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Perception of teachers' knowledge, attitude and teaching skills as predictor of academic performance in Nigerian secondary schools

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The study investigated the relationship/effect of students' perception of teachers' knowledge of subject matter, attitude to work and teaching skills on students' academic performance. The population consisted of senior secondary three (SS.III) students in the South West Nigeria senior secondary schools. The study sample consisted of 1600 purposively selected SSS III students from 15 selected secondary schools. A questionnaire with four sections was developed and administered on the subjects. It is a test battery with section A containing the demographic data and the remaining three sections containing twenty items each. The instrument has a test-retest reliability of 0.64 over a period of two weeks (n = 40, r = 0.64, = < .05) an internal consistency (K - R20) reliability of 0.72 (< .05) and a Cronbach coefficient alpha 0.70. The collected data were analyzed using simple percentages, Pearson Product Moment Correlation and chi-square statistics to test the three hypotheses generated in the study. The result show that students' perception of teachers' knowledge of subject matter, attitude to work and teaching skills has a significant relationship on students' academic performance.

Key words: Perception, Teachers' knowledge, attitude and teaching skills, Predictors of academic performance

INTRODUCTION

Perception may be defined from physical, psychological and physiological perspectives. But for the purpose of this study, it shall be limited to its scope as postulated by Allport (1966), which is the way we judge or evaluate others. That is the way individuals evaluate people with whom they are familiar in everyday life. Eggen and Kauchak (2001) gave cognitive dimension of perception; they see perception as the process by which people attach meaning to experiences. They explained that after people attend to certain stimuli in their sensory memories, processing continues with perception. Perception is critical because it influences the information that enters working memory. Background knowledge in the form of schemas affects perception and subsequent learning. Research findings have corroborated this claim that back-

ground knowledge resulting from experience strongly influence perception (Glover et al., 1990). Baron and Byrne (1991) called it "social perception" which is the process through which we attempt to understand other persons. Attempt to obtain information about the temporary causes of others' behavior (for example, the emotions or feelings) . The term "apperception" can also be used for the term under study. Apperception is an extremely useful word in pedagogic, and offers a convenient name for a process to which every teacher must frequently refer. It means the act of taking a thing into the mind. The relatedness of this view of perception to the present study is further explained, that every impression that comes in from without, be it a sentence, which we hear, an object or vision, no sooner enters our consciousness than it is drafted off in some determinate directions or others, making connection with other materials already there and finally producing what we call our reaction. From this it is clear that perception is the reaction elicited when an imp-

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ression is perceived from without after making connection with other materials in the consciousness (memory). From this point of view two implications could be deduced. Firstly, perception cannot be done in vacuum, it depend on some background information that will trigger a reaction. This is consistent with the view of researchers (Allport, 1976; Glover et al., 1990) and the overall research problem of this study. Students' perception of teachers' knowledge of subject matter, attitudes to work and teaching skills is absolutely dependent on the fact that they have been taught by the teachers under evaluation and are familiar with them. They therefore, have minds already pre-occupied with memories and reactions that inventory for data collection will measure. Secondly, studies had confirmed possible influences on apperception. Perception may be energized by both the present and past experience, individual attitude at a particular moment, the physical state of the sense organ, the interest of the person, the level of attention, and the interpretation given to the perception.

Eggen and Kauchak (2001) highlighted three headings under which a study on teachers' knowledge of subject matter can be done. These are namely: knowledge of content, pedagogical content knowledge and general pedagogical knowledge. It is a statement of fact that nobody can teach what he does not understand. It has been established that there is high correlation between what teachers know and what they teach (Wilson et al., 1987). Thus, the ability to teach effectively depends on the teachers' knowledge, and knowledge occurs in a variety of forms. Teacher effectiveness is impeded if the teacher is unfamiliar with the body of knowledge taught and that teachers' effectiveness is subject specific. The implication of this for teachers is that they must thoroughly understand the content of what they teach. The teacher whose understanding of topic is thorough use clearer language, their discourse is more connected, and they provide better explanation than those whose background is weaker. The way the students perceive the teachers in terms of their (teachers) knowledge of content of subject matter may significantly affect the students' academic performance.

Pedagogical content knowledge depends on an understanding of a particular topic and how to explain it in away that it will make sense to the students. Pedagogical content knowledge implies, an understanding of ways of representing the subject that make it comprehensive to others and an understanding of what makes the learning of specific topics easy or difficult. Eggen and Kauchak (2001) declared that where pedagogical content knowledge is lacking "teachers commonly paraphrase information in learners' textbooks or provide abstract explanations that are not meaningful to their students". From evidences available in literatures it is being established why teachers' knowledge of subject matter is highly essential for effective teaching. Ehindero (1990) confirmed that a teachers' teaching is influenced by the level of his peda-

gogical knowledge, as different from his subject matter knowledge. It is to be noted that pedagogical knowledge are not exactly the same thing as knowledge of subject matter, they nevertheless are, intimately linked with it, because teachers' mastery and use of them in the classroom will indicate the depth of their knowledge of subject matter.

Attitude could be defined as a consistent tendency to react in a particular way-often positively or negatively – toward any matter. Attitude possesses both cognitive and emotional components. Fazio and Roskes (1994), said, "attitudes are important to educational psychology because they strongly influence social thought, the way an individual thinks about and process social information". According to Eggen and Kauchak (2001), positive teachers' attitudes are fundamental to effective teaching. A teacher must be interesting. That is the teacher must work his students into such a state of interest in what the teacher is going to teach him that every other object of attention is banished from his mind. The teacher should also fill the students with devouring curiosity to know what the next steps in connection with the subject are. Eggen and Kauchak (2001) identified a number of teachers' attitudes that will facilitate a caring and supportive classroom environment. They are: enthusiasm, caring, firm, democratic practices to promote students responsibility, use time for lesson effectively, have established efficient routines, and interact freely with students and providing motivation for them.

Research findings on teachers' attitudes (Brunning et al., 1999), established the following facts: Teachers characteristics such as personal teaching efficacy, modeling and enthusiasm, caring and high expectation promote learners' motivation. These same characteristics are also associated with increase in students' achievement (academic performance). High levels of learning may occur as well as learners feeling good about themselves and the material they are learning when teachers use instructional time efficiently. Learning takes place with ease and faster under teachers that are well organized. The way teachers interact with students influences their motivation and attitudes toward school. How students perceive their teachers' attitudes in Nigeria secondary school will be measured based on some of the stated points.

To promote order and learning in the classroom every teacher should possess essential teaching skills. No one can teach something to someone without doing it in some particular way, and that way of teaching has significant effects on the entire teaching and learning situation. Ehindero and Ajibade (2000) posit that: teaching is a process of continuous personal development and professional self-discovery along side an emerging understanding of the teaching and learning process.

If there is an art essential to good teaching, it is that of communication. It is very important because teaching cannot occur without the use of oral or sign language communication. It implies that teachers should monitor

their own speech to ensure that their presentation is as clear and logical as possible. Eggen and Kauchack (2001) highlighted four aspects of effective communication that are highly essential for learning and motivation. They are; precise terminology, connected discourse, transition signals and emphasis.

Skillful teachers summarize and link ideas together at the end of his lesson. Review summaries of previous work and help students link what has been learnt to what is coming. Closure is a form of review occurring at the end of a lesson; in it topics are summarized and interpreted. Essential teaching skills and teaching methods are like two sides of the same coin. Skills are the required characteristics or ingredients for effective teaching while methods can be compared to pattern to be followed in teaching. There are many teaching methods as there are teachers in the world. In teaching seven steps and the required skills may be suggested for effective teaching as follows: Preparation for instruction (Organizational skills); Motivation (Communication skills); Presentation of the learning task (Focus skill); Inducement of the trial response (Feedback skill); Correction of the trial response (Questioning skill); Fixation of response (Closure skill); and Test response (Evaluation skill) Even though the enumerated skills are interdependent; one is as effective alone as it is when combined with others. Eggen and Kauchak (2002) claimed that the interaction and integration of those skills are crucial to teaching and learning.

Academic performance could be defined as the display of knowledge attained or skills developed in school subjects designated by test and examination scores or marks assigned by the subjects' teachers. It could also be said to be any expression used to represent students' scholastic standing. For this study, students' academic performances were based on the average scores of students in five subjects in the mock examination conducted in the students various schools. Many researchers, psychologist and educators alike, have identified some of the variables that have effects on students' academic performances. Academic performance is individual inherent potentials in terms of intelligence combined with other sociological factors. Ojerinde (1981) in his study identified personality factors such as anxiety, achievement, motivation and level of interest as factors that affect academic performance. The consistence of these claims was asserted by Ford (1985), which claimed that student with high self-efficacy received higher grades than those with low self-efficacy and that student with negative self-concept have poor academic performance.

Teachers variable are also noted to have effect on students' academic performances. These includes, teachers' knowledge of subject matter, teaching skills, attitude in the classroom, teachers, qualification and teaching experience. Ehindero and Ajibade (2000) asserted that, "students, who are curious stakeholders in educational enterprise, have long suspected and speculated that some of their teachers (lecturers in the university) lack the neces-

sary professional (not academic) qualification (that is, skills, techniques, strategies, temperament et cetera) required to communicate concepts, ideas principles et cetera in a way that would facilitate effective learning". They also believed that these deficiencies contribute significantly to the growing rate of failure and subsequent drop out of students in tertiary institutions.

Just as there is a significant growing rate of failure and subsequent drop-out in the Nigeria higher institutions, so it is happening in the Nigeria secondary schools. The growing failure rate could essentially be noticed in the yearly decline in students' performance in the Senior School Certificate Examination (SSCE). This thus, is making many students to abandon schooling at the end of senior secondary school years. Thus, the need to investigate if teachers in the secondary schools possesses the necessary professional qualification (such as skills, techniques, temperament etc.) that is required to communicate concepts, ideas, principles etc. in way that would facilitate effective learning in Nigeria secondary schools. As a result of these the following questions are raised: Does students' perception of teachers' knowledge of content has a relationship with academic performance of students? Would there be a relationship between students' perception of teachers' attitude to work and students' academic performance? And what is the relationship between students' perception of teachers' teaching skills and students' academic performance?

This study was therefore undertaken to investigate the relationship between students' perception of teachers' knowledge of subject matter, attitude to work, teaching skills and students' academic performance. Arising from this, the study was conducted to test the following hypotheses.

1. There is no significant relationship between secondary school students' academic performance and their perception of teachers' knowledge of subject matter.
2. There is no significant relationship between students' perception of teachers' attitude in the classroom and students' academic performance
3. The relationship between students' perception of teachers' teaching skills and students' academic performance is not significant.

Conceptual framework

Allport (1966) discussed the psychological concept of perception as the way through which we evaluate people we are familiar with. This study is adopting the view of Allport as the theoretical basis for students' perception of teachers' knowledge of subject matter, attitude to work and teaching skills in Nigeria secondary schools. For convenience, Allport conceived that in person perception, the perceiver is the "judge" and person perceived the "other". In this study therefore, the secondary schools students are to serve as judges judging their teachers

Table 1. Sampled students' distribution.

Schools	N	%
Fed. Unity Schools	550	34.3
State owned schools	750	46.9
Private schools	300	18.8
Total	**1600**	**100**

professional competence and their teaching effectiveness. Their judgment outcome will be scored and juxtaposed with their academic performances in order to test the hypotheses raised.

Allport theory was found appropriate to be used as the theoretical basis for this study because of his explanation on the processes involved in person perception. He explained three concepts:

(i) **Common judgment sets:** In evaluating a person, there must always be a special reason in view. The reason for this study is to determine whether students' perception of the selected teachers' variables will determine or correlate with students' academic performances.

(ii) **Categorization Tendency:** Allport asserted that one of the most important things to do in perceiving any object is to place it in a familiar category. That is our first assignment is to place a person in the category of the generalized order. This study is evaluating the secondary school teachers based on standard assessment of teachers as stipulated in literatures. Also, the selected variables and students' academic performance belongs to familiar category in education psychology.

(iii) **Combining Cues:** Allport claimed that judging people involves putting together many bits of information. This study therefore will determine the reliability of students' perception of teachers' knowledge, attitude and teaching skills, using a statistical measure of their responses with their academic performance.

METHODOLOGY

The study population comprised of senior secondary school three (SSIII) students in the South Western Nigeria. The state includes Osun, Oyo, Ekiti, Ondo and Ogun. Samples of 1600 third year senior secondary school students were purposively selected from 15 stratified selected secondary schools. Three schools were selected from each state. The schools includes one Federal Unity school, one state owned secondary school and one private secondary school. The selected samples were adjudged to have adequate exposure in the schools that could enable them to give valid responses to the questionnaire items. Table 1 presents the distribution of the students in the schools.

Research instrument

A questionnaire was used to collect data. This questionnaire was divided into four sections of A, B, C, and D. Section A contains items on demographic information such as, name of schools, sex and class. Section B contains 20 items designed to find out students perception of teachers' mastery of the subject matter, pedagogical knowledge and general pedagogical knowledge. The items

were adopted from Eggen and Kauchak (2001). Section C of the questionnaire is a 20 items perceived teacher's attitude in the classroom scale. The items were adapted from students' responses to teachers who "care and do not care" developed by Wentzel (1997). Wentzel 7 items were re-modified to accommodate other previous researches on teachers' attitude in the classroom. Section D consists of 20- items on essential teaching skills as enumerated in literature. The section adopted Rosenshine (1977) teacher rating scale.

The instrument has a test-retest reliability of 0.64 over a period of two weeks (n = 40, r = 0.64, = < .05) an internal consistency (K = R20) reliability of 0.72 (< .05) and a Cronbach coefficient alpha 0.70. The minimum and maximum scores in the inventory are 0 and 80 respectively for each section B, C, and D. Subjects with score greater than 40 were regarded as having positive perception of teachers' knowledge, attitudes and teaching skills, while subjects with score less than 40 were regarded as having negative perception.

Students' results in the mock examination which prepared the students for the final Senior School Certificate Examination (SSCE) were collected from the various schools. Average raw scores of the students in five subjects were calculated and used as students' academic performance. The five subjects used were English Language, a Nigeria language (Yoruba), Mathematics, Biology and Economics. These subjects were chosen because they are common to all the subjects. The data collected were analyzed using chi-square, and Pearson Moment correlation co-efficient (r)

RESULTS

From the collected data, as presented in Table 1, 350 respondents (27.9%) had a negative perception of teachers Knowledge of subject matter (perception score less than 40) while 1250 respondents (78.1%) had a positive perception (perception scores greater than 40). Also 376 respondents (22.5%) had a negative perception of teachers' attitude to work, while 1224 respondents (76.5%) had a positive perception of the same variable. 349 respondents (21.8%) had a negative perception of teachers' teaching skills, while 1251 (78.2%) had a positive perception of teachers' teaching skills Table 3

Tables 3a shows the mean score of students perception of teachers' knowledge of the subject matter to be (X = 58.13) and the average raw score of the respond-ents in the mock examination in five subjects as (X = 55.32). The table also shows that students' perception of teachers' knowledge of subject matter correlates positively and significantly with students' academic performance with Pearson moment correlation value (r = 0.61, < .05). It implies that there is a significant and high positive relationship between students' perception of teachers' knowledge of subject matter and academic performance. Thus students' academic performance may be dependent on their perception of teachers' knowledge of the subject matter. This assumption was confirmed on Table 3b with a chi-square value (x^2 = 459.5, < .05) which shows a significant dependent of students' academic performance on their perception of teachers' knowledge of the subject matter (Table 4).

Table 4a shows the mean scores for students' perception of teachers' attitude and academic performance to be X = 57.63 and X = 55.32 respectively. A correlation

Table 2. Summary of subjects' responses to the questionnaire and the result of students' perception of teachers' knowledge of subject matter, attitude and teaching skills.

Perception	Teachers' Variables		
	Knowledge of subject matter	Attitude to work	Teaching skills
Positive	1250 (78.1%)	1224 (76.5%)	1235 (78.2%)
Negative	350 (21.9%)	376 (22.5%)	(22.81%)
Total	**1600**	**1600**	**1600**

Table 3a. Correlation between academic performance and students' perception of teachers' knowledge of subject matter.

Variable	N	$\overline{X}$	SD	r	
Teachers Knowledge	1600	58.13	12.51		
Academic Performance	1600	55.32	11.37	0.61	<0.05

Table 3b. Chi-square statistics showing the relationship between students' academic performance and students' perception of teachers' knowledge of subject matter

Perception	Academic Performance					^{2}	
	70-above	60-69	50-59	40-49	30-0		
Positive	144 (*84.1*)	250 (148.6)	249 (283.1)	154 (212.5)	100 (168.7)	414.4	< .05
Negative	6 (65.9)	15 (116.4)	256 (221.9)	225 (20.6)	201 (132.3)		

The numbers in bracket are the expected scores

Table 4a. Correlation of students' academic performance and students' perception of teachers' attitude to work.

Variable	N	$\overline{X}$	SD	r	
Teachers' attitude	1600	57.63	13.15	0.67	< .05
Academic performance	1600	55.32	11.37		

Table 4b. Relationship between students' perception of teachers' attitude to work and students' academic performance

Perception	Academic performance					^{2}	
	70-above	60-69	50-59	40-49	30-0		
Positive	130 (105.6)	360 (283.8)	416 (352.7)	111 (178.2)	207 (303.7)	378.2	<.05
Negative	8 (32.4)	11 (87.2)	45 (108.3)	122 (54.8)	190 (93.3)		

value r = 0.67 indicates a significant positive correlation between students' perception of teachers attitude and students' academic performance. That is the higher the perception of teachers' attitude, the higher the academic performance. The chi-square value (^{2} = 398.2, <.05) also indicates that students' academic performance dep-ends significantly on students' perception of teachers' attitude to work.

From Table 5a, it could be observed that the mean score of students' perception of teachers' teaching skills stand at ($\overline{x}$ = 58.53) while the average academic performance stand at ($\overline{X}$ = 55.32). The Pearson correlation value (r = 0.59, < .05) indicates that there is positive significant relationship between students' perception of teachers' teaching skills and academic performance. The chi-square value (^{2} = 404.7, <.05) also shows that there is a significant relationship between students' per-ception of teaching skills and students' academic perfor-mance, that is academic performance depends signi-ficantly on teachers' teaching skills.

Variables	N	$\overline{X}$	SD	r	
Teachers teaching skills	1600	58.53	12.15	0.59	<.05
Academic performance	1600	55.32	11.37		

Perception	Academic performance		X^2					
	70-above	60-69	50-59	40-49	30-0	404.7	<.05
Positive	140 (115.8)	245 (204.5)	471 (389.8)	264 (292.6)	115 (232.3)		
Negative	10 (34.2)	20 (60.4)	34 (115.2)	115 (86.4)	186 (68.7)		

DISCUSSION

Tables 3a and 3b shows that the average academic performance of students in five selected subjects correlate and depend significantly on students' perception of teachers' knowledge of subject matter. This result is consistent with previous findings (Ehindero and Ajibade, 2000). The study has demonstrated a significant relationship between students' perception of teachers' knowledge of subject matter and academic performance. The question now is how can students' perception of their teachers' knowledge influence their academic performance? From simple logic, if a pupil likes a teacher it is possible that he will like the subject the teacher teaches and will in turn make progress in the subject. Hence hypothesis one is rejected.

Tables 4a and 4b also indicated that students' academic performance respectively correlate positively and depends significantly on students' perception of the teachers' attitude to ion the classroom. This finding is inline with previous researchers' findings; Durojaiye (1976) supported the idea that teachers' positive attitude and good personal qualities bolster students' academic performance. Aladejana (2000), asserted that students have preference for teachers, who have competence in their subjects and who respect and trust the students. Such teacher care for the students as individual, listen to their problems, understand their needs, be patient with them and explain things in an interesting fashion. Centra and Potter (1980) confirmed that teachers' attitudes are significantly related to students' academic growth or performance. Thus the result of this study reject hypothesis two.

Tables 5a and 5b revealed that students' academic performance respectively correlate positively and depends significantly on teachers' teaching skills. This finding is sharing this view with previous findings. Centra and Potter (1980) claimed that variable related to teaching skills, such as clarity of expression, variability criticism, questioning etc are significantly related to students' academic performance. Ehindero and Ajibade (2000) found that lack of teaching skills by some University lecturers

are responsible for the declining poor academic performance recorded among undergraduates. Based on previous research findings the significant relationship recorded in this study between students' perception of teachers' knowledge of subject matter, attitude and teaching skills and students' academic performance is justified

This study has meaningful implications for teachers, school administrators, Ministries of Education, Teaching Service etc. in the sense that, it will provide useful hints on the evaluation, promotion and appointment of teachers, and their teaching output, as perceived by the students who are the direct recipients of the teachers' professional competence or incompetence

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