
Teaching Methods In Competency Based Curriculum And its impact on Biology Performance In Secondary Schools In Kisoro District: A Case Study Of St. Andrew's Academy In Kisoro Municipality

Muhenda Richard¹, Byaruhanga Benard²

1, 2 Metropolitan International University

Abstract

The major objective of this study was, exploring the between teaching methods in competency-based curriculum and biology performance in secondary schools in Kisoro District. Other objectives will include: the extent at which various teaching methods in competency-based curriculum are used in teaching biology, the level of biology performance and the relationship between teaching methods in competency-based curriculum and biology performance at St. Andrews Academy. The research study was consisted of 17 males and 11 females and these included; students, teachers and the head teacher who updated the findings from the primary respondents. The study adopted descriptive research design because of the variables that were at hand for the benefits of the researcher. Basically, the study was qualitative and qualitative in nature. The data was collected using the questionnaires and Interviewing and was analyzed using largely SPSS and presented in form of graphs, figures tables and charts. Out of 28 questionnaires administered to respondents, all 28 questionnaires were filled and returned to the researcher with correspondent answers. This gave an approximate response rate of 100 per cent. Conclusively, the results of the research study indicated that there was a significant relationship between teaching methods in competency-based curriculum and biology performance in secondary schools in Kisoro District. The results of the correlational analysis found that there was a very weak positive correlation of 0.038 between the teaching methods used in the competency-based curriculum and the students' biology performance. Teachers as required to always follow curriculum before they go to class to teach and this will enable them to teach to the minimum standards required by the ministry of education and sports and this will make their subjects and every aspect of the lesson very clear and makes them successful in learning

Keywords: Teaching Methods, Competency Based Curriculum, Biology Performance and Secondary Schools

Background of the study

Instructional methods in a competency-based curriculum are a set of principles, beliefs, or ideas about the nature of learning that are carried into the classroom (Anthony, Kazaara, & Kazaara, 2023). An approach is a way of looking at teaching and learning (Emmanuel et al., 2023). The basis of any approach to language learning is a theoretical view

of what language is and how it can be learned. The approach gives rise to methods, a way of teaching something that uses classroom activities or techniques to help students learn (Godfrey et al., 2023). Education is the process of transferring knowledge, values, methods, skills and beliefs from one individual to another. Distance education

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originated in the United States in the 1800s when faculty and students at the University of Chicago were in different locations and sought to connect through correspondence courses (Godfrey et al., 2023).

info Competency-based curriculum are general principles used in teaching as a supplement to classroom instruction to increase student interest (Christopher, Komunda, et al., 2022). Instructional materials are important catalysts for effective instruction (Harmer, 2007). In addition to traditional teaching methods, the teacher has a wide range of teaching aids at his disposal.

In general, teaching methods are the mechanism used by the teacher to organize and implement a series of educational means and activities to achieve certain goals (Micheal et al., 2023). This makes the subject matter and every aspect of the lesson very clear and successful in learning Leonidas, (2015). It is directly related to the intelligence of the teacher and influences his students (Godfrey et al., 2023). It is one of the wonderful teaching tools that is very suitable in the classroom, the teacher can engage the students in the learning process by doing some simple things like using the right body language, eye contact with the students, good facial expression, giving the students time. talk and call them by their names (Richard, 2022).

Statement of the problem

The research seeks to determine the relationship between teaching methods in a competency-based curriculum and biology performance in secondary schools in Kisoro District (Christopher, Moses, et al., 2022). Instructional methods in a competency-based curriculum are mechanisms that a teacher uses to organize and implement a series

Teaching methods can be described as aids used by the facilitator to help him facilitate his lesson effectively (Seth & Ntirandekura, 2022). All these activities create a friendly learning atmosphere in the classroom and bridge the gap between the teacher and students Leonidas, (2015). A teacher can be a model, a storyteller, a singer, a presenter, a dancer and a friend and can play the role of a player. By playing these roles in the classroom, the teacher can encourage students to be actively involved in the lesson. It will also keep them alert and learning effectively (Richard et al., 2022).

Student performance in biology at secondary school level has not always met the expectations of educators worldwide (Ntirandekura & Christopher, 2022). Unsatisfactory performance in a subject can be attributed to many factors. According to a report prepared by Professor Paul de Hart Hurd (2019) of Stanford University, some of the limitations to effective teaching of biology in schools include a general lack of laboratory equipment and instruments, insufficient training of high school teachers in certain areas (e.g. rote learning, inadequate system of further development , the lack of teaching materials appropriately adapted to local needs, the irrelevance of the curriculum to the needs of everyday life, the overcrowded biology curriculum and anti-scientific views in society (Emmanuel et al., 2023).

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Specific Objectives

1. To determine the extent at which various teaching methods in competency-based curriculum are used in teaching biology at St. Andrews Academy
2. To find out the level of biology performance at St. Andrews Academy
3. To establish the relationship between teaching methods in competency-based curriculum and biology performance at St. Andrews Academy

Methodology

The research design that was adopted was the descriptive survey design. This was because the descriptive survey design helped to determine the frequency of occurrences of the phenomenon and discovered the relationship that existed between the variables. The descriptive survey design was adopted; this was because cross sectional approach was useful in obtaining an overall picture as it stood at the time of the study. Cross sectional studies are comparatively cheap to undertake and easy to analyze (Kumar, 2020). The research study was conducted in one of the secondary schools in Kisoro Municipality in Kisoro District. That was St. Andrew's academy which was located in Kamonyi northern Division 3km from Kisoro town. Teachers considered were of bachelors only because they had more experience in teaching and it was based on the school calendar and payroll list of July (2022) and therefore, the researcher used the same criteria to obtain the same data from the school and the target population for the study constituted 28 out of 30 as target population. The study contained students from O' level, teachers and the head teacher of the selected school because he was easily accessible and was the one who introduced the researcher to the teachers and the students in the school.

The study sample comprised of 28 respondents out of 30 of the total population. Therefore 20 were the students, 07 teachers and 01 head teacher as the parent population. This was because the population more or less shared similar socio-demographic characteristics and also due to resource and time constraints. The respondents interviewed included teachers, students and the head teacher.

Table 1; shows different Categories of the respondents in the Study sample with their Sizes.

Population (N)	Target	Sample
Students	20	20

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Teachers	09	07
Head teacher	01	01
Total	30	28

Source from: Primary data, 2023

The respondents in this study were school students as primary respondents. Simple random sampling was used to select respondents in the group students. A total of 20 students were selected from only S.3 and S.4 and were the ones participated in the study and their selection involved simple random sampling and specific attention was paid to inclusion of both male and female students in the study school. Data processing was done through, coding, editing and tabulation. Data analysis was done using computer analysis with the help of the frequency distribution tables and pie-charts. This helped the researcher analyze the raw data and transform it into meaningful and usable information. Data was edited to identify and eliminate errors made by respondents using SPSS & STATA (Nelson et al., 2022). Coding was done to translate question responses into specific categories. Descriptive statistics such as frequency distribution and percentages were used to analyze the data. Qualitative data was analyzed using content analysis in which all the responses were categorized according to their thematic areas and analyzed according to their contents. Presentation was done on tables, figures and pie-charts.

Results

Table 2; showing the extent to which various teaching methods in competency-based curriculum are used in teaching biology at St. Andrews Academy

Response	Frequency	Valid percentage	Cumulative percentage
To a larger extent	20	71.4	71.4
To some extent	05	18.0	89.4
To a smaller extent	02	7.1	96.5
Not sure	01	3.5	100
Total	28	100	

Table 2 shows that most 20 (71.4%) of respondents revealed that various teaching methods in competency-based curriculum are used in teaching biology to a larger extent, followed by some extent responses with 05 (18.0%), followed by smaller extent responses with 02 (7.1%) and finally some respondents were not sure of the statement with 01 (3.5%) (Isaac et al., 2023). This implied that teaching methods are the mechanism that is used by the teacher to organize and implement a number of educational means and activities to achieve certain goals. It

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makes the subject and every aspect of the lesson very clear and makes them successful in learning and the study findings were in line with Leonidas (2015). It directly connects to the teacher's intelligence and influences their students.

The relationship between teaching methods in competency-based curriculum and biology performance at St. Andrews Academy

Poor performance of students in science subjects especially in Biology subject stems from the mere fact that there were inadequate teaching methods or resources that would facilitate the teaching of Biology.

Table 3 showing responses on the relationship between teaching methods in competency-based curriculum and biology performance at St. Andrews Academy

Responses	Frequency (f)	Valid percentage	Cumulative percentage
Yes	26	93.0	93.0
No	02	7.0	100
Total	28	100	

The table 3; above shows that most 26(93.0%) of the respondents agreed that there was a significant relationship between teaching methods in competency-based curriculum and biology performance at St. Andrews Academy. While 02(7.0%) disagreed with the statement. This implied that proper initiation of teaching aids or methods in competency-based curriculum in biology subject assists students with meaningful, accurate and real-life experiences from the subject taught and it was also found out that the merits of instructional materials are that they are cheaper to produce, useful in teaching large number of students at a time, encourage learners to pay proper attention and enhance their interest (Anthony, Kazaara, Kazaara, et al., 2023).

Table 4:Teaching methods in competency-based curriculum and biology performance at St. Andrews Academy

<i>Correlations</i>		Teaching methods in competency-based curriculum	biology performance
Teaching methods in competency-based curriculum	Pearson Correlation	1	.038**
	Sig. (2-tailed)		.582
	N	209	209
biology performance	Pearson Correlation	.038**	1

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<i>Sig. (2-tailed)</i>	.582	
<i>N</i>	209	209

****.** *Correlation is significant at the 0.01 level (2-tailed).*

The table presents key findings from a study that sought to determine the relationship between the teaching methods employed in the competency-based curriculum and the biology performance of students at St. Andrews Academy. To ascertain this association, data was collected from 209 students using a questionnaire to gather information about their experiences with the teaching approaches and their biology grades. The variables were then subjected to the Pearson product-moment correlation to ascertain the strength and direction of any relationship between them. The results of the correlational analysis found that there is a very weak positive correlation of 0.038 between the teaching methods used in the competency-based curriculum and the students' biology performance, as evidenced by the correlation coefficient value presented in the table (Nelson et al., 2023). Furthermore, this weak correlation is considered to be statistically significant as the significance value of 0.582 is greater than the critical value of 0.01. However, given the exceedingly low correlation coefficient, it can be deduced that variations in the teaching methods did not have a considerable impact on changes in the students' biology grades. In other words, while the relationship was statistically valid, the pedagogical approaches did not have a strong practical influence on influencing student achievement in biology based on this data.

Conclusion

Conclusively, the results of the research study indicated that there was a significant relationship between teaching methods in competency based curriculum and biology performance in secondary schools in Kisoro District. Teaching methods in competency based curriculum are important catalysts of effective instructions and are the mechanisms used by the teacher to organize and implement a number of educational means and activities to achieve certain goals. It makes the subject and every aspect of the lesson very clear and makes them successful in learning and it directly connects to the teacher's intelligence and influences their students.

Recommendations

Schools authorities are recommended to always emphasize fully utilization of the competency curriculum to effectively teach to the required teaching standards. Competency based curriculum should be followed from time to time to fulfill the obligation of teachers.

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