

EARLY CHILDHOOD TEACHERS' SUBJECT MATTER AND INNOVATIVE PEDAGOGICAL COMPETENCIES: TOOLS FOR FUNCTIONAL EDUCATION IN SELECTED PRIMARY SCHOOLS IN LAGOS, NIGERIA

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Abstract

Skills teachers take to class are predictors of pupils' academic performance. Primary education as the foundation and bedrock of other educational levels needs effective teachers grounded in rubrics of basic school learning. The study identifies early childhood teachers' subject matter and innovative pedagogical competencies: tools for functional education in selected primary schools in Lagos, Nigeria. The study adopted descriptive survey research. The population of the study comprised randomly selected one hundred and fifty teachers (150) from ten schools in Surulere and Mushin Local Government Areas of Lagos State. Two research questions were raised and answered. A fourteen-item questionnaire named TSMIPC was used to elicit information from teachers using a four-point rating scale. Results were analysed using descriptive-analytical tools. Results show that pupils perform better in class if taught by teachers with good innovative pedagogical paradigm and mastery of subject matter. Such teachers break down concepts during delivery; from known to unknown and from abstract concepts to real concepts while utilising ICTs gadgets, and adopt critical thinking skills among others. It was recommended among others for schools to encourage mentoring programmes among staff, collaborate with PTA and NGOs for workshops and seminars and provide gadgets for teachers' ICT training.

Key words: Early Childhood Teachers, Subject Matter, Innovative Pedagogical Competencies, Functional Education, Academic Performance

Introduction

Emergence of Corona Virus Disease-2019(COVID-19) has necessitated that mastery of subject matter and teachers' innovativeness is pivotal for any educational system to be functional and viable. Deficiencies in mastery of subject matter and redundancy in innovation in teachers' pedagogy would severe education especially in times like this. Innovativeness aligns with the 21st century trends where utilisation of Information and Communication Technologies (ICTs) is paramount. Besides, teachers are the major aids to effective learning outcomes; their mastery of subject matter and competence in their pedagogical paradigm can never be overemphasized.

Teachers' knowledge of the subject matter and delivery is fundamental to enhancing learning and closing the achievement gap among pupils. This is because quality education is one of the bases for any country's development. However, most teachers in our educational system still operate with their initial entry point qualification from their teacher education programmes which has not been improved upon since engagement and practice. Also, most teachers lack the confidence to carefully map out innovative learning strategies to effectively engage pupils and enhance their learning

outcomes. Beginner teachers must be mentored by more experienced teachers to avoid blunting the curriculum. Consequently, Akyeampong, Pryor, and Ampiah, (2006) assert that efficient pupils' learning and academic performance is hampered by weaknesses in teachers' pedagogical content knowledge and classroom practices.

Functional and viable education in schools is attributed to the academic performance of pupils which relies solely on ways teachers enhance learning. Therefore, The Federal Government of Nigeria (FRN), on National Policy on Education (2013) recognises that quality teachers are pivotal in the provision of quality education at all levels and as a result of this role, teacher education shall continue to be emphasised in educational planning and development. Teachers' Registration Council of Nigeria, (TRCN) (2004) is of the same view that there is no educational system that can be higher than the teachers.

Without quality teachers in class, attaining the objectives stipulated on primary education will not be achievable. The objectives among others include: to lay a sound basis for scientific, critical, and reflective thinking, to provide opportunities for the child to develop life manipulative skills that will enable the child to function effectively in the society within the limits of the child's capacity (FRN, 2013). In the same manner, Stavreva, (2013) opines that without teachers, teaching and learning cannot be effective. Teachers' skills are exhibited through their method of engaging pupils during instruction. Centre for Use of Research and Evidence in Education (CUREE), (2012) defines pedagogy as the teaching skills teachers use and the activities these skills generate in pupils' knowledge and skills in different subjects. Akpan (2002) postulates that pedagogical competency is the art of teaching the subject and observing principles such as teaching from known to unknown, from abstract to concrete, and from simple to complex among others.

Teaching and learning will not be effective without the teacher. In this vein, Rahaman, (2010), sees teachers as professionally trained and certificated to manage and control the instructional processes in the school. The researcher buttresses further that for teaching and learning activities to evolve; the teacher must prepare lesson plans, produce instructional materials, and adopt appropriate teaching strategies to achieve the instructional objectives. Aboderin, (2001) asserts that teaching is a profession and intending teachers must have mastery of the subject they specialize in.

To highlight more on the need for effective teachers, Akpan, Essien, and Obot, (2008) posit that one of the teachers' most important variables for their effectiveness is the mastery of the subject matter. In agreement, Rena (2000) asserts that good knowledge of the subject matter helps the teacher to teach learners appropriately. The resultant effects being the achievement of the set objectives by the teacher and the output would be to enhance learners' interest to continue in the learning process. The researcher adds that a high correlation exists between teachers' knowledge and what they teach. In support, Theall and Franklin (2001) assert that teaching and learning are in correlation and can be measured by the volume of pupils' learning outcomes. The researchers add that pupils who have learned well rate their teachers highly.

Besides, Rice (2003) postulates that teachers must have sufficient knowledge in their area of teaching. If such quality is lacking in the teacher, pupils will be aware and consequently would lack respect and confidence in the teacher and this leads to poor pupils' academic performance. Also, Adediwura and Tayo (2007) posit that effective teaching of a subject matter depends solely on the level of understanding and in-depth knowledge of the teacher. This proves that teachers are responsible for effective learning. More so, Darling-Hammond (2006), Noddings (2007) postulate that teachers' competencies entail subject matter understanding, teaching techniques, and learning styles as well as the process of applying effective teaching approaches to improve the process of knowledge acquisition and application resulting in the transformation of learners into new knowledgeable individuals.

Knowledge of subject matter is the teacher's tool for effective learning. In support, Esu(2001; Akintayo and Onabanjo (2008) assert that a teacher has so many characteristics but that which the teacher cannot do without is competence in the subject matter. In the same vein, Arshad (2007) asserts that competent teachers have in-depth knowledge of the subject matter, good in verbal and non-verbal

communication skills, completes work within a time frame, takes initiative and appropriate decisions, gets adjusted in every situation, believes in research, supportive attitude towards pupils, colleagues, parents, administrators among others. Esu (2001) opines that basic knowledge of the related subject matter is a condition for effective teaching. The researcher adds other knowledge the teacher should have to include resourcefulness, sound knowledge of the subject matter, professional commitment, and creative and sound knowledge of the underlying psychology of the subject matter.

One of the ways of improving pupils' performance is the provision of effective teachers (Scand 2012). In support, Hallinan (2011) posits that teachers are more effective and active in the classroom through their content knowledge, teaching experience, training, and certification. Also, Ometere (2012) opines that teachers are the most important factor that influences pupils' achievement. The researcher adds that the school environment has a strong positive relationship with pupils' ratings of their overall school satisfaction, pupils' esteem and academic performance and such competencies enhance teachers' ability to create a fair and understanding environment. Research carried by Agoro and Akorola (2013) reflects that students' constant poor performance at external examinations in the country is due to the poor quality of teachers.

Innovative teachers modify instruction to meet the learner's needs. Innovation is a hybrid of physical and E- learning. Rohtak (2019) defines innovation as the introduction of new trends, methods, techniques or practices. Pedagogical styles are reformed through the use of ICT in order to expand the access to quality educational system (World Bank, 2002). Ugbe&Agim(2009) define pedagogical competency as the skills and personality displayed by a teacher in the teaching process and approaches and utilisation of resources. Barry (2010) posits that pupils' learning can be improved through modifications in the instructional practices of teachers in the classroom. To support this further, TRCN (2002) stipulates that the best way of raising the standard of teachers is by constant in-service training to serving teachers, initiate, and encourage teachers to attend in-service training, seminars, and workshops. Also, to encourage and advise employers to sponsor teachers to in-service training, seminars, and workshops, and such teachers should be rewarded as they successfully and appropriately complete such training. However, most professional training teachers receive is oppression and tyranny. In support, Nassira, (2016) posit that the challenges today's teachers face in training are that professional development programmes usually take the style of a 'lecture'; where teachers will sit and a person will present 'something' through a computer or sits in front of them and talks, and such training is oppression. In this vein, Sheridan, Edwards, Marvin, and Knoche (2009) postulate that most professional training formats are too concise, lack a sustained relationship between the trainer and the trainee, and operate on a bigoted directional flow of information where trainers are considered expert sources of information while the trainees are the novice learners targeted to acquire skills and knowledge.

Some teachers leave the profession earlier than thought due to their incompetency and not prepared for challenges. In this vein, Hobson, Ashby, Malderez, and Tomlinson (2009) state that teachers who are not readily prepared for work challenges are not likely to stay long in the profession. Reasons for this untimely exit from the profession may likely be a lack of competence due to teachers' entry qualification, not trained in methodical approaches for primary schools, lack of teaching experience among others. Therefore, beginner teachers should regularly be mentored by more experienced teachers on job roles, challenges and expectations. Besides, Khan, and Mahmood (2010) are of the view that the teaching qualification of teachers has an impact on their competencies to meet and sustain the needs of the learners. A study carried out by Aina and Olanipekun (2015) on teachers' qualification and implications on pupils' academic achievement shows that there is a significant correlation between teachers' qualifications and pupils' academic achievement. The study looked at teachers' knowledge of the subject matter, pedagogical studies, duration of the training, certification/ licensing among others. Besides, Pamela (2005) asserts that quality and effective teachers not only make pupils feel good about school and learning but ensure increased pupils' achievement. The researcher adds other qualities that make up successful teachers as verbal ability,

content knowledge, pedagogical knowledge, and certification status, ability to use a range of teaching strategies skillfully and enthusiastically.

Teachers should have good instructional (teaching) skills. The Wing Institute Oakland, (2019) defines competencies as the skills and knowledge that enable a teacher to be successful. The researcher further grouped the competencies into four: Classroom management, Instructional delivery, Formative Assessment, and Personal Competencies (soft skills). Carril (2013) posits that competence refers to appropriate prior knowledge skills, attitudes, and abilities in a given context that adjusts and develops with time and needs to effectively and efficiently accomplish tasks that are measurable against a minimum standard. Besides, the researcher opines that competent teacher effectively and efficiently accomplishes a task (instructs) in a given context (in the classroom) using appropriate knowledge, skills attitudes, and abilities that have adjusted and developed with time and needs. In the same vein, Eggen and Kauchak (2001) classify teachers' knowledge into the knowledge of content, pedagogical content knowledge, and general pedagogical knowledge. Also, Curtin (2005) categorizes teachers' pedagogical competencies into the following: teaching methods, utilisation of instructional media, learner evaluation, and preparation and utilisation of instructional tools.

Teaching and pedagogical skills require different levels of competence. A teacher inculcates information and knowledge in the mind of a learner and so must be equipped with the pedagogical skills and techniques (Muhammed, Yasmen, Robina, and Arabia 2016). Chika (2012) opines that learning styles bring up to date teachers' pedagogical competencies and their skills to promote improved academic performance. Competencies are particular and self-apparent traits that teachers should possess (Sultan and Shafi, 2014). In affirmation, Hattie, (2009) posits that teachers must be open to experience, learn from errors, seek, and learn from feedback from pupils, and foster effort, clarity, and engagement in learning.

It is therefore on this premise that the study identifies Early childhood teachers' subject matter and innovative pedagogical competencies: tools for functional and viable education in selected primary schools in Lagos, Nigeria.

Statement of the problem

The emergence of COVID'19 has mandated teachers to be abreast with technological innovations to meeting up with the educational challenges requirements of the age. However, most teachers are not competent in such innovations and manipulations of ICTs gadgets. Teaching competence is very pivotal for a functional and viable education in Nigeria. This is because pupils' academic performance is enhanced by the input of competent teachers. Despite this, there are learning gaps which exists because most teachers are not grounded in the rubrics of the subject matter and methodical approaches in early learning classes while others are highly complacent to change. Besides, most teachers lack a good innovative pedagogical paradigm. They also have challenges in utilisation of age-appropriate diverse innovative instructional styles that meet diverse learner's needs. Most teachers do not regularly upgrade themselves personally and professionally to align with modification in education. Others are in practice with their initial teacher education obtained at the entry point. Besides, some teachers handle subjects outside their domain. Also, most teachers do not apply best classroom practices; where they carefully map out learning strategies to effectively engage pupils and enhance their learning outcomes. Due to the lack, the academic performance of pupils is truncated and set on edge.

Objective of the study

The study therefore identifies

1. The extent early childhood teachers' knowledge of subject matter enhances pupils' academic performance, and
2. The extent early childhood teachers' innovative pedagogical competencies enhance pupils' learning outcomes.

Research Questions

1. To what extent does early childhood teachers' knowledge of subject matter enhance pupils' academic performance?
2. In what ways do early childhood teachers' innovative pedagogical competencies enhance pupils' learning outcomes?

Methodology

The study adopted descriptive survey research with a total population of one hundred and fifty (150) primary school teachers. The objective of the study was to identify early childhood teachers' subject matter and innovative pedagogical competencies: tools for functional education in selected Primary schools in Lagos State. Ten schools were randomly selected; five schools each in the two Local Government Areas; Surulere and Mushin in Lagos State. Random sampling technique was adopted to sample the population. Instrument was validated by experts in Measurements and Evaluation and test-retest approach was adopted for reliability of the instrument. Fifteen (15) teachers were randomly selected from each school. Researchers' self-developed fourteen-item questionnaire titled Teachers' Subject Matter and Innovative Pedagogical Competencies (TSMIPC) was utilized to elicit information from teachers using a four-point rating scale. The data gathered were analysed using descriptive statistics which includes percentages, mean and standard deviation.

Research question 1: To what extent does Early Childhood teachers' knowledge of subject matter enhance pupils' academic performance?

Table 1: Identifying the Extent Early Childhood Teachers' Knowledge of Subject Matter Enhances Pupils' Academic Performance

S/N	ITEM S	SA	A	SD	D	Mean	Std.D
1.	Teachers with knowledge of subject matter prepare lesson plans, produce instructional materials, and adopt appropriate teaching strategies to achieve the instructional objectives	75 (50%)	56 (37.3%)	9(6%)	10(6.7%)	3.4	0.35
2.	Teachers with knowledge of subject matter adopt techniques that result in the transformation of learners into new knowledgeable individuals	87(58%)	46(30.7)	8 (5.3%)	9(6%)	3.4	0.39
3.	Teachers with knowledge of subject matter break down concepts during instruction to enhance learning	76(50.6%)	58(38.7%)	6(4%)	10(6.7%)	3.3	0.37
4.	Teachers with knowledge of subject matter make pupils feel good about school and ensure increased pupils' achievement	45(30%)	78(52%)	10(6.7%)	17(11.3%)	3.0	0.34
5.	Teachers with knowledge of subject matter have professional commitment and are creative during instruction	81(54%)	56(37.3%)	3(2%)	10(6.7%)	3.4	0.39
6.	Teachers with knowledge of subject matter are good in verbal and non-verbal communication skills, and completes work within a time frame	56(37.3%)	79(52.7%)	6(4%)	9(6%)	3.2	0.38
7.	Teachers with knowledge of subject matter adopt critical thinking with pupils while teaching	62(41.3%)	78(52%)	4(2.7%)	6(4%)	3.3	0.40
8.	Teachers with knowledge of subject matter take initiative and appropriate decisions and believe in research and supportive attitudes	101(67.3%)	46(30.7%)	2(1.3%)	1(0.7%)	3.6	0.50

Findings from the Results

Data gathered from table 1, items 1-8 show the extent Early Childhood teachers’ Knowledge of Subject Matter Enhances Pupils’ Academic Performance. Item 1 which states that teachers with knowledge of subject matter prepare lesson plans, produce instructional materials, and adopt appropriate teaching strategies to achieve the instructional objectives has a mean score of 3.4. Item 2 which states that teachers with knowledge of subject matter adopt techniques that results in the transformation of learners into new knowledgeable individuals has a mean score of 3.4 also. Item 3 which states that teachers with knowledge of subject matter break down concepts during instruction to enhance learning has a mean score of 3.3. Item 4 which states that teachers with knowledge of subject matter make pupils feel good about school and ensure increased pupils’ achievement has a mean score of 3.0. Also, Item 5 which states that teachers with knowledge of subject matter have professional commitment and are creative during instruction has a mean score of 3.4. Item 6 which states that teachers with knowledge of subject are good in verbal and non-verbal communication skills, and completes work within a time frame has a mean score of 3.2 while Item 7 which states that teachers with knowledge of subject matter adopt critical thinking with pupils while teaching has a mean score of 3.3. Item 8 which states that teachers with knowledge of subject matter take initiative and appropriate decisions and believe in research and supportive attitudes has a mean score of 3.6.

Research Question 2: In what ways do Early Childhood teachers’ innovative pedagogical competencies enhance pupils’ learning outcomes?

Table 2: Ways Early Childhood Teachers’ Innovative Pedagogical Competencies Enhance Pupils’ Learning Outcomes

S/N	ITEM S	SA	A	SD	D	Mean	Std.D
9.	Teachers with innovative pedagogical competencies modify instruction to meet the learner’s needs	57(38%)	88(58.7%)	2(1.3%)	3(2%)	3.3	0.45
10.	Teachers with innovative pedagogical competencies are reformed through the use of ICTs in order to expand the access to quality educational system	48(32%)	90(60%)	4(2.7%)	8(5.3%)	3.2	0.43
11.	Teachers with innovative pedagogical competencies are readily prepared for work challenges and stay long in the profession	51(34%)	89(59.3%)	3(2%)	7(4.7%)	3.2	0.43
12.	Teachers with innovative pedagogical competencies teach from known to unknown, from abstract to concrete, and from simple to complex	57(38%)	88(58.7%)	2(1.3%)	3(2%)	3.3	0.45
13.	Teachers with innovative pedagogical competencies adopt effective teaching approaches to improve the process of knowledge acquisition and application among pupils	48(32%)	90(60%)	4(2.7%)	8(5.3%)	3.2	0.43
14.	Teachers with innovative pedagogical competencies learn from errors, seek, and learn from feedback from pupils	89(59.4%)	50(33.3%)	4(2.6%)	7(4.7%)	3.5	0.42

Findings from the Results

Table 2, Items 9-14 which identifies ways Early Childhood teachers’ innovative pedagogical competencies enhance pupils’ learning outcomes has in item 9 that teachers with innovative pedagogical competencies modify instruction to meet the learner’s needs with a mean score of 3.3. Item 10 states that teachers with innovative pedagogical competencies are reformed through the use of ICTs in order to expand the access to quality educational system has a mean score of 3.2. Also, item

11, states that teachers with innovative pedagogical competencies are readily prepared for work challenges and stay long in the profession, has a mean score of 3.2. Item 12 states that teachers with innovative pedagogical competencies teach from known to unknown, from abstract to concrete, and from simple to complex has a mean score of 3.3. While item 13 which states that teachers with innovative pedagogical competencies adopt effective teaching approaches to improve the process of knowledge acquisition and application among pupils has a mean score of 3.2. Also, item 14 which states that teachers with innovative pedagogical competencies learn from errors, seek, and learn from feedback from pupils has a mean score of 3.5.

Discussion of findings

Data gathered from table 1; items 1-8 have high opinion affirmation from respondents that Early Childhood teachers' knowledge of subject matter enhances pupils' academic performance. Data gathered proves among others that teachers with knowledge of subject matter prepare lesson plans, produce instructional materials, and adopt appropriate teaching strategies to achieve the instructional objectives, adopt techniques that results in the transformation of learners into new knowledgeable individuals, and adopt critical thinking with pupils while teaching. The assertion is supported by Esu(2001; Akintayo and Onabanjo (2008) who state that a teacher has so many characteristics but that which the teacher cannot do without is competence in the subject matter. Also, Arshad (2007) asserts that competent teachers have in-depth knowledge of the subject matter, good in verbal and non-verbal communication skills, completes work within a time frame, takes initiative and appropriate decisions, gets adjusted in every situation, believes in research, supportive attitude towards pupils, colleagues, parents, administrators among others.

Data gathered from table 2; items 9-14 have high opinion responses that Early Childhood teachers' innovative pedagogical competencies enhance pupils' learning outcomes. Data gathered shows among others that teachers with innovative pedagogical competencies teach from known to unknown, from abstract to concrete, and from simple to complex, adopt effective teaching approaches to improve the process of knowledge acquisition and application among pupils and modify instruction to meet the learner's needs, and learn from errors, seek, and learn from feedback from pupils. The assertion is supported by Chika (2012) who opines that learning styles bring up to date teachers' pedagogical competencies and their skills to promote improved academic performance. Also, Pamela (2005) asserts that qualities that make up successful teachers are verbal ability, content knowledge, and pedagogical knowledge, and certification status, and ability to use a range of teaching strategies skillfully and enthusiastically.

Conclusion

No nation develops better without education. Teachers should be masters of the subject(s) they teach and regularly attend innovative seminars and workshops rooted in practical utilisation of ICTs for their professional development. Teachers with good teaching skills make learning interesting and enhance pupils' academic performance. Where such traits are not available, learning outcome would be severed. Therefore, teachers must align with innovative pedagogical trends to ensure functional and viable education in 21st Century educational practices.

Recommendations

Based on the findings of this research work the following recommendations are worthwhile:

1. Schools in collaboration with PTA and NGOs should regularly organize workshops and seminars for teachers
2. NGOs and PTA in collaboration with schools should provide technology gadgets and train teachers on how to manipulate such gadgets during instruction.
3. More experienced teachers are to mentor beginner teachers to ensure that the curriculum is not blunted.

4. Schools should encourage teachers to upgrade themselves academically, NCE holders to go for degree programme while degree holders should go for masters' programme among others.

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