. The data were gathered through questionnaire and focus group discussion. The findings of the study unearthed that teachers and students had favorable perceptions towards continuous assessment. However the previous study tried to provide insight of the study for involving many categories of respondents but ignored the key informants who are students who could give appropriate information regarding attitudes of continuous assessment on students’ performance. Therefore the current study involved physics students, teachers, heads of schools, district secondary education officers and district school quality assurers officers who could give in-depth information regarding the research problem.

Ugochukwu (2021) did a study about counselors’ perception on teachers towards implementation of continuous assessment in Public secondary schools in Onitsha education zone Nigeria. The study adopted a descriptive survey design and the instrument used for data collection was a structured questionnaire developed by the researcher titled “Counselors perception on teachers towards the implementation of continuous assessment in public secondary schools in Aguata Local Government Area” (COPOTICA). Based on the findings of the study revealed that continuous assessment makes students develop good study habits and it encourages healthy competitions among students. Despite good study findings from the previous study but the issues of target population, sample size and sampling procedures were overlooked. In this case the absence of all these could raise a possibility of obtaining data

which were unreliable. In filling this gap the current study used appropriate sample size and sampling procedures which brought valid and reliable data. Therefore, the current study investigated on the attitude of secondary school physics teachers towards practicability of continuous assessment in physics subjects in O-level secondary schools on student's performance.

Mbonyiriyivuze et al. (2021) did a study on Students' attitudes towards physics in Nine Years Basic Education in Rwanda. The purpose of the study was to investigate students' attitudes towards physics in nine year basic education .A descriptive survey design was employed by the study. The data were collected through questionnaires. Findings illustrated that more than a quarter of participants felt that learning physics is boring. About 39% think that the subject of physics does not relate to the real-world experience. A significant number of participants had negative attitudes towards physics in terms of the effort required for learning. The findings also showed that the overall level for participants in physics problem-solving skills was low.

However, the previous study used questionnaire as the major instrument of data collection which could have limited in-depth understanding of information. Therefore the current study used varieties of instrument in data collection such as questionnaire and interview guide for the purpose of triangulation of data.

The study by Mutambo (2018) in Zambia did a study on Teachers' and Students' Perception of Continuous Assessment in Zambian Secondary Schools-a case of Chiwala and Masala Secondary Schools of the Copperbelt Province . The purpose of this study was to determine the perception of students and teachers have on Continuous Assessment in the two secondary schools of Chiwala and Masala on the Copperbelt Province of the Republic of Zambia. The methods employed to determine perception were both quantitative and qualitative as the scaled questionnaires were used as well as focus group discussions and guided interviews. A total of 99 respondents were involved and these consisted of 70 grade 12 students out of population 1200 possible students. The teachers involved were 29 out of a possible 130 teachers. The results indicated that the Continuous Assessment was perceived to be important by all stakeholders and to a large extent both students and teachers indicated that parents were well abreast with the existence of Continuous Assessment in the two schools. However the degree to which parents were interested and participated in its implementation needed evaluation. The practical subjects such Home Economics were said to be difficult to assess regularly due to the cost involved in carrying out assessment in buying of materials .This was also found to be true for science related subjects and caused the schools to schedule serious assessment on practical's to mock examination time only. This was not enough as it implies that the practical subjects are taught theoretically. The practice of continuous assessment in the two schools has a positive will from the administrators however there is room for tremendous improvement to ensure participation of all.

The previous study findings showed positive attitudes on CA from the respondents although important aspects like relation to students final performance was left out in which the current study employed convergent design which was compatible for more reliable and credible findings from the respondents on physics teachers CA attitudes in relation to students performance.

A study was conducted by William (2016) in Malawi. The study focused on the Classroom continuous Assessment in Malawi: Teachers 'Perceptions and Practices in science subjects and their current classroom assessments practices. Specifically, the study sought to gain an understanding of the extent to which teachers use different classroom continuous assessment

methods and tools to understand and to support both the learning and teaching processes. The study employed both quantitative and qualitative method. The study used a questionnaire to establish the teachers' perceptions of classroom assessment in mathematics, a lesson observation protocol, and pre-lesson and post-lesson observation interview protocols as main sources of data collection. The data collected through observations and interviews, Document analysis was used to triangulate the information collected through observations and interviews. A total of six teachers (three male and three female) were drawn from two primary schools in Malawi.

The finding of the study revealed that teachers perceived classroom continuous assessment as tests that teachers give to their students at specified time intervals. What teachers said about their teaching was not reflected during their teaching. Since teachers perceived classroom continuous assessment as tests, they showed limited ability to use different methods and tools to assess their students while teaching. The teachers' perceptions of classroom continuous assessment have influence on their classroom assessment practices. Five of the six teachers perceived continuous assessment as testing, and classroom assessment practices were not clearly embedded in their teaching. Teacher experience and teacher education program did not seem to contribute much to teachers' perceptions of classroom continuous assessment; however, teacher's academic qualification seemed to influence teachers' flexibility to accept new ideas. The current study extended the previous study findings by showing on the direct relationship of physics teachers' attitudes on practicability of continuous assessment scores in secondary schools to students' performance specifically in physics subject which was uncovered by the previous study.

The study by Agbele et al. (2020), examined Assessment of Students' Performance in Physics using Two Teaching Techniques. The study used primary data which was collected by using "Students' Achievement Test" from fifty Senior Secondary School Two (SSS II) students of thirty males and twenty females, who were randomly selected in order to test the performance of students in Physics class. The data were analyzed by using descriptive statistics and analytical technique. The result of the data analysis showed that there is a significant difference between the mean score of students taught with collaborative method and traditional method. Results showed that collaborative inquiry method of teaching is far better than the traditional method. The study also revealed that the male students performed better in Physics as a science subject than their female counterparts. However the previous study overlooked on the design used by the study which this could resulted to unreliable findings from the respondents. Also the study employed a single instrument of data collection which limited triangulation of information from the study area. In this case the current study employed convergent design with multiple instruments of data collection for in-depth understanding of the information.

Achor (2019) conducted a study on the effects of teacher-centered and student-centered interaction practices on students' achievement and attitude in dynamics, an aspect of Physics considered abstract at the secondary school level. This study employed both the quasi-experimental and observational survey designs. From a sample of four comparable schools in Kogi East Local Government Areas of Kogi State, Nigeria, 139 physics students from intact classes and seven teachers (4 who did the teaching and 3 others who observed in all classes) were involved in the study. Three instruments developed were used for data collection. These are Teacher-Student Classroom Observation Schedule (TSCOS), Students' Attitude Questionnaire (SAQ), and Physics Achievement Test (PAT) with reliability indices of 0.68, 0.86 and 0.79 respectively. Results revealed that the difference between the mean

performances and mean attitude of students exposed to the two types of interactions were statistically significant. Gender differences in mean performance and attitude scores were not significant. The current study involved key informants of education context in secondary schools such as secondary education officers and school quality assurer officers who were not involved by the previous study. The involvement of all these key informants could give detailed information pertaining on the supervision of continuous assessment practices in relation to physics teacher's attitudes and their effects on students' performance.

Fareo (2020) conducted a study on attitudes of Teachers on Influence of Continuous Assessment on Academic Performance of Senior Secondary School. The population of the students was all teachers in public secondary schools. The validity of the instrument titled Perception of Teachers on Influence of Continuous Assessment on Academic Performance of Senior Secondary School Students Questionnaire (PTICAAPSSSQ) was carried out by an expert in Counselling Department, while t-test reliability method was used to carry out the reliability of the instrument, and the reliability co-efficient was 0.76. The findings revealed that there was a significant relationship between continuous assessment scores and academic performance of students. There was no significant difference between the attitudes of male and female teachers on attitude of students towards continuous assessment. There was no significant difference between continuous assessment scores of male and female students. However, the previous study employed a single instrument of data collection which limited triangulation of information from the study area. In this case the current study employed multiple instruments of data collection for in-depth understanding of the information from both qualitative and quantitative data.

8. Research methodology

The study adopted convergent research design under mixed research approach. It is useful when the researcher has limited time for collecting data in the field and must gather both types of data in one visit. The researcher needs both quantitative and qualitative forms of information from every participant (Creswell & Plano Clark, 2018; Creswell & Creswell, 2018). Sample comprised of; 70 physics teachers were selected by stratified simple random sampling procedures, 35 heads of secondary schools, 05 district secondary education officers and 05 district school quality assurer officers were automatically included. The study essentially used a combination of both qualitative and quantitative data collection instruments such as questionnaires for physics teachers and interview guide for heads of secondary schools, district secondary education officers and districts school quality assurers. Validity of quantitative research instruments was determined by research experts while validity for qualitative research instruments was ensured by credibility and authenticity. Reliability of the questionnaire was tested by Cronbach Alpha technique. The likert scale items in the questionnaire were subjected to the Statistical Package for Social Sciences (SPSS) and the alpha was calculated for each questionnaire. Reliability of qualitative research instruments were ensured by triangulation and peer debriefing. For quantitative data analysis the researcher used both descriptive and inferential statistics. For qualitative data analysis the researcher used thematic analysis for analyzing qualitative data. For quantitative data researcher used both descriptive and inferential statistics. Data for descriptive statistics were analyzed using frequencies, percentages and mean scores. With regard to inferential statistics, independent T-test was used to test hypothesis at significance level of 0.05. Qualitative data were analyzed thematically whereby data were familiarized, organized, coded, reduced and presented in verbatim.

9. Findings and Discussion

This section provides the study results the attitude of teachers and students towards practicability of physics continuous assessment on student's performance in secondary schools.

The Attitude of physics Teachers towards Practicability of Physics Continuous Assessment on Students Performance in Secondary Schools.

This section sought to identify attitude of teachers and students towards practicability of physics continuous assessment on student's performance in secondary schools in Kilimanjaro region Tanzania .A questionnaire was used to capture those information. The information was obtained through questionnaire from physics teachers then from the interview with heads of secondary schools, district education officers and school district quality assurers. In the scale 1 represented strongly disagree while 5 represented strongly agree. The results are presented in Table 1 and 2 respectively.

Table 1: Physics Teachers Response on their attitude towards practicability of physics continuous assessment on student performance (n=62)

S/N	Statement	SD		D		U		A		SA		Mean
		f	%	f	%	f	%	f	%	f	%	
1.	Continuous Assessment is not a necessary tool to be used in teaching physics towards students' performance	16	25.8	5	8.1	1	1.6	12	19.4	28	45.2	2.50
2.	Frequent use of Continuous Assessment wastes students time to prepare for final examinations which affects students' performance in physics subject	36	58.1	17	27.4	5	8.1	2	3.2	2	3.2	1.66
3.	Continuous Assessment is tiresome towards students' performance in physics subject	21	33.9	28	45.2	5	8.1	5	8.1	3	4.8	2.05
4.	Continuous Assessment is not relevant to students trends of final physics examination performance	11	17.7	14	22.6	5	8.1	12	19.4	20	32.3	2.74
5.	A lot of contents in physics subject prevent implementation of Continuous Assessment which slow down students final national examinations performance in physics subject	23	37.1	16	25.8	3	4.8	7	11.3	13	21.0	2.53
6.	It is possible to implement Continuous Assessment in a large class in relation to content coverage in physics subject which raise students' performance in final national examination	9	14.5	19	30.6	16	25.8	11	17.7	7	11.3	2.81

7.	Continuous Assessment is practicable because most of the conditions for it can be fulfilled which raise students' performance in final national examinations in physics subject	12	19.4	38	61.3	7	11.3	3	4.8	2	3.2	2.11
8.	Continuous assessment is relevant towards students' performance in final national examinations in physics subject in my class	21	33.9	34	54.8	2	3.2	-	-	5	8.1	1.94
9.	Continuous assessment influences students' actual performance in physics subject	27	43.5	28	45.2	3	4.8	4	6.5	-	-	1.74
10.	Continuous assessment has no credibility to students' academic achievement in physics subject	11	17.7	8	12.9	5	8.1	17	27.4	21	33.9	2.53
Grand Mean												2.26

Source: Field Data (2022) Key: Strongly Disagree (SD), Disagree (D), Undecided (U), Agree (A), Strongly Agree (SA)

Data presentation on the attitude of teachers and students towards practicability of physics continuous assessment on students performance in secondary schools was presented in a way that the percentage of strongly Agree (SA) and Agree (A) were combined together to form agreement opinion, the percentage of Undecided (U) was presented the way it was responded, and the percentage of Disagree (D) and Strongly Disagree (SD) were combined to form disagreement opinion. This approach was preferred because it captured the general opinion of respondents. The combination of scores was guided by Warmbrod (2014) who postulated that scores derived from a Likert scale are summed scores determined by a composite of responses to multiple items rather than responses to single items. The level of agreement was classified into six point scale which is 0-29 extreme minority, 30-49 minority, 50-59 slightly majority, 60-70 majority, 71-89 great majority and 90-100 extreme majority (Taherdoost, 2019).

Data in table 1 indicate that greater majority (88.7%) of physics teachers disagreed and strongly disagreed that Continuous assessment influences students' actual performance in physics subject. These imply that continuous assessment has no contributions in preparing students for final national examinations in physics subject. These findings is contrary to the findings by Chukwuemeka et al. (2017) who revealed that teachers both senior and junior students perceived that continuous assessment was effective tool in measuring the performance of students by the teachers and that its implementation is vital for their academic achievement. Researchers' view on these findings could be due to the facts that different countries put much or less emphasis on practical contribution of continuous assessment on students final national examinations in physics subject.

Greater majority (80.7%) of physics teachers disagreed and strongly disagreed that Continuous Assessment was practicable because most of the conditions for it can be fulfilled which raise students' performance in final national examinations in physics subject. This imply that continuous assessment is not effectively conducted in O-level secondary schools in relation to students performance in physics subject. These findings concur to the findings by Eshetu et al.(2021) who revealed that there was an inadequate knowledge about practicability of continuous assessment, the teachers' understanding about purposes of continuous assessment were insufficient. Researchers' views on this noted that, the two findings could

have contributed by insufficient techniques on the ways through which continuous assessment is supposed to be delivered among physics teachers in significance of students' performance. Also this is evident that in some secondary schools, physics teachers are still struggling to achieve on practicability of physics subject continuous assessment on students performance.

Majority (61.3%) of physics teachers agreed and strongly agreed that Continuous assessment has no credibility on students' academic performance in physics subject. This implies that continuous assessment is no longer of great value on students' performance in final national examinations. These findings concur with the study by Stanley et al. (2019) who revealed that continuous assessment is not credible for academic success of the students. Researchers view on these findings noted that physics teachers do not prioritized on the necessity of physics subject continuous assessment on students' performance in final examinations.

Extreme minority (6.4%) of physics teachers agreed and strongly agreed that frequent use of Continuous Assessment wastes students' time to prepare for final examinations which affects students' performance in physics subject. This imply that teachers had negative attitudes on the use of continuous assessment on students final examinations as teachers spend a lot of time in preparation of continuous assessment activities. These findings concur with the study by Zafarullah (2016) who did a study on Teachers' Time Management and the Performance of Students: A Comparison of Government and Private Schools of Hyderabad, Sindh, Pakistan and revealed that The significant relationship between teachers' time management and students' academic performance was found. The level of teachers' time management and academic performance was moderate.

Additionally, Extreme minority(6.4%) of physics teachers agreed and strongly agreed that Continuous Assessment is practicable because most of the conditions for it can be fulfilled which raise students' performance in final national examinations in physics subject. this implies that very few physics teachers had positive attitude toward application of continuous assessment on the students' final examinations. Researcher's view on this matter was not contrary to what revealed from physics teachers' responses, this is due to the fact that teachers were not in a position of preparing continuous assessment which reflect the reality and contribute to the final examination.

On the other hand, Extreme minority (8.1%) of physics teachers agreed and strongly agreed that Continuous assessment is relevant towards students' performance in final national examinations in physics subject in class. This implies that very few teachers had positive attitudes on the contribution of physics continuous assessment on students' performance. These findings are related to study findings done by Nziku and Matongwa (2021) which revealed that the internal examinations can predict the performance of students in their national examinations to some extent. In line with that, students' performance is also attributed to the competence of teachers, availability of teaching and learning materials, the time spent by the students themselves for self-studying and the quality of learning infrastructures like libraries and laboratories.

The average mean scores of 2.26 indicated that there was disagreement on attitude towards practicability of physics continuous assessment on student's performance. This disagreement implies that physics teachers had negative attitudes towards practicability of physics continuous assessment on students' performance.

The researcher also interviewed heads of secondary schools, district secondary education officers and district school quality assurer officers to check on the attitudes of physics continuous assessment on students' performance. The interview was conducted with heads of

schools regarding the attitudes of physics continuous assessment on students' performance. This was demonstrated by one of head of school (HOS1) who observed that:

To what I have been observing in daily bases of teaching and learning is that continuous assessment is partially practicable among physics teachers as most of final national examination results do not reflects with the way continuous assessment are prepared and sent to national examinations council of Tanzania. Also many physics teachers blames that continuous assessment is time consuming as teachers they are not sure that on whether continuous assessment from schools are being used by NECTA syndicate on students final national examinations.(personal communication, December 20,2022).

The quotation from head of school implies that since continuous assessment is emphasized to be used in secondary schools as one of the criteria for completion of form four national examinations but in physics subject seem as moderately practiced with of less important on students performance.

In addition, when an interview was conducted with one of the district secondary education officer on the attitudes of physics subject continuous assessment in predicting students performance, the district secondary education officer (DSEO 1) reported that:

For sure, every year when national examinations results after they have published when we make analysis of students performance by subject wise in relation to continuous assessment still physics subject students performance are very poor. When we ask physics teachers upon those frequently poor results they say that they are not sure also if continuous assessments are being used by NECTA syndicates despite the combinations of practical's and theory students are taught in class. (Personal communication, January 05, 2023).

The quotation from district secondary education officer implies that still the contribution of continuous assessment in physics subject on students performance in final national examinations remain a puzzle among physics teachers and the educational officers.

Another interview was conducted with one of the district school quality assure officer on the attitudes of physics subject continuous assessment in predicting students performance, the district school quality assure officer (DSQA1) reported that:

To be honest continuous assessment has no any contribution on students' performance in physics subject in relation to final national examinations. Our records of inspections from secondary schools students' performance every time when we make comparisons of continuous assessment records and students' performance in national examinations show that continuous assessment has no additional value in physics subject.(Personal communication, January 04,2023).

The quotation from district school quality assurer officer indicates that there is less emphasize from schools on the significance of continuous assessment in physics subject on students performance in final national examinations and this could be due to less training among physics teachers on the way continuous assessment could effectively be prepared in enhancing students' performance.

10. Null hypothesis

Ho. There is no significant difference in the mean attitudes scores of public and private secondary school physics teachers on practicability of physics subject continuous assessment on students' performance.

An Independent Sample T- Test was tested at 0.05 significance level and summarized in table 2. Before hypothesis testing researcher tested assumption. The assumption tested particularly the normality test indicated that p –value was greater than 0.05 hence data were normally distributed.

Table 2: Hypothesis testing

Descriptive Statistics						
	School Type	N	Mean	Std. Deviation	Std. Mean	Error
Mean attitudes scores of physics teachers on practicability of physics subject CA	Public	40	3.0200	0.72649	0.11487	
	Private	22	3.2773	0.43417	0.09257	
Independent Samples T- Test						
Levene's Test for Equality of Variances			Mean attitudes scores of physics teachers on practicability of physics subject CA			
			Equal variances assumed		Equal variances not assumed	
t-test for Equality of Means	F		6.855			
	Sig.		0.011			
	T		-1.515		-1.744	
	Degrees of freedom		60		59.500	
	Sig. (2-tailed)		0.135		0.086	
	Mean Difference		-0.25727		-0.25727	
	Std. Error Difference		0.16976		0.14752	
	95% Confidence Interval of the Difference	Lower Upper	-0.59685 0.08230		-0.55242 0.03787	

Source: Field Data (2022)

The data in Table 2 were summed as: $t(60) = 6.855$, $P=0.086$). The results indicated that P -value is greater than 0.05 significance level. Since the p -value from table 2 is greater than the significance level we fail to reject the null hypothesis. Therefore, there is no significant difference in the mean attitudes scores of public and private secondary school physics teachers on practicability of physics subject continuous assessment on students' performance. This implies that physics teachers' attitudes had negative impact on application of continuous assessment on students' performance in both private and public secondary schools.

11. Conclusion

The study concluded that the attitudes of both public and private secondary schools physics teachers were negative towards practicability of continuous assessment on students' performance.

12. Recommendations

The following recommendations are offered:

The study recommended School administrators and the directorate of school quality assurance should put much emphasis to physics teachers to have positive attitudes towards practicability of physics subject continuous assessment which could be the reasons for raising students' performance.

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