

INSTRUCTIONAL SKILLS ACQUIRED GRADUATES DURING TEACHING PROGRAMME AND ACHIEVEMENT MILLENNIUM DEVELOPMENT GOALS

BY

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ABSTRACT

The realization of the Millennium Development Goals (MDGs) can be attained faster by fortification of literacy at the grass root education system in the country - the Primary education. NCE teachers are trained in order to acquire the skills necessary for the achievement of objectives of primary education vis-a-vis the Millennium Development Goals. This paper studied the achievement of students in teaching practice. It specifically compared the teaching practice achievement scores of students in various departments to find out if subject specialization has effect on student's acquisition of teaching practice skills. The teaching practice results of the final year students in the different schools and departments in the Federal College of Education (Technical), Umuze for the years 2004 - 2008 were collated and analyzed. The Duncan text analysis shows that there is significant difference in the mean achievement of students in some departments of the college in teaching practice at 0.05 significant levels. The reasons for the disparity were sought and strategies for improvement were adduced which includes stress on the importance of good knowledge of education and methodology courses to students before, during and after the teaching practice programme for achievement of Millennium Development Goals.

BACKGROUND

The Millennium Development Goals (MDGs) are set of eight goals together with a plan of action specifying a number of targets and performance indicators since September 2000, after the world leaders agreed on a vision for the future with the passage of the Millennium Declaration at the Millennium summit. Millennium Development Goals (MDGs) have become the international reference standard for measuring and tracking improvements in human condition in developing countries.

The MDGs include targets on issues such as poverty, hunger, primary education, gender equality, child and material mortality, HN / AIDS, malaria, tuberculosis and other major diseases as well as access to essential medicines. In addition, the goals stress sustainable development, safe water, upgrading slums, open and rule-based trading systems and technology transfer. The goals are to be achieved not later than 2015.

Specifically, the goals include

1. Eradication of extreme poverty and hunger
2. Achievement of universal primary education
3. Promotion of gender equality and empowerment of women
4. Reduction of child mortality
5. Improvement of material health
6. Combat HIV / AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

It is the contention here that if adequate instructional skills are acquired by students, the second objective of the Millennium Development Goals will be achieved and in the long run, most of the goals of the Millennium Development policy objectives will equally be achieved. This is so because, that the achievement of Universal Basic Education is the foundation of other goals. Hence, the acquisition of adequate instructional skills will lead to the production of competent teachers with requisite skills necessary for the achievement of national and global goals. In contention, Ekhuere (2007) observed that achieving the MDGs target on primary education would be the key to achieving the other MDGs in a sustainable way, if primary education imparts knowledge and skills that are requisite in a modern society. This would reduce poverty, foster gender equity, create HIV/AIDS awareness, improve maternal health, and promote a culture of respect for the environment and its sustainability. This is imperative because a good quality primary education activates the latent potentials of children by equipping them with basic literacy, numeracy and problem solving skills.

In pursuance of the above objectives of primary education, UNESCO (2004) suggests that one of the strategies for achieving this is by observation of the core human right obligations in education which include among others; obligation to set minimum standards for education, including the medium of instruction, contents and methods of teaching, and to ensure their observance in all educational institutions.

The degree of preparedness of pre-service teachers towards the achievement of the Millennium Development Goals is ascertained during teaching practice. Teaching practice is therefore, the period when a student-teacher is seen as being in apprenticeship or internship in teaching profession. The student teacher is exposed to actual classroom' experience under the guidance of professional teachers. Teaching practice is therefore, a time a pre-service teacher is assigned to a school in a controlled learning environment in order to practice teaching for improved professional competence and supervised by experienced teachers as part of the higher institutions, programme. Hence, Okorie (1999) sees teaching practice as a period a student teacher learns about actual work of the teacher in the classroom as well as in out of class experience.

Teaching practice students' model practices of teaching as teaching can be learnt more effectively through modeling. Modeling of practices according to Moran (1990) can aid pre-serve teachers understand their own practices. Teaching skills and competence in teaching are therefore acquired through training and solidified during teaching practice. Acquisition of teaching skills involves not only training but also the pedagogy in education and practice. Therefore, teaching practice is the modeling of effective teaching skills under the auspices of formal education. It is the exhibition of accompanied skills in teacher education.

The Microsoft Encarta Premium Dictionary (2009) defines a skill as the ability to do something well; usually gained through training or experience. Equally, skill according to Kayode (2009) is expertise of ability developed in the course of training and experience. It is equally an ability of a trainee or trainer to produce an outcome that meets or exceeds accepted standards. Skills are sub-divided into soft and hard skills. Soft skills are set of competences that are prerequisites to the achievement of organizational goals such as creativity, self confidence, communication, classroom management and the likes while hard skills are technical abilities required to do the job such as possession of good knowledge of the subject matter and pedagogy. However, both types of skills are complimentary and inseparable. Teaching skills are therefore, all the skills necessary for the achievement of the objectives of education. The main objective of teaching practice is to enhance the competence of pre-service teachers.

Teaching practice plays a vital role in the achievement of all the Millennium Development Goals because the acquisition of instructional skills by pre-service teachers

will invariably lead to the production of skilled populace. Therefore, attention need to be paid to teaching practice performances of students because' the pre-service teachers are the instruments towards the production of a new generation of young Africans, free, educated, and technologically literate future scientists who can push the edges of knowledge, the business leaders who can transform knowledge into goods and services demanded by internal and global markets. It will equally enhance the production of government officials who create a fertile policy environment for both discovery and innovation.

Pre-service teachers enter professional experience programmes to develop their knowledge, skills and self-efficacy for teaching. In line with this, Hudson (2006) observed that pre-service teachers need considerable scaffolding to enable the transition from learner to teacher. The assessment system for pre-service teachers according to Ryan and Kuhs (1993) must meet certain educational, ethical, and technical requirements to adequately serve the important functions for which it is intended. The totality of all these are embedded in skills acquisition and this is the parameter for measuring an effective teacher. The essence of comparing the teaching practice achievement results is to assess the efficacy of the teaching practice supervision for comparability of standards and provision of quality control; since both soft and hard skills are assessed during teaching practice. Many things are involved during teacher preparation. These include knowledge of subject matter, teaching methods and skills, learning activities and learning environment which are acquired in education and methodology courses in the various departments.

This study therefore, seeks to find out the extent to which pre-services teachers possess the requisite sets of competence and technical abilities in instructional skills required for achievement of the Millennium Development Goals.

OBJECTIVE

The National Policy on Education (NPE, 2004) provides that the minimum teaching qualification is the NCE. The NCE graduates are being prepared for the achievement of the second goal' of Millennium Development. Any skill developed in the NCE graduates translates directly to the achievement of the second Millennium Development Goals. This study looks at the teaching practice skills of NCE graduates in Federal College of Education (Technical), Umuze. Hence, this study aim to be an eye opener to both lecturers and students by giving them the opportunity to learn from their experience on

the job by improving the effectiveness and efficiency of services being provided during teacher preparation.

In specific terms, this paper:

- ❖ Compared the teaching practice achievement of students in all the departments in the schools - Agricultural Education, Business Education, Fine and Applied Arts Education, Primary Education Studies, Industrial Technical Education, Biology Education, Physics Education, Chemistry Education, Mathematics Education, Home Economics Education, Secretarial Education.
- ❖ Compared the teaching practice achievement scores of students in all the departments in the college with that of students in the core science departments (Biology Education, Physics Education, Chemistry Education and Mathematics Education).

The essence is to make sure that the science students acquire the requisite teaching skills for the achievement of the Millennium Development Goals (MDGs).

RESEARCH QUESTIONS

1. To what extent does the mean achievement scores of students in teaching practices in each of the departments differ from the norm (interval of 50).
2. To what extent does the mean achievement scores of students in the core science departments in teaching practices differ from the mean achievement scores of students in other departments.

HYPOTHESES

H₀₁: The mean achievement scores of students in teaching practice in the eleven departments do not differ significantly.

H₀₂: The mean achievement scores of science students do not differ significantly from the mean achievement scores of students in other departments in teaching practice.

METHODOLOGY

This study was carried out in Federal College of Education (Technical), Umuze in Orumba South Local Government Area of Anambra State. The population is made up of all the final year students in the school between 2004 and 2008.

Purposively, there were eleven departments with one thousand, seven hundred and forty (1,740) students distributed in departments as shown: Fine & Applied Arts Education (67), Agricultural Education (198), Accounting Education (627), Secretarial Education (155), Biology Education (248), Chemistry Education (45), Mathematics Education (91), Physics Education (51), Industrial Technical Education (108), Home Economics Education (127), and Primary Education Studies (23). The teaching practice results of all the students in the different departments in the college from 2004 - 2008 were collated and analyzed using ANOVA and Duncan test of Homogeneous Subsets. Therefore, any score below the midpoint of fifty will be considered as not have performed well. ANOVA is used in running the test because, the groups do not differ significantly among themselves from the Levene Test carried out ($p > 0.05$).

Table 1: Mean Achievement scores of Students in Teaching Practice

	N	Mean X	Std. Deviation	Std. Error	Difference from norm
Fine & Applied Arts Education	67	60.9701	4.011123	49006	10.9701
Agricultural Education Dept	198	62.6667	4.40666	0.31319	12.6667
Accounting Edu. Dept.	627	62.445	4.38354	0.17506	12.4450
Secretarial Education Dept.	155	62.0000	4.51117	0.36235	12.0000
Biology Education Dept.	248	63.2419	4.49087	0.28517	13.2419
Chemistry Education Dept.	45	64.556	3.92518	0.58513	14.9556
Mathematics Education Dept.	91	64.0659	4.31226	0.45205	14.0659
Physics Education Dept.	51	64.1961	3.97502	0.55661	14.1961
Industrial Tech. Education School	108	62.6019	4.32973	0.41663	12.6019
Home Economics Education Dept.	127	62.0394	4.24339	0.37654	12.0394
Primary Education Studies Dept.	23	65.0870	3.98763	0.83148	15.0870
TOTAL (means)	1740	62.7034	4.41448	0.10583	12.7034

From the result in table 1, the mean score difference shows that all the students in the departments in the college scored positively above the norm. However, the students in the departments of Primary Education Studies in the school of education with the mean achievement score of 65.0870 and a score of 15.070 difference above the norm performed better than students in all other departments. Next are the mean scores of the students in departments in the school of sciences; Chemistry Education (64.9556), Physics Education (64.1961), Mathematics Education (64.0659), and Biology Education (63.2419). The mean scores of students in Fine and Applied Education (60.9701) is the lowest to all other departments

Table 11: Test of Homogeneity of Variance

Level statistic	df 1	df 2	Sig
.275	10	1729	.987

The result in table 11 shows that all the students in the departments are homogeneous in their mean teaching practice achievement scores. The observed difference in mean scores is as a result of their performance in teaching practice. Therefore, there was a significant effect of teaching practice on skills acquisition on $F(2, 12), P > 0.05$.

Table III: ANOVA of Teaching Achievement Scores

	Sum of Squares	Df	Mean Square	F	Sig
Between Groups	1090.64	10	109.064	5.749	.000
Within Groups	32798.339	1729	18.97		
Total	33888.979	1739			

The result in table 111 shows that there is a significant difference in the mean achievement scores of students in teaching practices in the 11 departments $F(2,10) = 5.75$. This indicates that some departments acquired the teaching practice skills more than others. The null hypothesis of no difference cannot be accepted as seen in table IV below

Table IV: Duncan Post Hoc Test of Homogeneous Subsets in Students Teaching Practice Achievement Scores.

School or Department	N	Subject for alpha = 0.05				
		1	2	3	4	5
Fine & Applied Arts	67	60.9701				
Secretarial Education	155	62.0000	62.0000			
Home Economics	127	62.0394	62.0394			
Accounting Education	627	62.4450	62.445			
Industrial Technology	108		62.6019	62.6019		
Agricultural Education	198		62.6667	62.66667		
Biology Education	248		63.2419	63.2419	63.2419	
Mathematics Education	91			64.0659	64.0659	64.0659
Physics Education	51				64.1961	64.1961
Chemistry Education	45					64.9556
Primary Education	23					65.0870
Sig		0.56	0.128	0.058	.206	.193

The multiple comparison test table IV showed the mean achievement scores of students in all departments. It shows the department that are homogeneous and those that differ among themselves at different significant levels. The department of Fine and Applied Arts Education, Secretarial Education, Home Economics Education and Accounting Education do not differ significantly among themselves. The F-ratio for these departments was 0.56. the departments of Secretarial Education, Home Economics Education, Accounting Education, Industrial Technical Education, Agricultural Education and Biology Education did not differ significantly among themselves in their teaching practice skills acquisition; the F-ratio being 0.128. The students in the departments of Industrial Technical Education, Agricultural Education, Biology Education and Mathematics Education did not differ significantly among themselves. The F-ratio is 0.206. Lastly, the students in the departments of Mathematics Education, Physics Education, Chemistry Education, and Primary Education do not differ significantly among themselves in the teaching practice skills; the F-ratio being 0.193. The departments outside of these homogeneous sets accounted for the significance reported in the ANOVA table.

Table V: The mean achievement scores of science students in teaching practice an students in other departments

	Science and other subjects	N	Mean	Std. Deviation	Std. Error Mean
SCORES	Other subjects	1305	62.3701	4.3819	.1213
	Sciences	435	63.7034	4.3654	.2093

The result in table V shows the mean achievement scores of the students in the two groups-sciences (63.7034) and other departments (62.3701). The mean achievements scores of students in sciences is higher than the mean achievements scores of students in all other departments.

Table VI: Independent Sample Test

		Levene's test for equality of variances			t-test for equality of Means			
						Sig (2-tailed)	Mean Difference	Std. Error Difference
		F	Sig.	t	df			
Scores	Equal Variances							
	Assumed	.471	.493	-5.501	1738	.000	-1.3333	.2424
	Equal Variances			-5.512	746.452	.000	-1.3333	.2419
	Not assumed							

The result in table VI shows that there is a significant difference between the students in the departments of core science education courses and other departments in the college ($t(1738) = 0.000$). This shows that students in the school of sciences perform better than other students in other departments.

DISCUSSIONS AND CONCLUSION

The findings of the study show that:

1. All the departments scored above the norm, confirming that the trained NCE teachers have all that it takes to achieve the Millennium Development Goals if supported by the government and other non- governmental organizations.
2. There is significant difference in the mean achievement scores of students in teaching practice between the departments.

3. The students in the departments in schools of sciences achieved significantly higher than other students in other departments (except the department of primary education studies which is in the school of education). This is an indicator that science teachers produced are ready for the achievement of the objectives of science and technology education.
4. The performance of Fine & Applied Arts students was lowest comparatively. This shows that they give little or no time to education and methodology courses. Teaching is described as an inevitable asset to the society and a social service profession where serving others forms an important part of the job. There are discrepancies in performance of the students in teaching practice despite the fact that assessment schedule or format is uniformly designed for all the different schools and departments in the college. The teaching practice supervisors are equally uniformly assigned by the college to avoid subjectivity in scoring. This is confirmed by the text of homogeneity.

Therefore, the difference in performance could be attributed to attitudes and approaches of the students and lecturers to the educational and methodology courses that are offered in their respective departments and schools. Every hand must therefore be on deck if the Millennium Development Goals (MDGs) must be achieved within the proposed period.

RECOMMENDATIONS

1. All the departments should urge their students and lecturers to pay more attention to educational and methodology courses.
2. The methodology courses should be taught in year two so that the knowledge and skills will still be fresh in the students' memories before teaching practice.
3. The teachers produced are well prepared for the achievement of Universal Basic Education. The government should therefore, support them and continue from where the teacher educators stopped.

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