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PERCEIVED INFLUENCE OF STUDENTS' PERFORMANCE ON CHEMISTRY CONTINUOUS ASSESSMENT IN PUBLIC SECONDARY SCHOOLS, KILIFI NORTH SUB-COUNTY, KILIFI, KENYA

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ABSTRACT

Introduction: The role of continuous assessment practices is to give knowledge and understanding to students in order to motivate and prepare them to achieve good academic performance in chemistry.
The purpose of this study was to investigate the influence of chemistry continuous assessment practices (CCAP) on chemistry performance in public secondary school in Kilifi North Sub-County.
Methodology: A descriptive survey research design was used. Questionnaire instruments were utilized during data collection. Data on chemistry performance was collected `through document analysis. Findings were presented in frequencies, percentages and bar graphs. Pearson's Product Moment Correlation Coefficient (PPMCC) was used to calculate the correlation between chemistry continuous tests and student's chemistry performance.
Results: Current efforts to improve chemistry performance by the Head of Department (HOD's) and chemistry teachers is by administering class exercise, assignment, end term and unannounced exams to students as part of chemistry continuous assessment practices. Board of Management (BoM), Parent Teachers Association (PTA) committee and other educational stakeholders have been committed to provide enough incentives to buy examination assessment materials to be used in teaching and learning process to improve performance.
Conclusion: Based on the types of chemistry continuous assessment tests, female students had highest mean performance compared with male students. Chemistry Continuous Assessment Practices had a positive impact on students' performance at KCSE examination.
Recommendation: Efforts should be done by all educational stakeholders to focus on effecting types of chemistry continuous assessment practices in all public secondary schools in Kilifi North Sub-County to improve academic performance.

Keywords: Perceived Influence, Students performance, Chemistry, Continuous Assessment

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PUBLIC INTEREST STATEMENT

The study seeks to address all educational stakeholders: teachers, PTA, Curriculum developers and educational training institutions to utilize the findings to understand the influence of chemistry continuous assessment practices on academic performance so as to achieve better performance in Chemistry.

INTRODUCTION

Performance in Chemistry today is termed as summative; it entails focus on the final examinations by teachers, parents and students. It is considered to be final, administrative, rigorous and content-driven rather than formative, diagnostic, suggestive and goal oriented, as such can be regarded as grading Omoifo (2006). Surprisingly, formative assessment is geared towards the consolidation of students' performance in the final examinations rather than inculcating students with problem solving, critical thinking, and life skills. American Association for the Advancement of Science (1998) has categorized the purpose of performance into internal and external purposes. The internal purposes for assessment include conveying to students' expectations about what is important to learn, providing information to students and parents about students' progress, helping students to judge their own learning, guiding and improving instruction, classifying and selecting students. The external purpose is to inform the education donors including parents, education departments and ministry about what happened in schools.

Kellaghan and Greany (2003) noted that, continuous assessment has important consequences attached to chemistry performance, they are likely to impact directly on teaching and learning and so merit consideration as a mechanism for improving student achievements in the chemistry subject. Onuka (2006) also found out that in Nigeria there was a comprehensive implementation of continuous assessment and feedback for the improvement of the science subject including chemistry for the accomplishment of learning objectives effectively according to students. This concurred with the finding of Onuka and Oludipe (2005) that there was a significant remediation for low performance as a result of the application of the feedback mechanism resulting from formative evaluation of learners. Furthermore, Etienne (2007) contended that, the protest against final examinations by students in France in May 1968 was the perfect opportunity for students to point at the unfair and risky final assessment in their schools. They made it clear that such examinations merely represented the performance of the moment and not the efforts made throughout the year. Students insisted on the risk that even the best-prepared student could have a problem on the day of the examination and came out in favor of continuous assessment in order to reduce the risks though some difficulties are likely to occur during implementation of the chemistry recap exercises as well.

Graume and Naidoo (2004) also noted that up to high school level, the chemistry continuous assessment of students is done through terminal, or class wise at the schools. Carnoy (1999) contends that, when chemistry continuous assessment practices are applied over a period of time, they give an indication whether improvement is taking place or not. Furthermore, Ogunnyi (1984) Chemistry Continuous assessment practices also provide the student with maximum opportunities to learn and to demonstrate from time to time the knowledge, the skills and the attitudes that they have during the teaching-learning process. However, in secondary schools of Kilifi North Sub-County, CCAP are emphasized, hence makes it a good tool for improving chemistry learning objectives and outcomes. This is so because in his research, Kalleghan and Greany (2003) noted a deficiency in the practice of continuous assessment in Africa where Kenya is part. This therefore may account for the variance in chemistry performance among schools and students in particular in secondary schools of Kilifi.

Since there is a need to improve students' performance in our education system as a whole, the need exists to establish what CCAPs are being used by teachers in secondary schools. The need also exists to investigate whether there is any relationship between continuous assessment practices being used in secondary schools and students' chemistry performance in the final examination. Finally, the need exists to find out the teachers' perceptions on whether students exposed to numerous C CAP may perform better than their counterparts. William and Black (2016) defined continuous assessment practices as a process that attempts to provide evidence concerning students' performance (achievements), which when interpreted helps the assessors to take measures for further improvements. One of the alternative ways of assessing and teaching is the notion of implementing formative assessment in different contexts. Incorporating various techniques, chemistry continuous assessment practices can enhance teaching and learning by providing a more focused application for learners.

Continuous assessment practices are a process of gathering evidence within the stream of instruction in order to inform teaching and learning. To be considered formative, the evidence must be elicited, interpreted, and used by both chemistry teachers and learners (William, 2011). In contrast, summative assessment is used to evaluate progress and achievement, assign grades, and appraise programs. Chemistry Continuous assessment practices involve getting the best possible evidence about what students have learned and then using this information to decide what to do next. In a classroom that uses chemistry continuous assessment practices to support learning, the learners perform best. Everything that students do such as conversing in groups, completing homework, answering and asking questions, working on projects, handing in homework assignments, is a potential source of information about how much they understand chemistry subject. (Leahy, 2005).

Chemistry continuous assessment practices is based on teachers and students together develop a framework for what can be expected in students' learning. This means students may move toward intended chemistry learning goals and for a common goal of continuous and progressive learning. Chemistry continuous assessment practice is crucial tool for simultaneously improving chemistry students' performance (Petit & Zawojewski, 2010). There is a growing body of research emphasizing the use of chemistry continuous assessment practices in classroom instruction as a means to improve student chemistry academic performance. Black and Wiliam (2011) noted that greater student performance in chemistry where teachers use such techniques of chemistry continuous assessment in particular, they report four to five times greater than the effect of reducing class size.

Studies by Clements and Sarama et al. (2011) have found that professional development focused on and the instructional use of learning progressions results in improved student chemistry performance. The findings also suggest that knowledge of learning progressions in the use of continuous assessment practices has the potential to strengthen the interpretation of evidence of student work to inform instruction and learning. A requirement for implementing continuous assessment practices successfully for all students is maintaining the right chemistry class atmosphere. The classroom culture must breed success instead of competition. The foundation for this culture is a belief by the teacher that all students are capable of achieving. In such a classroom, the information gleaned from quizzes, homework, class discussions and any type of assessment used for formative purposes can make a difference to individual students if it is conveyed appropriately to them.

STATEMENT OF THE PROBLEM

In Kenya chemistry is one of the most important science subject and its contributions to national economic development needs to be emphasized. It has been categorized as a core in one path way (stem) of Competence Based

Curriculum (CBC). There is a lot of input in secondary schools in terms of chemistry continuous assessment practice so as to improve performance in the subject. The HODs and chemistry teachers set and moderate questions, quizzes and practical tests to be administered as, home assignment, class exercise, termly and unannounced exams of chemistry continuous assessment practices so as to improve academic performance. Consequently, Board of Management (BoM), Parent Teachers Association (PTA) committee and other educational stakeholders have been committed to provide enough incentives to buy examination assessment materials to be used in teaching and learning process so as to support chemistry performance.

Despite all these efforts, performance in chemistry is still low. The national mean performance stands at 3.8,The county mean at 2.9 while that of the Sub-County is 2.7 (Kilifi County Quality Assurance Office, 2020). The Sub-County mean performance in chemistry is low compared to both County and National mean performance. If the situation is not rectified, then the KCSE chemistry performance will continue to go down. The purpose of this study was to investigate the influence of chemistry continuous assessment practices on students KCSE chemistry performance in Kilifi North Sub-county public secondary schools.

PURPOSE OF THE STUDY

The purpose of the study was to:

1. investigate the influence of chemistry continuous assessment practices and teachers-students perception on student's KCSE performance in Kilifi North Sub-County public secondary schools.

RESEARCH QUESTIONS

1. What are the types of chemistry continuous assessment practices done by students in public secondary schools in Kilifi North Sub-County?
2. How do teachers and students perceive chemistry continuous assessment practices in public secondary schools in Kilifi North Sub-County?
3. What is the influence of chemistry continuous assessment practices on K.C.S.E mean score on public secondary school in Kilifi North Sub-County?

METHODOLOGY

Design

This study employed descriptive survey research design. Descriptive survey research designs were used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification (Orodho, 2003). Descriptive survey research was intended to produce statistical information about aspects of education that interest policy makers and educators (Borg and Gall, 1989).

This study employed descriptive survey research design as it was best suited for the study since it should give detailed account of pre-assessment and post assessment activities of teachers of chemistry. The design generated both numerical and descriptive data that could be used in measuring the relationship between variables as well as determining their influence on chemistry KCSE mean performance.

Population and Sample

The target population of the study comprised all public secondary schools, all form four chemistry teachers and students in Kilifi North Sub-County. The accessible population comprised of all chemistry teachers and Form 4 students taking Chemistry. The Form 4 students was chosen because of the long duration they were in the school and are familiar with the Chemistry continuous assessment practices done in the school hence were the important persons to provide reliable information on the same. The researchers used simple random sampling to select 10 secondary schools from the 20 secondary schools in Kilifi North-County. Mugenda, et.al. (2009) recommends that when the target population is small (less than 1000 members), a minimum sample of 50% is adequate for educational research. Each

secondary school is approximated to have 2 chemistry teachers giving a sample population of 20 teachers. From the 10 schools with each of Form 4 students with approximate 28 students per class giving student population of 560, a sample of 280 student was drawn. The school shall be the sampling unit.

Instruments for Data collection

The researchers employed the following research tools; questionnaires, observation schedules, and document analysis. Questionnaires were administered to the chemistry teachers and students so as to fill. There was also interview for the County Director of Education. Chemistry teachers' questionnaire and students were used to collect information from the teachers and students. The questionnaire consisted of three parts A, B and C. Part A featured three items on the demographic information of the teacher. Part B consisted three items on the teacher on how they carried continuous assessment practices measured as frequent, not frequent. Part C was questionnaires which needed information on chemistry teachers' perception on continuous assessment practices.

The student's questionnaires were given to students so as to get their information on chemistry continuous assessment practices which were on a four Likert Scale as 1-Strongly agreed 2-Agreed 3-Strongly disagree 4-Disagree. Section B contained information on chemistry continuous assessment practices. Appendix 11 contained an interview for the County Director of Education. The researchers used observation schedule to verify the research question number one on how chemistry continuous assessment practices were carried out. The tools were not biased but accurate and confirmatory. It related to what was currently happening. The researchers required from the chemistry teachers the records of the chemistry termly and KCSE performance examinations done in the school. The homework and class exercises were also analyzed.

The questionnaires and observation schedules were validated by the assistance of the supervisors and other experts from Pwani University. The university supervisors also scrutinized the questionnaire to judge the appropriateness of the items' content and determined all the possible areas that was needed modification to achieve the objectives of the study. The experts were determined to know whether the items in the research instruments adequately represent all the areas that needed to be investigated.

The questionnaire and observation schedule was tested by use of test and re-test approach to know their reliability of the instruments. Two teachers from each of the three schools to be used in the pilot study were selected. Questionnaires and observation schedule guide was administered to teachers twice in two weeks in order to gather relevant information.

Students from the pilot schools were given at least three days to fill their questionnaires after which the researcher collected them. The results were evaluated using Spearman rank order correlation. A permit was also sought from the Ethics and Review Committee (ERC) of Pwani University. The researcher sought permission from the County Director of Education. Education Officer and the administrators of the target schools were formally contacted.

The questionnaires were given to the teachers to fill with the assistance of the researcher. The learners were also given the questionnaires and be assisted to fill by the researcher in the same way. The researcher used the records provided by the chemistry teacher to analyze content and gather information of the type and frequency of continuous assessment practices commonly used by the schools. Observation schedule guides were used in the event where continuous assessment took place during the events of data collection.

Methods of Data Analysis

Quantitative data collected through document analysis was keyed into a computer and analyzed using mean, percentages and range by means of Excel computer program. The data was presented in tables and bar graphs.

Pearson's Product Moment Correlation Coefficient (PPMCC) was used to calculate the correlation between chemistry continuous tests and student's chemistry KCSE performance.

Close ended items included in the questionnaire was edited and coded. The coded data was entered into a computer and analyzed using frequencies and percentages. The data was presented in tables. All the responses to a particular question which conveyed a similar theme were summarized and presented as a single response. Research findings were given as per the research questions. Conclusion was drawn and recommendations made.

RESULTS

Research Question 1: What are the types of chemistry continuous assessment practices done by students in public secondary schools in Kilifi North Sub-County?

Table 1: Types of chemistry continuous assessment practices done in public secondary schools in Kilifi North Sub-County

	Average	Assignment	Exercise	Term Exam	Unannounced
Valid	279	280	280	280	280
Mean	49.423	40.579	47.082	73.229	41.150
Std. Error of Mean	1.118	0.950	0.928	1.414	1.266
95% CI Mean Upper	51.615	42.440	48.901	76.000	43.631
95% CI Mean Lower	47.231	38.717	45.263	70.457	38.669
Std. Deviation	18.680	15.893	15.529	23.661	21.178
Skewness	-0.095	0.334	0.136	-1.112	0.798
Std. Error of Skewness	0.146	0.146	0.146	0.146	0.146
Kurtosis	0.046	0.074	0.958	0.274	0.063
Std. Error of Kurtosis	0.291	0.290	0.290	0.290	0.290
Shapiro-Wilk	0.988	0.986	0.968	0.865	0.937
P-value of Shapiro-Wilk	0.016	0.009	< .001	< .001	< .001
Minimum	4.000	3.000	7.000	6.000	5.000
Maximum	100.000	95.000	97.000	100.000	100.000

There were quite a number of variables that were assessed for normality including the average performance in the take home assignment, class exercise, termly exams and unannounced were assessed for skewness. Shapiro -Wilk test was used to access for this normality .It was found that the variables were approximately normally distributed. The respondents were asked to state their current average overall performance in chemistry. The mean performance in chemistry for the sampled students was 49.423 with a standard error of 1.118 and a 95%confidence interval of (47.231, 51.625). To understand whether this overall chemistry performance was influenced by the chemistry continuous assessments done during normal classwork, Class exercises , end of term exam and un announced random assessments, the respondents were asked to rate themselves on how they perform these assessments. The mean performance in these CATs was 40.579 with a standard error of 0.95 and a 95%confidence interval of (38.717, 42.440) while. The mean performance in the class exercise was 47.082 with a standard error of 0.928 and a 95%confidence interval.

Research Question 2: How do teachers and students perceive chemistry continuous assessment practices in public

secondary schools in Kilifi North Sub-County?

Table 2: Teachers Perception towards chemistry continuous assessment practices in public secondary schools in Kilifi North Sub-County.

ITEMS	A f %	DA f %	TOTAL f %
Do assessment tests enable teachers to track students' academic performance?	5 25	15 75	20 100
Do regular assessments sufficiently prepare students in readiness for KCSE?	17 85	3 15	20 100
Do results from assessment practices enable teachers to identify students' weak areas?	10 50	10 50	20 100
Does assessment help teachers to develop effective instructional techniques?	16 80	4 20	20 100

SA: Strongly Agree and SD: Strongly disagreed return nil responses

The analysis of teachers' response on whether assessment tests enable them to track students' academic performance, 25% of them agreed, while 75% disagree that chemistry continuous assessment practices could be used as a tool to truck students' performance. This explains why the practice is loosely held by chemistry teachers in public secondary schools in Kilifi North Sub-county hence the performance in chemistry is poor (MoE Report, 2015). The analysis of teachers' responses on whether chemistry continuous assessments practices sufficiently prepare students in readiness for KCSE, 85% disagreed while 15 % agreed that chemistry continuous assessment practices sufficiently prepare students in redness to KCSE examinations. This finding is contrary to research findings in table 10; sampled public secondary schools mean grades for the years 2018-2022 in Kilifi North (MoE Report, 2015) Further analysis of teacher responses on whether results from chemistry continuous assessment practices enable teachers identify students' weak areas, the result was 50% in agreement while 50% disagreed, while there was a tie in teachers responses that chemistry continuous assessment practices enables teacher to identify students weak areas , the results from KCSE chemistry performance in Kilifi North Sub county does not show any improvement resulting from teachers identification of students weak areas in chemistry (MoE Report, 2015).

Lastly, the analysis of teachers' responses on whether chemistry continuous assessment practices help teachers to develop effective instructional techniques, 80% agreed, while 20% disagree with the statement hence poor performance in chemistry performance.

Research Question 2: What is the influence of chemistry continuous assessment practices on K.C.S.E mean score on public secondary school in Kilifi North Sub-County?

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Table 3: Calculated KCSE Mean performance between 2018-2022 in the sampled public secondary schools in Kilifi North Sub-County

Period I Year	Mean	Period II Year	Mean	% Mean change
2022	3.20	2017	3.17	
2021	3.50	2016	3.17	
2020	3.40	2015	3.17	
2019	3.70	2014	3.3.83	
2018	3.40	2013	3.83	
Mean of mean	**3.440**		**3.434**	**0.006**
Mean Grade	**D**		**D**	

Source: school records

The research question being addressed was: What was the influence of chemistry continuous assessment practices on K.C.S.E mean score on public secondary school in Kilifi North Sub-County between 2018 -2022. Data on chemistry performance was obtained from school records on KCSE analysis. The ten schools that the research was done were coded as A, B, C, D, E, F,G.H,I and J. Table 4.6 gives the mean grades and mean scores for the 10 schools included in the sample, for the years between 2018- 2022. Mean performance in KCSE is graded on a scale of 12 points. The first grade is 'A' and this corresponds to 12 points. The last grade is 'E' and this corresponds to 1 point.

The results indicate period 2018 – 2022 had an average mean score of 3.440 corresponding to mean grade of D and period 2013- 2017 having an average mean score of 3.434 (mean grade D) This show a slightly decline (0.006) in performance between the two periods in KCSE mean performance. This reduction in performance could be attributed to inadequate chemistry continuous assessment practices.

DISCUSSIONS

The first study objective sought to establish chemistry teacher's facilitation on CCAP on students' performance at KCSE. The study found out that chemistry continuous assessment practices should be done more frequently since it adequately prepare students for their final examination. From the study, it can be seen that class exercise, take home assignment, end term exams and end of year examination have a positive impact on students' performance at KCSE examination. Evidently, respondents also agreed that CCAP enable teachers to develop effective instructional techniques which ultimately translate to good performance at a percentage 62.5. This is in agreement with a study conducted by HIPP (2005), which postulates that some of the effective ways to succeed in external examinations includes adequate time planning, time management, effective syllabus coverage and adequately managing revision through continuous assessment practice.

However, from the study conducted in public secondary schools in Kilifi North Sub-county, it is evident from the respondents that only 12.5 percent of the schools conduct take home assignment. Basically out of the schools sampled conducted chemistry continuous assessment practices on termly basis on a percentage of 55% thereby fairly its effectiveness in preparing the learners adequately for KCSE.

The study also sought to investigate influence head teachers provision of learning facilities on students' performance at KCSE. The study findings indicate that learning facilities have significant impact on students' performance at KCSE. This is in conformity with a

research conducted by Orgbsaju (1980) which states that quality education received by students, majority depends on availability of adequate school facilities where teachin g and learning take place and their relevance and quality. In most schools sampled, the leaning facilities were either inadequate or completely unavailable altogether. After analyzing some of the continuous assessment practice, which influence students' performance at KCSE in Kilifi North Sub-county, the study came to a conclusion that types of continuous assessment practices, positive perception of chemistry teachers and the great influence of chemistry CA practices have an impact on performance at KCSE performance. However, it is revealed from the research conducted that majority of the schools that were sampled do not take into consideration class exercise as chemistry continuous assessment practices hence the dismal and unstable performance experienced in the sub-county. These findings are not in line with the findings of Bruce (2019) who indicated that effective instructional techniques in a school would actually improve students' learning and achievements.

CONCLUSION

After analyzing some of the continuous assessment practices which influence students' performance at KCSE in Kilifi North Sub-county, the study came to a conclusion that types of continuous assessment practices, positive perception of chemistry teachers and the great influence of chemistry CA practices have an impact on performance at KCSE performance. However, it is revealed from the research conducted that majority of the schools that were sampled do not take into consideration class exercise as chemistry continuous assessment practices hence the dismal and unstable performance experienced in the sub-county. The study therefore concludes that exposing students to more CAP will positively influence their performance in the final examination which is KCSE. This is in comforting with the findings of Eshiwani 1993, which indicate that continuous assessment practices are meant to measure the output of any educational system in which it operates; the output being the ultimate academic performance.

RECOMMENDATIONS

1. Efforts should focus on effecting types of chemistry continuous assessment test in secondary schools in Kilifi North Sub County to improve performance.
2. The study recommends that Kenyan secondary schools should administer more continuous assessment practices to their students as this is seen to adequately prepare them for their final examination which is Kenya Certificate of Secondary Education.
3. The practices should be consistent with the syllabus and national examination guidelines.
4. The school administers should ensure that the syllabus is effectively covered and that subject teachers give class exercise, assignments, termly exams, and unannounced examinations.

Conflicts of Interest: The authors declare no conflict of interests.

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Disclaimer Statement

This work is part of a thesis submitted to Pwani University for the award of Master's Degree in Curriculum Instruction and Technology. The title of this thesis is perceived influence of students' performance on chemistry

continuous assessment in public secondary schools, Kilifi North Sub-County, Kilifi, Kenya. The work in this thesis consists of an introduction, background to the study, a review of the literature, a methodology, a conclusion and recommendations. Pwani University; Department of Curriculum, Instruction and Technology, Names of Supervisors; Dr Fred Namasaka, Dr Sammy Kipkemboi.

Authors Bionotes

Eunice Bidii Kalama is a teacher by profession teaching sciences at Bofa Comprehensive School and is heading the institution. The author holds a Bachelor of Science with Education (BSE) from Kampala International University Uganda and is a Masters candidate of Education Curriculum Instruction and Technology of Pwani University, Kenya.

Dr. Fred Namasaka holds a Doctor of Philosophy Degree (PhD) in Science Education from Pwani University in Kenya. This is in addition to M.Ed. in Science Educataion and B.Sc. In Agricultural education and Extension both obtained from Egerton University Kenya. Dr. Namasaka is a senior Lecturer and Chair of department of curriculum instruction and Educational Technology (CIET) where monitoring and Evaluation of performance in Education is undertaken. He has over 15 years of University teaching experience with research and consultancy in diverse fields. Fred is a Master trainer (MT) in farmer field schools (FFS). Over the last three years, he has trained more than 150 community based facilitators (CBFs) in Kilifi and Transnzoia Counties in FFS methodology through the National agricultural rural inclusive Growth Project (NARIGP). Dr. Namansaka has extensively carried out projects Monitoring and evaluation to asses adoption of Technology, in innovation and Proper Management Practices (TIMPs) in the said Counties among others. Fred is also a member of the International Associations of facilitators and a Consultant Educationist with Horizons of Education consultancy (HEC). He is a member of Society of Educational Research and Evaluation of Kenya (SEREK). His research interests include developing a capacity for self-learning creativity and innovation for growth and development. Fred has served on panels at the Kenya Institute of Curriculum Development (KICD). He is currently working on institutionalization competency curriculum (CBC) in institutions of hire learning programs in Kenya and has a special interest in community service learning (CSL). He has remarkable competencies in curriculum and instructional designs, training and facilitation. Furthermore, he is a reputable academician with dedication and commitment to provision of quality service. He has leadership in vision, integrity, servanthood and strong administrative acumen. Fred is a publisher and author of books and is the Project Implementation Coordinator of Training Trainers for Teacher Education and Management (TOTEMK) at Pwani University.

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Authorship and Level of Contributions

Madam Eunice Bidii Kalama conceived the idea, researching chemistry continuous assessment practices, the Ministry of Education has emphasized in order to reduce poor performance in Chemistry subject. In Kenya chemistry is one of the most important science subject and its contributions to national economic development. It has been categorized as a core in one path way (stem) of Competence Based Curriculum (CBC). The secondary sources from the internet and library, writing papers, reviewing literature, making references, editing and publishing it.

Dr. Fred Namasaka making sure that scientific method of investigation is used in the study.
Sammy Kipkemboi Rutto make sure the correct APA version and reference style are adopted.

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