

ACHIEVEMENTS IN SUBJECTS METHODOLOGY AS CORRELATES OF COLLEGE OF EDUCATION STUDENTS' PERFORMANCE IN TEACHING PRACTICE

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ABSTRACT

This study adopted the ex-post facto research design to examine the achievement in subject methodology as correlates of student's performance in teaching practice. Stratified random sampling technique was used in selecting 125 students in 2005/2006 academic session and 162 students in 2006/2007 academic session from nine mathematics combinations from Schools of Sciences, Arts and Social Sciences and Education in College of Education, Ikere-Ekiti. Data were collected through an inventory and analyzed using correlation analysis and multiple regression analysis. Major findings showed that a significant relationship existed between mathematics methodology, problem solving and average performance of students in teaching practice; principles and methods of teaching in education while mathematics methodology and problem solving significantly predicted average performance of students in teaching practice grades in 2005/2006, 2006/2007 and in both sessions. Principles and methods of teaching education exhibited negative predictive strength on average students' performance in teaching practice in 2005 / 2006 session. The implication of this study is that lecturers should concretize their approaches to the teaching of the course so that, positive contribution could be made to the student's performance in teaching practice grade at the college level.

Keywords: *Subject Methodology, Teaching Practice, Average Performance Students, Academic Achievement, Teacher Trainee and Micro - teaching.*

INTRODUCTION

The importance of Teaching Practice exercises in teacher training programmes for all sectors, that is, pre-school institutions, Primary, Secondary and other post-primary institutions cannot be over emphasized. Therefore, in all teacher colleges, time is allotted to this vital and practical aspect of teaching. Orebanjo (1982) submitted that teaching is a set of behavioural activities which a teacher performs in order to induce learning. Therefore no student teacher is considered fit for the award of a teacher's certificate without obtaining a pass grade in practical teaching. Every student therefore is made to realize that only teachers who have passed both necessary theory papers and the compulsory practical teaching examination are considered trained and certificated. A teacher trainee who fails the practical examination has no alternative but to re - present himself for the exercise if he still wishes to obtain a certificate.

For teachers to be made, they must be provided with opportunities to acquire competencies needed for effective teaching. Such competencies must be continually appraised for improvement. It is practice that makes perfect. Indeed the importance of practice has been recognized in other professions like medicine, law, ministry, military, etc. Teaching profession cannot be an exception. Teaching practice therefore affords teacher trainees ample opportunities to apply relevant theories studied in essential subjects such as Psychology, Principles and Methods of Teaching and Sociology of Education, to their practical teaching and interaction with staff and pupils of co-operating colleges. It also enables them to treat pupils as individual as a group or members of a class. Fashin (1996) observes that successful completion of teaching practice builds life self confidence in prospective teacher and impels further professional advancement of the in-service students' teacher who then feels a greater sense of professional self-worth.

Nwadiani (1999) also opined that teaching practice programme for teacher trainees is aimed at linking acquired knowledge with practice in the field. Akenroye (1976) and Okujaga and Osah-Ogulu (2002) contended that the field experience helps the trainee teacher to perfect his professional skills, effective instructional performance, uncreative problem solving and collegial relational skill in the role of a professional teacher of his special subject. They further contended that teaching practice helps the trainee teacher to test out the validity of his self-concept and initial career decisions to join teaching as an occupation. Okon and Ibanga (1982) also argued that teaching practice exposes students to various teaching environments each of which may require social, emotional, cultural and instructional adjustment if they are to be effective teachers and that the multi-ethnic composition of our society demands students to develop diverse teaching strategies. Hence, teaching practice offers an opportunity for student teachers to meet and interact with people from different socio-cultural backgrounds. Teaching practice also brings a student teacher directly into contact with a practitioner and offers the student a chance to observe, and if possible, imitate well-tried out methods of teaching.

Like all other organizations, teacher training institution has its own set of objectives which it strives to achieve. One of such objectives is to turn out qualified and effective teachers into the field. To achieve this goal, students receive instructions on a variety of knowledge, skills and attitudes to provide them with adequate background for effective teaching. The duration of the teaching practice exercise varies across institutions. The operational mode appears to be the same as students are assigned to schools and there after supervised by lecturers. In line with the National Commission for Colleges of Education (NCCE) directives, NCE students normally go on teaching practice for a period of six weeks each during their second and third of study in the college. This arrangement has now been changed to three months in their third year in the college. The role of teacher trainers lies in guiding, supervising and

assessing with a view to assisting students to strive towards perfection in the art of teaching. In order to make teaching practice exercise effective, the school of education organizes orientation programmes for both the lecturer/supervisors and students. Adaval (1952) and Ohanado (1994) stated that performance of students in teaching practice and subject methodology should exhibit high positive relationship.

Kolawole (1996) carried out a study on factors influencing the performance of student-teachers in Mathematics in Nigeria Tertiary institutions. The findings of the study revealed that there was significant and positive relationship between: MAT 123 and Average Teaching Practice Scores (ATP), EDU 124 and ATP while EDU 124 showed negative predictive strength and MAT 123 showed positive prediction of teaching practice grade of mathematics students. This study was designed to find out the composite and relative contribution of MAT 123 (Mathematics methodology); MAT 212 (Problem Solving); EDU 124 (Principle and Methods of Teaching in Education) on the performance of Mathematics combination students in Teaching Practice in College of Education, Ikere -Ekiti. In order to address the above stated problem the following research questions are raised:

1. Is there any relationship between subject methodology (MAT 123; MAT 212 and EDU 124) and the student's average performance in Teaching Practice (ATP)?
2. To what extent would MAT 123, MAT 212 and EDU 124 when taken together predict student's performance in Teaching Practice?
3. What is the relative contribution of the independent variables (MAT 123, MAT 212 and EDU 124) to the average performance of students in Teaching Practice?

METHODOLOGY

This is an ex-post facto research design in which the researcher has no direct control on the dependent and independent variables. The target population for the study consisted of all the nine mathematics combination students for 2005/2006 and 2006/2007 academic sessions. Stratified random sampling technique was used in selecting 106 students in 2005/2006 session and 178 students in 2006/2007 academic session from nine combinations: Economics/Mathematics, Integrated Science/Mathematics, Physics/Mathematics, Chemistry/Mathematics, Computer Science/Mathematics, Mathematics/Social Studies, Mathematics/Political Science, Geography/Mathematics and Primary Education Studies/Mathematics. The research instrument used to collect data for the study was an inventory. The inventory requested for data on enrolment figures in each combination and students' scores in MAT 123, MAT 212, EDU 124 and the Average Teaching Practice scores for 2005/2006 and 2006/2007 academic sessions. Data analysis involves the use of correlation and multiple regression analyses.

RESULTS AND DISCUSSION

Question One: Is there any relationship between subject methodology (MAT 123; MAT 212 and EDU 124) and the student's Average Teaching Practice (ATP)?

Table 1: Summary of Correlation Analysis between MAT 123, MAT 212, EDU 124 and ATP

VARIABLES	MAT 123	MAT 212	EDU 124	ATP	BOTH
MAT 123	1.000				
MAT 212	0.534 [0.353]	1.000			
EDU 124	0.504 [0.290]	0.475 [0.352]	1.000		
ATP	0.236 [0.234]	0.389 [0.302]	0.033 [0.243]	1.000	
BOTH	0.236	0.388	0.326	0.374	1.000

Figures in parentheses are for 2006/2007 session while the ones without parentheses are for instances of 2005/2006.

Table I above shows that there are low and positive relationships between: MAT 123 and ATP, MAT 212 and ATP in 2005/2006, MAT 123 and EDU 124; MAT 123 and ATP; MAT 212 and EDU 124; MAT 212 and ATP; EDU 124 and ATP in 2006/2007 and in both sessions. There was moderate and positive relationship between EDU 124 and MAT 123, MAT 212 and EDU 124 in 2005/2006 session and in both sessions while there was a very low and positive relationship between EDU 124 and ATP in 2005/2006 and in both sessions, EDU 124 and ATP in 2005/2006 session.

Question Two: To what extent would MAT 123, MAT 212 and EDU 124 when taken together predict student's performance in Teaching Practice?

Table 2: Summary of Regression Analysis on Sample Data.

Sessions	R	R ²	S. E	F cal.
2005/2006	0.452	0.2043	10.232	4.768
2006/2007	0.482	0.2323	6.016	9.347
Both	0.458	0.2098	9.168	8.902

Table 2 showed that the composite of the subject methodology MAT 123, MAT 212 and EDU 124 on average performance of students in Teaching Practice with coefficients of multiple correlations of 0.452, 0.482 and 0.458 and standard error of estimates of 10.232, 6.016 and 9.168, implying on average, the predicted Average Teaching Practice grades will deviate from the true value by 10.232, 6.106 and 9.168 units of that measurement while the analysis of variance for multiple regressions data yielded an F-ratios of 4.768, 9.347 and 8,902 at significant level of 0.05. Thus the coefficients of determination are significant, showing that, the subject methodologies MAT 123, MAT 212 and EDU 124 have significant influence on the Average Teaching Practice Grades.

Table 3: Test of Significant of Regression Coefficients [B weights]

SESSION	R/Var.	BETA	S. E.	T	REGRESSION EQUATION
2005/2006	EDU 124	-0.142	0.112	-1.041	ATP = 36.12 + 0.324 (MAT 123)+ 0.208 (MAT 212)- 0.142 (EDU 124)
	MAT 123	0.324	0.098	2.619	
	MAT 212	0.208	0.064	2.114	
2006/2007	EDU 124	0.154	0.088	2.608	ATP = 24.34 + 0.216 (MAT 123) + 0.192 (MAT 212) + 0.154 (EDU 124)
	MAT 123	0.216	0.073	2.464	
	MAT 212	0.192	0.062	2.422	
Both	EDU 124	0.095	0.059	3.131	ATP = 31.54 + 0.172 (MAT 123) + 0.131 (MAT 212) + 0.095 (EDU 124)
	MAT 123	0.172	0.246	3.253	
	MAT 212	0.131	0.252	2.974	

$P < 0.05$, $tt = 1.96$ ATP Dependent variable. N/B: R/Var = Regression Variance

Table 3 showed that the predictive strength of each of the independent variables to the dependent variable and the regression coefficients for the two sessions ranged from -0.142 to 0.324. The standard error of estimate ranged from 0.059 to 0.252 and while t - values associated with MAT 123 and MAT 212 significantly predicted Average performance of students in Teaching Practices grades for 2005/2006, 2006/2007 and in both sessions. EDU 124 only significantly predicts ATP grades in 2006/2007 academic session.

Question Three: What is the relative contribution of the independent variables [MAT 123, MAT 212 and EDU 124] to the average performance of students in Teaching Practice?

Table 4: Test of Significant of Regression Coefficients [Beta Weights]

SESSIONS		BETA	S.E	T	REGRESSION EQUATION
2005/2006	EDU 124	-0.128(-12.8%)	0.101	-1.095	ATP = -0.128 (EDU124)+ 0.392 (MAT 123)+ 0.312 (MAT212)
	MAT 123	0.392(39.2%)	0.092	2.642	
	MAT 212	0.312(31.2%)	0.066	2.110	
2006/2007	EDU 124	0.219(21.9%)	0.078	2.385	ATP = 0.219 + (EDU124) + 0.216 (MAT 123) + 0.198 (MAT 212)
	MAT 123	0.216(21.6%)	0.063	2.214	
	MAT 212	0.198(19.8%)	0.044	1.905	
Both	EDU 124	0.084(8.4%)	0.075	1.128	ATP = 0.084 (EDU 124) + 0.302 (MAT 123) + 0.185 (MAT212)
	MAT 123	0.302(30.2%)	0.045	3.335	
	MAT 212	0.185(18.5%)	0.041	3.011	

Table 4 revealed that MAT 123 showed the highest contribution to the Average Teaching Practice grades in 2005/2006, 2006/2007 and in both two sessions followed by MAT 212, while EDU 124 showed negative contribution in 2005/2006 session and positive contribution in 2006/2007 and in both sessions but the percentages were relatively small compared with that of MAT 123 and MAT 212.

The result of this study indicated a low but positive significant relationship between subject methodology (MAT 123, MAT 212, EDU 124) and ATP in 2005/2006 session; The result also showed that MAT 123 and MAT 212 made significant contributions to the prediction in 2005/2006; 2006/2007 and in both sessions while EDU 124 exhibited negative predictive strength to ATP in 2005/2006 session. These results are in line with the findings of Kolawole (1996). All the same, EDU 124 showed positive predictive strength to ATP in 2006/2007 and in both sessions. Finally, the result of the study also revealed that there was moderate and positive significant relationship between

MAT 123, MAT 212 and EDU 124 in 2005/2006. This corroborates the finding of Ajogbeje (2008) which reported a moderate and positive relationship among the semester examination grades in MTH 111, MTH 112, MTH 122 and STA 111 for environmental technology students.

CONCLUSION

The finding of study revealed that, MAT 123 and MAT 212 have low and positive significant relationships with ATP grades in both sessions and with positive predictive strength and highest contributions to ATP, at $P < 0.05$ as against EDU 124, These implied that mathematics lecturers must improve on the teaching of MAT 123 and MAT 212 so that high and positive relationship could be recorded with ATP while the lecturers teaching EDU 124 should review and evaluate their method of teaching the course and adopt a better approach or a combination of approaches so that, positive contribution could be made by the course to the student performance in teaching practice at college level.

REFERENCES

- Adaval, S. B.** (1952). An investigation into the qualities of teachers under training, Unpublished Ph. D. Thesis, Allahabad University
- Ajogbeje, O. J.** (2008). Relative contribution of entry qualifications and semester grades ascorrelates of academic achievement in mathematics among environmental studies students. *Ikere Journal of the Science Teachers*, 2(2), 25 - 29.
- Akenroye, S. O.** (1976). Choice of teaching as a career, *Journal of Science Teacher's Association of Nigeria*, 14(2), 31 - 33.
- Fashin, K.** (1996). *Are great Teachers born or made?* in D. M. Emerson and K. M. Plank (eds.) *The Penn - State Teacher* (A collection of readings and practical advice for beginning teachers), Pennsylvania State University.
- Kolawole, E. B.** (1996). Factors influencing the performance of student teacher in mathematics in a Nigeria tertiary institutions, *Journal of Educational Research and Evaluation*, 2, 237 - 247
- Nwadiani, M.** (1999). Private Cost of Teaching Practice Programme in Nigeria Universities. *Nigeria Journal of Professional Studies Education*, 7, 85 - 91.
- Ohanado, E. E.** (1994): Criteria for selection of teachers in Nigeria: A Re - appraisal, *Bi - Annual Multi - Diisciplinary Journal of Education*, I, 151 - 159
- Okon, E. E. and Ibanga, J.** (1982); *Handbook on teacher preparation and classroom teaching*, Calabar: Paico Press & Books Ltd.
- Okujaga, T. N. and Osah - Ogulu, D. J.** (2002). *Meaning and purpose of teaching practice* in Feoniyi Dieye and V. A. Asuru (eds.) *Readings in Teaching Practice*, Port Harcourt: Chida Press (Nig.).
- Orebanjo, M. A.** (1982). *Aids to Teaching Practice*. Ijebu - Ode: Natona Press [Publishers].