# IMPACT OF VIDEO -ANALYSIS ON TEACHING PRACTICE PERFORMANCE AMONG COLLEGES OF EDUCATION STUDENTS IN NORTH -WEST ZONE, NIGERIA.

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## ABSTRACT
This study investigated the Impact of Video Analysis on Teaching Practice Performance among Colleges of Education Students in North -West Zone Nigeria. Pre-test, Post-test Experimental Control Group research design was used in this study. The population of the study consists of 1770 National Certificate of Education II (NCE) Chemistry Students from 8 Colleges of Education, a sample of 105 N.C.E II Chemistry Students were drawn from the population using simple random sampling technique and were categorized into Experimental and Control groups. Teaching Practice Performance Assessment Sheet (TPASS) with a reliability coefficient of 0.79 determined using Pearson Moment Coefficient of Correlation (PPMC) was the instrument used for data collection. One research question and one research hypothesis were raised to guide the study and analyzed using Mean and independent t- test. Findings from the study revealed that Pre-service Chemistry teachers' in the Experimental group exposed to Video- self, and peer -analysis performed better than their counterparts in the Control group who were not exposed to video self and peer analysis. Based on the findings of the study, it was concluded that Video -self, and peer-analysis of Teaching enabled Pre-service Chemistry teachers perform better in their teaching practice. Based on the findings of the study it was recommended that Video should be used as a tool for observation and feedback during teaching practice exercise in Teacher Education programmes at all levels among others.

**Keywords:** Teacher Education, Teaching Practice and Video Analysis.

## INTRODUCTION
Quality teachers are very important to the success of any educational system and to a greater extent of the success of any nation. Aina, (2014) opines that the quality of any educational system depends on the quality of teacher qualifications and competency. Teacher quality is said to be an important factor in determining students achievement even after considering their prior knowledge, peer group influence and family background and character. Riley, (2009) differentiates between teacher quality, which he described as what teachers "do" and teaching quality which he considered as what students "learn". Churchill, Ferguson, Godinho, Johnson, Keddie, Lett, (2011) were of the view that teachers quality incorporates teachers identity together with knowledge and skills in pedagogy, content and theory. They were of the view that teaching quality depends upon the ability to personalize learning, nurture a supportive classroom and implement a relevant curriculum and constant monitoring and evaluating the performance of their students and this could be achieved through Teacher Education Programme.

For any educational system to be considered as been effective the educational attainment of the teachers needs to be considered because it is said that no system of education can be qualitatively higher than the quality and commitment of its teachers. Teaching and learning depend greatly on the quality of teachers for there can be no meaningful socio-economic and political development in any country without teachers, the educational planners may have the best educational policies and designs, the government may budget the largest sum of its revenue to education, but the ultimate realization of any set of aims for education depends on the teachers (Aina, 2014). It is the teacher who will ultimately be responsible for translating policy into action and principles into practice in their interactions with their students. Unfortunately, result from teacher trainers such as Sunusi, (2009) Akinmusuru, (2009) and Okebukola, (2007) shows that student teachers goes to the classroom with minimum or zero Practical Skills. Also, Okebukola, (2007) was of the view that most graduates from Colleges of Education in Nigeria are incompetent in knowledge of subject matter (content knowledge), in teaching methods and teaching skill. He was of the view that the subjects offered at teacher training institutes are more of theories rather than practical. The teaching of skills acquisition towards micro teaching are generally poorly handled there by making teaching practice ineffective. The findings of Okebukola, (2007) outlined the following weakness in colleges of education graduates as follows;

1. Shallow subject matter knowledge
2. Inadequate teaching skills
3. Inability to acquire practical skills
4. Lack of commitment to teaching as a profession

Therefore, there is a need for professional development of teachers which can be done through Teaching Practice (Ogunyinka, Okeke & Adedoyin, 2015).

According to (Odia & Omofonmwan, 2012 ) teacher education refers to professional education of teachers towards attainment of attitudes, skills and knowledge considered desirable so as to make them efficient and effective in their work, in accordance with the need of a given society at any point in time. It includes training and or education acquired before commencement of service (pre-service) and during service (in-service or on-the-job). Adewuyi and Ogunwuyi, (2002) opines that teacher education is the provision of professional education and specialized training within a specified period for the preparation of individuals who intends to develop and nurture the young ones into responsible and productive citizens. Teacher education is the teaching and training experiences provided not only within teacher institutions but also outside them with the basic aim of preparing and grooming potential teachers for teaching activities.

Anho, (2011) was of the view that teacher education is the process which nurtures prospective teachers and updates qualified teachers knowledge and skills in the form of continuous professional development. Teacher education involve policies and procedures designed to equip prospective teachers with the knowledge, attitude, behaviour and skills required to perform their duties affectively in the classrooms, and in other social gatherings including religion institutions.

## OBJECTIVES OF TEACHER EDUCATION IN NIGERIA

The National Teacher Education Policy, (2009) states that the goals and objectives of teacher education in Nigeria is to produce quality, highly skilled, knowledgeable and creative teachers based on explicit performance standards through pre-service and in-service programs who are

able to raise a generation of students who can compete globally through teaching. Day (2004) and Pollard (2005) view teaching as a complex cognitive skill acquired to conduct and construct a lesson. Aina, (2014) opines that teacher education is a vital tool towards educational development. This is the reason why there is a clear objective for it in National Policy on Education (FRN, 2014) which is:

1. to produce highly motivated, conscientious and efficient classroom teachers for all levels of our education system;
2. to encourage further, the spirit of enquiry and creativity in teachers;
3. to help teachers to fit into the social life of the community and society at large and to enhance their commitment to national objectives;

Teacher education refers to professional training given to teachers to enable them develop positive attitudes, acquire skills and knowledge essential to make them effective practicing teachers to meet up with the need of the society. It involves the training/education teachers undergo before practicing as teachers (pre-service) and education/training teachers undergo when practicing as teachers (in-service or on-the-job) (Osuji, 2009). According to UNESCO (2005) teacher education looks into environmental, social, political, cultural and economic contexts of the society to create locally relevant appropriate teacher education Programme for both pre-service and in-service teachers. Ogunyinka, Kayode and Adedoyin (2015) view teacher education as a process whereby individuals are provided with professional and standardized skills within a specific period of time in other to prepare them to develop and nurture the young ones into responsible and productive citizens. It can be seen as professional education, training and lifelong development of teachers which usually comprises of pre-service courses, work combined with supervised teaching practice, formal in-service courses and career long self-development of practicing teachers.

Teaching practice is a form of work-integrated learning that is described as a period of time when students are working in the relevant industry to receive specific in-service training in order to apply theory in practice. According to NCCE (2020) teaching practice exercises serve as an avenue where student teacher showcase and develop the acquired experience upon the use of teaching skills. It is a crucial aspect of teacher education where pre-service teachers are faced with real classroom situation. It provides pre-service teachers with an opportunity for the acquisition of necessary professional skills through practical experience to prepare them for an effective professional practice after graduation and regarded as an integral part of Teacher Education Programme in Colleges of Education which is aimed at providing student teachers with the opportunities of putting theories acquired during classroom interaction in to practice in a real life school situation.

Teaching practice is recognised as a vital instrument towards preparing pre-service teachers to face the challenges attached to teaching profession. It is a major component of a teacher education Programme (Adeleke, 2011) which main purpose is to produce effective practicing teachers (Kalande, 2006). The NCE Minimum Standard (2020) states that to ensure effective teaching practice exercise, all the NCE awarding institutions should ensure that teachers design and coordinate a comprehensive teaching practice preparation programme for student teachers. Such a preparation programme should present pre-service teachers with a gradual building up of teaching practice preparation assignment which should require pre-service teachers to develop lesson plans, learning materials, and assessment tasks that could be use when they are in a school during teaching practice. In this way, pre-service teachers are

prepared through their various courses in consistent and effective manner for a teaching practice experience that adds value and allows pre-service teacher to develop and apply professional teaching skills.

The objective of teaching practice in Teacher Education Program according to NCCE, (2020) are: to enable student teachers develop positive attitude towards teaching profession, expose student teachers to real life classroom experiences under the supervision of professional teacher, provide a forum for student teacher to translate educational theories and principles in to practice, familiarize student teachers with school environment as their future work place, to provide student teachers with an opportunity to acquire professional skills competence, personal characteristics and experiences for full time teaching after graduation, to serve as a means of assessing the professional competence of student teachers, to enable student teachers to discover their strengths and weakness in teaching and look to consolidate the former and overcome the latter. The central goal of student teaching programs is to provide aspiring teachers challenging, relevant and rewarding field experiences to inculcate essential teaching skills and professional growth. Muset (2012) was of the opinion that Teaching Practice is an opportunity for aspiring teachers to understand the role and operation of how the business of schooling is done. This field of experience provides a challenging yet rewarding experience of working with students in actual classrooms and acquiring professional competence. It is believed that these experiences have the potential to enhance the teacher acquisition of professional competence.

However, Muijs, Reynolds, (2002) were of the view that acquired experiences will include among other things, their ability to assume the various responsibilities of the classroom teacher, plan and deliver instruction that meets the learning needs of all students regardless of their individual learning styles, developmental and cognitive levels, Organize and manage the classroom environment for maximum academic performance, manage classroom interactions and student's behaviour to create safe, conducive learning atmosphere for student academic success, work cooperatively and collaboratively with students, parents, and other members of school community for the benefit of students learning, exercise decision making in identifying and using age, content and grade level appropriate instructional strategies in lesson delivery, using appropriate assessment tools and methods to determine student learning, use reflective practice to evaluate effectiveness of meeting intended instructional objective create a classroom environment which fosters positive, effective communication among students, teachers, parents and other members of school community, demonstrate self-confidence and knowledge of content and importance of curriculum to students in everyday life, understand the role and operation of the School. Respect and work effectively with students of varying backgrounds and cultures.

Assume the various responsibilities of the classroom teacher, plan instruction and learning experiences which recognize the individual needs and differences of students, organize and manage the classroom environment to maximize learning, manage classroom interactions and student conduct to create a positive climate for learning, identify and use appropriate instructional techniques, methods, and resources, Evaluate learning to determine the extent to which instructional objectives are achieved by students, establish positive and effective communication with students, parents, colleagues, administrators and community members, accept and assume the responsibilities associated with being a competent professional and lifelong learner recognize and practice self-reflection for the purpose of personal professional growth.

Video can be regarded as an agent of reflection and construction of knowledge about teaching through production of records that draws attention to pre-identified set of skills, behaviour, and attitudes during teaching (Burwell,2010). Video Analysis is describe as a situation whereby students are video-taped in a teaching situation and then prompted to constructively analyse their performance (Sherin & Van ES, 2005). During teacher Education Programme, teacher educators can prompt the students to watch for specific elements when viewing their video which compels the students to look more deeply than they might otherwise have done.

Cornish and Jenkins (2012) argue that teachers who engage in regular critical reflection shape their own development and that this self-assessment is a key element in continual self-improvement and consequently, teacher quality. Teacher education students need to translate the relationships between the various events that occur in the classroom and this can be done using video. Kane and Picci, Calvani and Bonaiuti (2012) were of the view that the use of video provides effective solutions to problems pre-service teachers encounter during teaching practice by providing real and authentic situations of their learning process.
Using video to analyse learning within complex class room settings encourages deep analysis and higher order thinking on the part of pre-service teachers teaching practice. It allows teachers to peer into real classrooms which are the actual place where teaching takes place. Student teachers' has been reported to develop previous habits as well as apply new habits as a result of video enabled reflection, and this process enables them to draw attention to aspects that they would not have noted from their memory (Harlin, 2014). The video medium enables teachers to customize all learning experiences by providing images of classrooms practices that are most relevant (Beck, King and Marshall, 2012).

**OBJECTIVE OF THE STUDY**

The objective of the study is to assess the Impact of Video Analysis on Teaching Practice Performance among Colleges of Education Students in North -West Zoe Nigeria.

**RESEARCH QUESTION**

What is the difference between the Teaching Practice Performance of students exposed to Video self and peer Analysis of Teaching Procedure and those who were not exposed?

**RESEARCH HYPOTHESIS**

There is no significant difference between the Teaching Practice Performance of students exposed to Video self and peer Analysis of Teaching Procedure and those who were not exposed?

**METHODOLOGY**

The Research Design for this study is Pre-test-Post-test Experimental Control Group research design. Both Experimental and Control Groups were pretested ($O_1$) to determine their similarities in Teaching Practice Performance. Pre-service Teachers in the Experimental Group (EG) were treated using multiple interactive video activities ($X_1$) on their Practical skills when teaching a particular concept in Chemistry. Here the video was set up during each lesson, all lesson procedures were captured and recorded through digitized video. Teaching process were analysed by observation, analysis were discussed and presented to the students.

Questions were asked and strategies for improvement were discussed.
Pre-service Teachers in the Control Group (CG) were analysed using peer and self-analysis ($X_0$) without Video. Posttest $O_2$ was administered to the two groups to determine the effect of Video analysis on students' Teaching Practice Performance. The research design illustration of the study is represented in Figure 3.1

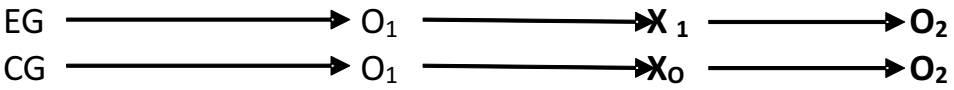


**Fig 3.1: Research Design**
Key: EG = Experimental Group (Video analysis strategy); CG = Control Group; $O^1$ = Pretest; $X^1$ = Treatment; $X^1$ = No Treatment; $O^2$ = Posttest

The population of the study comprises all NCE II 2018/2019 Chemistry students in 8- Federal Colleges of Education in North-west Zone Nigeria. 2770, N.C.E II Chemistry Students are enrolled in the 8 Federal Colleges of Education. The sample of the study covered a total number of 105 NCE students from two Colleges of Education in North-West Nigeria. 80 students from Federal College of Education Zaria, Kaduna State and 25 students from Federal College of Education Kano State. This was done using Simple Random Sampling Technique. The choice of 105 students as a sample size is in line with central limit theorem which recommended that 30 sample size is viable for an experimental research and the study is experimental (Tuckman, 1975 and Fraenkel & Wallen ,2012 ).
Detail of the sample of this study is presented in Table 1.

**Table 1:** Sample for the Study

| Institution | Group | Male | Female | No. of Students | |
|---|---|---|---|---|---|
| FCE, Zaria | Experimental | 50 | 30 | 80 | |
| FCE, Kano | Control | 15 | 10 | 25 | |
| Total | | 65 | 40 | 105 | |

Teaching Practice Performance Assessment Sheet (TPPAS) with reliability coefficient of 0.79 determined using Pearson Moment Coefficient of Correlation (PPMC). The instruments were validated by three Professors from the Department of Science Education and two Senior Lecturers with PhD from the Department of Educational Psychology, Faculty of Education, Ahmadu Bello University, Zaria. They were presented with copies of TPASS for validation. The experts were requested to study the instrument and certify if the contents were considered to be testing based on the objectives of the study, certify if they are appropriate for the level of the students under study and examine whether the items are clear to avoid ambiguity. The form is of two sections (Section A and B). Section A contains information about the students' teacher and Cooperating Teaching Practice School, Section B contains teaching skills to be observed and there scores.

**DATA ANALYSIS**
The research question was answered using Mean differences and Standard Deviation of scores in Performance of Pre-service Chemistry Students in Experimental and Control Groups while the hypothesis was analysed using t- test. Result is presented in Table 2 and 3.

**RESULT**

**Table 2:** Mean and Standard Deviation Scores of Pre-service Chemistry Teachers in the Experimental and Control Groups

| Variable | Study groups | N | Mean | STD | Mean Difference | Remark |
|---|---|---|---|---|---|---|
| | Experimental Group | 80 | 68.50 | 3.91 | | |
| Performance | | | | | 33.03 | Difference exists |
| | Control Group | 25 | 35.46 | 9.24 | | |

**Result in Table 2** shows that Pre-service Chemistry Teachers in Experimental Groups had a Mean Score of 68.50 and Standard Deviation of 3.91 While those in the Control Group had a mean score of 35.46 and standard Deviation of 9.24. This shows that Pre-service Chemistry Teachers in the Experimental Group who were exposed to Video self and peer analysis had higher Mean scores when compared to their counterparts in the Control Group who were not exposed.

**Table 3** Independent t test Statistic Result on Performance of Pre-service Chemistry Teachers in the Experimental and Control Groups

| Variable | Study Groups | N | Mean | STD | Mean Diff. | df | t computed | t critical | p value | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| | Experimental | 80 | 68.50 | 3.91 | | | | | | |
| Performance | | | | | 33.03 | 103 | 23.08 | 1.96 | 0.00 | Sig. |
| | Control | 25 | 35.46 | 9.24 | | | | | | |

***p value < 0.05, Computed t > critical t at df 103***

In Table 3 the Independent t test statistics shows that significant difference exist between Performance of Pre-Service Chemistry Teachers in Colleges of Education exposed to Video self and peer- analysis of teaching procedure and those who are not exposed. This is because the p value of 0.000 is lower than the 0.05 alpha level of significance set for the study. Pre-service Chemistry Teachers in the Experimental Group had a Mean value of 68.50 and those in the Control Group had a mean value of 35.46 with a mean difference of 33.03 in favour of those exposed to video self and peer- analysis of teaching procedure. This showed that the video self and peer- analysis of teaching procedure has positive effect on the pre service teachers Performance in teaching Practice. Therefore the null Hypothesis which state that there is no significant difference between the performance of Pre-service Chemistry Teachers in Colleges of Education exposed to Video self and peer- analysis of teaching procedure and those that are not exposed, is hereby rejected.

**DISCUSSION**

Result in Table 3 shows that a significant difference exists between the performance in Teaching Practice of Pre-service Chemistry Teachers exposed to video self and peer analysis and those who were not exposed in favour of Pre-service Chemistry Teachers who were exposed to Video Self and peer analysis of Teaching. This shows that the use of Video self and peer analysis in observing Pre-service Chemistry teachers' Teaching Procedures enabled pre-service teachers to perform better in their teaching Practice. This result is supported by Harlin (2014) who opines that the use of Video Analysis allows teachers to peer into real classrooms which are the actual place where teaching takes place. Student teachers have been reported to develop previous habits as well as apply new habits as a result of video enabled reflection, and this process enables them to draw attention to aspects that they would not have noted from their memory.

Cornish and Jenkins (2012) argue that teachers who engage in regular critical reflection shape their own development and that this self-assessment is a key element in continual self-improvement and consequently, teacher quality.. Kane and Picci, Calvani and Bonaiuti (2012) were of the view that the use of video provides effective solutions to problems pre-service teachers encounter during teaching practice by providing real and authentic situations of their learning process. Using video to analyse learning within complex class room settings encourages deep analysis and higher order thinking on the part of pre-service teachers teaching practice. It allows teachers to peer into real classrooms which are the actual place where teaching takes place. Student teachers' has been reported to develop previous habits as well as apply new habits as a result of video enabled reflection, and this process enables them to draw attention to aspects that they would not have noted from their memory (Harlin, 2014). The video medium enables teachers to customize all learning experiences by providing images of classrooms practices that are most relevant (Beck, King and Marshall, 2012).

**CONCLUSION**

The findings of this study revealed that Pre-service Chemistry Teachers who were exposed to Video self and Peer analysis of their teaching procedure performed better during Teaching Practice when compared to their counterparts who were not exposed to Video self and peer analysis.

**RECOMMENDATIONS**

Based on the findings and discussion, the following recommendations are made:

1. Video should be used as a tool for observation and feedback during teaching practice exercise in Teacher Education programmes at all levels.

2. Colleges of Education Tutors should adopt the use of Video analysis during Teaching Practice to enable pre-service teachers draw attention to aspects that they would not have noted from their memory.

**REFERENCES**

Adeleke, I.A (2011) "Sustainable Roles of ICT in Transforming the Nigerian Educational Sector in the 21st Century: In New Trends in Linguistics & Literacy Studies, Lagos.Adewuyi, J.O & Ogunwuyi, A.O (2012). Basic text on teacher education. Oyo: Odummat `press and publishers.

Aina, J.K (2014). Pre-service science teacher's training: The case of colleges of education in Nigeria. Open Access Library Journal, 2(3), 10-70. http:1/doc.doi.org/10-4236/0alib.1101070.

Akinmusuru J.O (2009) The curriculum as a living document for achieving educational for sustainable development. In: Proceeding of the 12th general conference on sustainable Development in Africa: The Role of Higher Education, Abuja Nigeria 4-9 May

Anho, R.O (2001). The role of educational administration in Nigeria secondary schools. African journal of education and technology, 1(1), 39-44.

Beck, R. J., King, A., & Marshall, S. K. (2012). Effects of video case construction on pre-service teachers' observations of teaching. The Journal of Experimental Education, 70(4), 345-361.

Churchill, R., Ferguson, P., Godinho, S., Johnson, N.F., Keddie, A., Lett, W. et al. (2011). Teaching: making a difference. John Wiley & Sons: Milton, Qld.

Day, C. & Polard, A. (2004). A Passion for Teaching. London: Routledge Falmer Federal Republic of Nigeria (2020). National Commission for Colleges of Education. Abuja: NERDC press.

Fraenkel, J., Wallen, N., & Hyun, (2012). How to design and evaluate research in education. New York, NY: McGraw-Hill.

Harlin, E.M. (2014). Watching oneself teaching – long-term effect of teachers' reflections on their video recorded teaching. Technology pedagogy and education, 23(4), 507-521.

Mtika, P. D. G. (2008). Teaching practice as a component of teacher education in Malawi: An activity theory perspective. PhD thesis, University of Nottingham, United Kingdom.

Muijs, D. & Reynolds, D. (2002) 'School effectiveness and teacher effectiveness in mathematics: some preliminary findings from the evaluation of the Mathematics Enhancement Programme (Primary)'. School effectiveness and school improvement, 11:3, 273-303. Muijs, D. & Reynolds, D. (2004). Effective teaching: evidence and practice (2nd edn). London: Sage.

Odia, L.O. & Omofonmwan, S.I. (2007) Educational System in Nigeria Problems and Prospects. Journal of Social Science, 14, 81-86.

Ogunyinka, E.K., Okeke, T.T. & Adedoyin, R.C (2015). Teacher education and development in Nigeria: An analysis of reform, Challenges and prospects. Education Journal, 4(3),111-122.

Ogunyinka, E.K., Okeke, T.T. & Adedoyin, R.C (2015). Teacher education and development in Nigeria: An analysis of reform, Challenges and prospects. Education Journal, 4(3),111-122.

Okanlawon, A.E. (2014). Nigerian pre-service science teacher self-perceptions of acquired pedagogical knowledge and skills after teaching practice exposure. Bulgarian Journal of Science and Education Policy, 8(1),110-128.

Okebukola F. A (2007). Quality assurance in your education. Perspectives from sub-sahara African in Guni et al (Ed). State of the World Report on Quality Assurance in your education. Bacelona 46-59.

Osunji, S.N (2009). Teacher education curriculum in Nigeria in the perspective of life long education. Journal of International Social Research, 2(8), 295-301.

Riley, C. (2009). Teacher Quality Vs Teaching Quality Whats The Difference? Teachers Innovations, 8, 6:9.

Tuckman, B.W. (1975). Measuring Education Outcomes. Handout, Bace Hovawick, New York

UNESCO.(2005). Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability. Retrieved from unesdoc.unesco.org/images.