

Assessment of Teachers' Knowledge of Curricular Contents and Students' Academic Performance in Senior Secondary Schools in Calabar Education Zone, Cross River State, Nigeria

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Abstract

The study assessed the relationship between teachers' knowledge of curricular contents and students' academic performance in senior secondary schools in Calabar Education Zone, Cross River State, Nigeria. To achieve the purpose of the study, one research question was raised. Related literature were reviewed. A survey research design was adopted. Simple random sampling technique was adopted in the selection of four (4) local government areas which were Biase, Bakassi, Calabar Municipality and Odukpani. Eight (8) schools were randomly selected for the study using 552 senior secondary school II (SS2) students, including 290 males and 262 females. "Assessment of Teachers' Knowledge of Curricular Content Questionnaire" (ATKCCQ) was used for data collection and was validated by experts in Measurement and Evaluation. The Cronbach Alpha reliability coefficient ranges between 0.78 to 0.82. Data collected were analyzed using simple linear regression, to test the null hypothesis at .05 level of significance. The finding revealed that there is a significant relationship between teachers' knowledge of curricular contents and students' academic performance. The study recommended, among others, that teachers should ensure that they have the knowledge of the curricular contents to enhance students' academic performance.

Keywords: teachers, curricular, content, academic, performance

Introduction

In curricular knowledge, teachers need to describe the range of programmes designed to teach a particular topic or subject at a particular level. Teachers should be able to identify and evaluate the strength and weaknesses of the instructional materials used to teach particular subjects or topics. Curricular contents include the skills that teachers need to know and master to be effective in their classroom. School culture is one of the leading factors influencing academic expectations, school satisfaction and academic performance (Mc Collum & Yader, 2011). Jansem (2014, 2019) described the knowledge base as what teachers know and what they are supposed to know, and

considered it crucial for teachers to have satisfactory knowledge to carryout teaching practices. Several researchers have attempted to outline what content should be included in the curriculum (Nguyen, 2013).

According to Shulman (1987), there are three dimensions of curricular knowledge (a) alternative curricular knowledge, referring to knowledge of supplemental materials for instructing on a subject (b) lateral curricular knowledge, meaning teacher ability to connect the content of a specific subject with other subjects studied by the student and (c) vertical curricular knowledge, which is a teacher familiarity with the topics which will be taught in the succeeding years. Curriculum knowledge also implies teachers' awareness of teaching contents (Ekpo et al., 2016). Savage (2014) defined curricular knowledge as the organization, delivery and modification of the contents of curriculum, teaching subjects, problems and issues related to the interest and ability of the pupils/students.

Furthermore, only a few studies have been conducted in teachers' knowledge of curricular contents. Therefore, to provide insight into teachers' curricular knowledge, this study is aimed to assess teacher's curricular contents in senior secondary schools in Calabar Education Zone of Cross River State, Nigeria.

Conceptualization of the domain and the essence of curricular knowledge have been proposed by different researchers. Curricular knowledge, for Carlson and Dachler (2019), refer to teachers' familiarity with arranging lessons in a way to improve students' understanding, their awareness of the types of assessment and their skills for effective teaching. Similarly, Sen et al. (2018) believe that curricular knowledge includes teachers' understanding of objectives in the curriculum, their familiarity with the topics they teach, and their knowledge of students' understanding to recognize the problems the students may encounter. They consider curricular knowledge as teachers' cognizance of specific curricular programmes about the topic they teach. Curricular knowledge base, as one of the components of the teacher's knowledge base, has been emphasized in students or teacher education (Scarino, 2023). The quality of students graduating from schools most likely depends on the teachers' knowledge of subjects contents (Ekpo et al., 2023).

Statement of the problem

There has been a growing concern on teachers' knowledge of curricular contents and students' academic performance. Government and schools management have tried in one way or the other to improve teachers' knowledge in curricular contents, by organizing train the trainer workshop, conference, seminars among others, by providing funding, in order to enhance students' academic performance (Onabe et al., 2024). Despite all these efforts by government and school management, teachers are still faced with the difficulties of understanding the curricular contents of subjects taught in

schools. This may somehow lead to students' poor academic performance. The teachers' inability to understand the curricular contents of courses taught in schools has affected the quality of students graduating from those schools which in turn have nothing to offer the society at large (Ekpo et al., 2023). In view of this, this study seeks to assess the relationship between teachers' knowledge of curricular contents and students' academic performance in senior secondary schools in Calabar Education Zone.

Objective of the study

This study assessed the relationship between teachers' knowledge of curricular contents and students' academic performance.

Research question

1. To what extent does teachers' knowledge of curricular contents relate to students' academic performance.

Hypothesis

Ho1: There is no significant relationship between teachers' knowledge of curricular contents and students' academic performance.

Methodology

The research adopted survey research design. The study population comprised of 6,200 senior secondary school II (SSS2) students in Calabar Education Zone of 2023/2024 academic session. The simple random sampling technique involving the hat and draw method was used in selecting four (4) Local Government Areas (LGAs), out of seven LGAs in the zone, for the study. The four (4) LGAs selected were Biase, Bakassi, Calabar Municipality and Odukpani. Eight (8) schools were randomly selected for the study. As shown on table 1, the eight (8) schools were designated with the school name A, B, C, D, E, F, G and H. In each of the eight (8) schools, only senior secondary school II (SSS2) students were selected for the study. Sixty percent (60%) of the senior secondary school II (SSS 2) students in the sampled schools were selected for the study. This amounted to a total of 552 students. This resulted in two groups, males and females. In each of the two groups, sixty percent (60%) of the students were randomly selected per school for the study. The distribution of the study sample is shown on table 1. The sample for this study comprised of five hundred and fifty two (552) senior secondary school II (SSS 2) students including 290 males and 262 females.

Table 1: Distribution of sample by local government, school class and sex

LGA	No. of schools	Name of schools	Class SS2		Total	60%
Biase	2	A	Male 82	Female 69	151	91
		B	43	20	63	38

Bakassi	2	C	37	40	77	46
		D	30	45	75	45
Calabar Municipality	2	E	76	66	142	85
		F	74	104	178	107
Odukpani	2	G	56	75	131	79
		H	42	60	102	61
Total	8		440	479	919	552

The instrument used for data collection was "Assessment of Teachers' Knowledge of Curricular Contents Questionnaire" (ATKCCQ). The items of the ATKCCQ were constructed to measure the sub-variables of the study. The study adopted the Likert scale model, with items which required the respondents to specify their level of agreement or disagreement on a symmetric continuous ranging from Strongly Agree (SA) to Strongly Disagree (SD).

The instrument was structured into three parts: one, two and three. Part one elicited demographic information such as sex, age range of the students and the Local Government Area. Part two was structured using modified four points Likert scale of Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. It elicited information on assessing teachers' knowledge of curricular contents. In part three, Researcher Subjects Made Achievement Test (RSMAT) was used to elicit information on student's academic performance. This part of the instrument had 30 items in all. The instrument was validated by experts in Measurement and Evaluation. Cronbach Alpha reliability analysis was used to determine the reliability of the instrument, which ranges from 0.78 to 0.82. Data collected was analyzed using simple linear regression to test the null hypothesis at .05 level of significance.

Presentation of results

H₀₁: Teachers' knowledge of curricular contents does not significantly relate to students' academic performance.

The independent variable in this hypothesis is teachers' knowledge of curricular contents, while the dependent variable is students' academic performance. Both variables were measured continuously and inferential statistics involving simple linear regression statistics was used to test the hypothesis at .05 level of significance and the result presented in Table 2.

Table 2: Simple linear regression on teachers’ knowledge of curricular contents and students’ academic performance

Model	Sum of square	Df	Mean square	F-ratio	R	R square	Adjusted R square	p-value
Regression	22.560	2	22.560					
Residual	468.002	550	.968	23.306*	.218	.048	.046	.000
Total	490.562	552						

*Significant at .05, df = 550

The result of analysis as presented in Table 2 revealed R-value of .218. Correlation coefficient is a standardized measure of an observed degree of relationship between variables; it is a commonly used measure of the size of an effect, and that values of $\pm .1$ represent a small effect, $\pm .3$ is a medium effect and $\pm .5$ is a large effect. The R^2 value of .046 implies that 4.6% of variance is accounted for by predictor variable (teachers' knowledge of curricular contents).

Furthermore, the regression ANOVA revealed that $F(2, 550) = 23.306$, $p < .05$, and it is significant. Thus the null hypothesis was rejected, and the alternate retained. This implies that there is a linear association (relationship) between the predictor variable (teachers' knowledge of curricular contents) and students' academic performance. Also, the adjusted R^2 (.044) shows some shrinkage of the unadjusted value (.046) indicating that the model could be generalized on the population. Based on the result, it was concluded that teachers’ knowledge of curricular contents significantly relates to Senior Secondary School II (SSS 2) students’ academic performance.

Discussion of the findings

The regression analysis for hypothesis one revealed that teachers’ knowledge of curricular contents significantly relates to students’ academic performance in Calabar Education Zone of Cross River State. This implies that teachers’ knowledge of curricular contents equips teachers with skills that enhances students’ academic performance. The findings of this study corroborates with Savage’s (2014) statement that the teachers’ process of thinking is reflected in their lesson plans; that is, the way they plan teaching of subjects to their students. Summarily, the findings of Savage (2014) revealed that teachers' professional competence and knowledge of subject contents significantly predict students' academic performance. This means that teachers' content knowledge of curricular contents is important for students' effective learning and performance. Ekpo et al. (2023) found that poor teacher quality is one of the significant factors responsible for the consistent poor performance of secondary school students in public examinations.

Similarly, Scarino (2013) investigated the predictive value of teachers’ depth of subject contents and depth of pedagogical knowledge on students' academic performance and found that depth of subject contents and pedagogical knowledge were significant

predictors of students' academic performance. This implies that teachers' knowledge of curricular contents is a predictor of students' academic performance, in line with the present opinion that students' understanding could result to good performance, which hitherto comes from the teachers' knowledge of curricular contents. The author's finding revealed that deficiency in knowledge of curricular contents impeded teachers' ability to impart knowledge to their students. There was no contradiction to the findings of this hypothesis in the literature reviewed.

Conclusion

In this study, attempts have been made to examine the relationship between teachers' knowledge of curricular contents and students' academic performance in Calabar Education Zone, Cross River State. The findings of the study indicate that teachers' knowledge of curricular contents significantly relates to students' academic performance in Calabar Education Zone. The regression analysis further shows a linear association (contribution) of the predictor variable (teachers' knowledge of curricular contents) on students' academic performance. Also, the adjusted R^2 shows some shrinkage of the unadjusted value, indicating that the model could be generalized on the population. This implies that the findings of this study which uses sample from Senior Secondary School II (SSS 2) students in Calabar Education Zone can be generalized.

In this regards, based on the findings of this study, teachers' knowledge of curricular contents could significantly predict senior secondary school II (SSS 2) students' academic performance in Calabar Education Zone. There is need for educators, school administrators and government to ensure that teachers' knowledge of curricular contents is enhanced to ensure effective teaching and students' academic performance.

Recommendation

On the basis of the findings of this study, it is recommended that teachers should know the curricular contents of their teaching subjects to enable them plan effective lessons that enhance their students' performance in the subject.

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