Social Change in Postmodern Teacher Education in Nigeria: A Qualitative Analysis of Curriculum and Instructional Strategies

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Abstract

This study aimed at addressing how social change described in postmodern teacher education is captured in the curriculum and instructional strategies within the context of Nigerian Undergraduate Teacher Education. A qualitative research approach was employed for generating deeper insights into the phenomena. In the first part of the study, 11 lecturers from 11 universities were interviewed to generate qualitative data. The 11 lecturers were picked through purposive sampling. Thematic method of data analysis was used to analyse the responses gathered from the participants. The result showed formal curriculum does not significantly predict Conceptualization of Teacher Education Goals (CTEG), whereas informal curriculum, formal and informal instruction, overall curriculum, and overall instruction all significantly predict undergraduate teachers' CTEG, and thus, social change. The study provided important information for policy, curriculum, strategy, and implementation (re)design and/or review in line with postmodern TE that is relevant for the twenty-first century.

Keywords: Social change, postmodern teacher education, qualitative analysis, curriculum, instructional strategies

Introduction

Social change is an alteration in the thought processes of individuals that drives social progress. It may refer to a paradigmatic change in the socio-economic structure of today, characterised by complexity and global interdependence. Social change leads to transformation in thinking which in turn influences behaviour patterns in society (Rashika & Sylila, 2016; Chakraborty et al., 2018). The 21st Century society has been characterized by knowledge-driven economies, along with challenge of instant connectivity to a global society. In view of these exigencies, and the need to address the challenges faced by global communities, education is regarded as a major instrument in initiating social adaptation, transformation of values, attitudes and behaviour patterns and social relationships needed for the social change (Onwuegbuchulam, 2021).

In buttressing the above assertion on the role of education on social change, American National Education Association (nd.) posited that education must focus on nurturing the whole child/learner morally, intellectually, physically, socially and aesthetically to face the challenges inherent in today's society. Students need to acquire new knowledge, skills, and dispositions to ensure their survival and success as individuals, as members of the community, and as citizens of a nation. Further on the role of education on social change, educational institutions, according to Rashika and Sylila (2016); and Ebrahim (2019), are also expected to respond to the social change in a variety of ways: they can alter their personnel practices, modify teaching methods to improve retention, devise new skills to change student attitudes towards social problems, create programmes and courses that assist in resolving difficulties resulting from altered social relationships.

Furthermore, Boholano (2017) held that the school system must be outfitted with prerequisite ICT resources, and curriculum must be designed to promote a collaborative learner-centred environment to which students will relate and respond appropriately. More so, it is obvious that pattern and focus of teaching and learning in the 20th century cannot meet with the demands of the 21st century. In consonance with this, American National Education Association (ANEA) stated that in manufacturing and agrarian economies that existed 50 years ago, it was enough to master the "Three Rs" (reading, writing, and arithmetic). However, in the postmodern "flat world", the "Three Rs" simply are not enough, if today's students want to compete in this global society.

Hence, studies affirmed that the success of any education depends on the quality of teachers, which in turn, depends on the effective teachings-learning process (Goh & Blake, 2015; Madhab, 2018; Mgaiwa, 2018). This implies that would-be teachers need to be adequately equipped with knowledge and skills required for realization of the educational goals. In view of the importance of teachers in educational development and social change, countries around the world have given serious attention to their teacher training programmes. In Singapore for instance, it is not everyone seeking admission into teacher education programmes that is admitted into teacher training or teaching profession. Shortlisted candidates for teacher education training are picked based on their aptitude for teaching, as well as communication skills, passion for education, and the potential to be a good role model (NCEE, 2016). The teacher candidates are made to first undergo introduction into teaching programme by spending between few months and a year in schools as untrained contract teachers to enable the school to assess the applicants' suitability for teaching, and for applicants to affirm their interest and passion for the profession.

Doll, the famous American postmodern curriculum theorist, offers us an effective way for the curriculum/instruction. Doll's Pedagogical theory advocates the cultivation of students' comprehensive ability in the process of teaching; thus, it can bring positive effects to the transformation of the traditional perspectives 9 on curriculum and instruction and help us solve the problems existing in the teacher education teaching and learning process (Doll, 1993; Qin, et al., 2021). According to Doll (2012) and Thompson (2023), conceptualizing education within postmodernism means that education should foster, impact and result in social change. Hence, rather than the idea of a modern education system designed based on the three Rs of 'reading', 'riting' and 'rithmetic' and aimed at producing low-skilled, low-paid, obedient workers', postmodern education should produce graduates who are self-motivated, self-supervising and creative, and thereby encourage lifelong learning to address the high level of competition in the economy. Doll believed that current curriculum, with its linear structure and sequential, interconnected nature, is designed to support ordered progress through an educational system inherited from the industrial revolution. Doll emphasised that it is inadequate in the emergent and evolutionary postmodern world which 'requires approaches in which new knowledge and new solutions to complex circumstances are created'. A postmodern approach to TE will thus involve

the required elements of social change explicitly captured within interpretation of educational goals, curriculum strategies and instructional approaches.

However, despite clearly laid out policy goals with curriculum content mapped to its achievement, outcomes of teacher education undergraduates in Nigeria have continually fallen short of expectations in terms of development of teachers with social change as a key goal envisioned in the policy document. The gap in transition from academic theories in universities to classroom practice has often been very sharp, suggesting that undergraduate teachers are not often properly groomed to put into practice pedagogy and interactive skills that have been theoretically learnt (Nerubasska & Maksymchuk, 2020). Studies also revealed that the gap in policy-to practice is mainly because of the outmoded teaching method and inadequate mastery of curriculum contents; poor supervision of content method and mode of delivery, as well as the teacher education curriculum in the country that does not fully acknowledge the new age environment in school and classrooms in terms of constructivist learning (Maidaniyk et al., 2023).

Therefore, the missing link in the preparation of teachers for the postmodern classroom has remained elusive while efforts have failed to address social change as a key component of TE goals, and one with the strongest relevance for producing teachers for the twenty-first century classroom (Yeigh & Lynch, 2017). Meanwhile, Xu (2015) posited that conceptualizing education within postmodernism means that education should foster, impact and result in social change. Hence, rather than the idea of a modern education system designed based on the three Rs of 'reading', 'riting' and 'rithmetic' which is aimed at producing low-skilled, low-paid, obedient workers', postmodern education perspective of Doll is based on four Rs (of richness, recursion, relation, and rigor) to produce graduates who are self-motivated, self supervising and creative, and thereby encourage lifelong learning to address the high level of competition in the economy (Doll, 2008).

Purpose of the Study

The aims of this study are to:

i. explore how social change described in postmodern teacher education is captured in the curriculum strategies within the context of Nigerian Undergraduate Teacher Education.

ii. explore how social change described in postmodern teacher education is captured in the instructional strategies within the context of Nigerian Undergraduate Teacher Education.

Research Questions

The research questions answered in this study were as follows:

i. How is social change described in postmodern teacher education captured in the curriculum strategies within the context of Nigerian Undergraduate Teacher Education?

ii. How is social change described in postmodern teacher education captured in the instructional strategies within the context of Nigerian Undergraduate Teacher Education?

Methodology

The research design used in this study was qualitative method. Qualitative research is more holistic and often involves a rich collection of data from various sources to gain a deeper understanding of individual participants, including their opinions, perspectives, and attitudes (Creswell, 2015). The population for this study consisted of lecturers in public universities in North-Central Nigeria. The zone is located at the nation's centre and includes representative sections of other geopolitical zones and the federal capital territory (FCT) as well as a good presence of foreigners. These factors make the zone socially, culturally, and geopolitically neutral and representative of the nation as a whole. In addition, the researcher's deep knowledge of the social context, as well as teaching experience within the TE system in the north-central zone, comes in very readily, making this region an ideal context for this study which can be replicated in the future in other zones across the country. Samples for the study included lecturers in the public universities in this region. Based on the research design, the study involves a qualitative exploration of the TE curriculum to identify important variables linked to social change. According to Sim et al, (2018), given that qualitative sample size is often adaptive and emergent, determining sample size in qualitative study a priori is inherently problematic, if not impossible. In addition, conceptualization of 'saturation' can vary (Saunders et al., 2017), and based on the idea of 'informational redundancy' (Sandelowski, 2008) or the theoretical insights that develop with data (O'Reilly & Parker, 2013), sample size should therefore be determined a posteriori.

This study employed qualitative approach, hence interview was used for the qualitative data collection. The qualitative instrument (an interview protocol is meant for lecturers), identifies key

concepts and teams describing social change within Nigeria teacher education in general and within the curriculum and instructional strategies. This study used in-depth interview to get quality information from each participant. The interview questions were designed as open-ended questions. As it has been repeatedly said in this study, the in-depth interview is a popular method that has been used extensively in qualitative research (Creswell, 2018; Meriam & Tisade, 2016). The process enabled the informants to ventilate their ideas, share their 68 experiences by using the mode of expression they know how to use best (Seidman, 2019). Informants had the opportunity to express themselves either in the local dialect or in English language as consistent with the methodology of conducting open ended in-depth interviews. They had the opportunity to express freely their opinions on how Nigerian Teacher Education is positioned to fulfil the goals set in the National Policy of Education through the adoption of postmodern perspectives on education. To achieve the essence of the story, researchers need to hold at least three (3) in-depth interviews with each informant (Seidman, 2019). This study followed the above process by engaging each informant for a minimum of three different times.

The interview protocol was developed based on the postmodern education within the TE general curriculum and instruction relevant to Doll's 4R. All answers to the questions in the interview protocol were explored within the contexts of formal education (general courses, teaching subjects, teaching practice, laboratory practical, micro-teaching, peer instruction, etc.), informal education (e.g., self-directed learning, networking, coaching/mentoring, exchange programmes) and non-formal education (e.g., self-development, conferences, seminars, online courses, etc.) within Nigerian teacher education. However, in line with interview refinement framework and for reliability of the interview protocol, this researcher ensures that the interview questions align with the study's research questions and the interview protocol promotes an inquiry-based conversation (Castillo- Montoya 2016; Patton, 2015).The researcher also pilot tested the interview protocol to know whether the question works or not as suggested by Merriam and Tisdell (2016).

In this study, various strategies were employed to ensure trustworthiness of the data collected under qualitative aspect of the study. The strategies included participant validation, this is to determine the accuracy of qualitative findings by taking the final report or specific themes back to participants for confirmation. Peer debriefing was also used, this is allowing a qualified peer

researcher to review and assess the transcripts, assess the emerging and final categories from the transcripts, and the final themes to enhance the accuracy of the accounts, and identify gaps in data collected and to redirect course. The above strategies applied for the trustworthiness of the data and the research work in this study are in line with the suggestions of Merriam and Tisdell (2016). However, aside from participant validation and peer debriefing approaches used for the trustworthiness of the study, methodological triangulation approach was also used. This is in line with Fusch et al. (2018) who said that one approach to promote social change, mitigate bias, and enhance reaching data saturation is through triangulation. In this study the researcher triangulated the data collection by using two different kinds of methods of research design (qualitative with interview and quantitative with questionnaire) (Cohen, et al., 2018).

Qualitative Data Analysis

Thematic analysis procedure was employed for data analysis. This involved familiarising oneself with the data collected through reading and re-reading the transcripts, highlight the relevant or interesting areas of the transcripts, assign preliminary codes to the data collected to describe the content or attach label to parts of the data, search for patterns or themes in the codes across the different interviews, review the themes to see that the themes are useful and accurately represents the data collected for necessary adjustment in the themes. The concept of framework analysis was also employed using a code frame based on a hierarchical set of themes inspired by the conceptual framework or research objectives. The coding process followed the open, axial, and selective coding approaches (Williams & Moser, 2019; Vollstedt & Rezat, 2019), and Nvivo CAQDAS was employed to facilitate the organization and exploration of the codes, and NVivo 12 Pro Computer-Aided Qualitative Data Analysis (CAQDAS) was employed for open, axial and selective coding. The choice of NVivo software was based on its ability to handle various stages of qualitative data analysis including interview transcription, and to quickly analyse a huge amount of all types of qualitative data including audio, video, texts, and others within a short time.

Results

Answers to the Research Question One:

Social Change in Nigerian Undergraduate TE with Postmodern TE Curriculum

There are two parts to this objectives; one focuses on education in terms of curriculum, while the second focuses on instruction. Analysis of related textual data from instructor interviews allowed the identification of key concepts in the development of items in the second section of the questionnaire related to postmodern curriculum and instruction in Nigerian TE. Both curriculum and instruction are evaluated in terms of their formal and informal components with evaluation based on Doll's 4R for postmodern education. Formal curriculum or instruction was used to describe all forms of in-class, and school-based learning experiences, while 'informal curriculum and instruction' referred to all forms of out-of-class learning experiences, including informal and non-formal learning.

Formal Curriculum

Interview responses indicated neither students nor lecturers had any input in curriculum development, whereas lecturers were expected to address students' agitations or feedback on curriculum at teacher gatherings like annual retreats or other forums. Respondents indicate programme evaluation (accreditation) is done every 4 or 5 years by some 'political' body or team of old individuals who are mostly out of touch with the latest development or trend in global instruction. Responses indicate that respondents believe that government politics in education is mostly negative, and that quality assurance should be based on teacher-teacher mentoring, student assessment of teachers and student assessment of curriculum. Respondents submitted that curriculum improvement requires globalization to meet international standards.

Unfortunately, some old teachers continued to teach irrelevant contents from old and outdated teaching materials from past decades. They opined that richness is enabled through teacher workshops, curriculum feedback from student surveys, role-modelling by teachers, the teacher-as-parent role and programmes or forums like annual teacher-student conferences. They noted richness can be further promoted through the increase of programme length to make allowance for more time and conduct of hands-on and practical instruction. They suggested that three (3) months (two sessions of six weeks) teaching practice in an entire TE programme is grossly inadequate to develop teachers and the four (4)-year programme is too short for proper training. They recommended that the programme should be at least five (5) years, including one full year of teaching practice.

> *"If I have my way now what I will do in teacher education is that University teacher education should be 5years. By the time students enter…the 4th year let them…spend the whole year in getting practical experience not the current one we have of 6 weeks or 8 weeks..."* [R6/M/55/41]

They also noted that the formal curriculum is rigid; courses, their contents and what students have to learn is totally regulated and predetermined by the National University Commission (NUC) with zero input from learners, and almost zero from teachers. What could have been a little window of flexibility in the choice of elective courses, unfortunately end up being highly regulated too. Cross-faculty course selections are not encouraged except when they are directly in the students' study area. For example, a TE student with physics or ICT major (teaching subject) can take courses in the faculties of science or computing. "Mostly they (students) don't have input in this, the programs (is) being developed by the NUC (Nigeria University Commission) and what we call BMEL and BMAS which means all course the students are to take are already in the BMAS…" They noted that recursion is hindered when students do not have the opportunities to negotiating their learning; for example, what type of tests or exams are to be taken and where or when. They agreed that test-based grades do not present a complete picture of learning, as more or less learning might have taken place. They however agreed that documentation in formal curriculum makes learning visible, and enables replication. It acknowledges individual differences and provides means of regulating learning and learning activities.

> *"Ability to showcase competences on the certificate they possess is key. But there is a gap because people tend to focus more on grading which is quantitative rather than learning which is qualitative. It is advisable to shift attention to learning rather than grading."* [R10/F/48/23]
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> *"Grade and learning! Yes there's a different. You can grade a student from the exam he scored but it's even possible he has learnt more than that, that's why some people will erroneously or otherwise say that examination is not the true test of knowledge. It is one thing to know something it is another thing to be able to put it down you know we have good students who can teach in front of class they teach very well but when they come to write exam they may not be able to score good grade"* [R6/M/55/21]

In terms of assessment, lecturers indicated that multidimensional assessment will contribute to students' ability to find, organize, and present (assessment as learning), while pre-class tests will serve as assessment for learning. They opined that culture is inseparable from education and should

therefore be captured as ethics in curriculum; it should reflect, for example, in culture- or religious-sensitive examples and illustrations employed by the teacher. They agreed that student voice is either too low or non-existent, and where it does in any measure, it is mostly indirect. The lecturers further submitted that allowing learner input in 'how to learn' and 'what to learn' promotes relation as flexibility and democracy. Government's dominant roles in curriculum reviews and updates through the Nigerian Education Resource Council (NERDC) are not an ideal situation. Learners and lecturers have zero roles in curriculum development, but are expected to provide direct/indirect feedback on its appropriateness and effectiveness through examinations.

Respondents noted that permitting students' preferences for teachers is good for promoting rigor, but it can become burdensome for lecturers, especially, those that are more preferred by students. They also noted that rigor can be promoted through connecting classroom to life through activation of previous knowledge, use of relevant examples and by highlighting course relevance to post-graduation life or application in the real world. They noted this is what teaching practice is meant to achieve too, in addition to providing practical hands-on opportunity to learn how to conduct important learning-related activities like assessment, marking, and classroom control among others.

> *"Whenever you are teaching in the class and you are connecting (you know we have what we call prior knowledge) when you are connecting the previous knowledge to the new one you are giving to them…They will be able to connect classroom learning to the world. And then, any course you are taking, you should be able to tell them the relevance of the course and how it can be useful to them…I'll let my students know and where to apply the knowledge and how they can connect the knowledge to the real life [R10/F48/23]*

Respondents believed comprehensive learning and rigor can also be enabled through conferences and similar forums. They however noted that challenges with achieving rigor include lack of enough time to cover required content, the rigid nature of the curriculum that gives no opportunity for changing content in line with learner needs, or to give adequate attention to teaching. Although some teachers think the rigid content allows proper planning to fit available time and think teachers can get around this by providing course content at the beginning of the semester and encourage students to invest in self-learning to supplement classroom instruction. Lecturers also cited the opportunity of the student industrial work experience scheme (SIWES) for students in technical

and engineering fields as another part of the programme that puts learners in touch with the real world. The demand for reporting and defence associated with this also helps in promoting confidence and increased rigor. However, only students in vocational and technical areas have this privilege. It may be possible to improve rigor by giving such opportunities to all students.

Informal Curriculum

Out-of-class (informal and/or non-formal) learning is more demanding, but more interesting as it is non-rhetoric like formal learning. It can promote a broader mindset, better skills, reflective skills, critical thinking, and development of vision among learners. It is built into formal curriculum through various means like advisory and career development services, participation in departmental associations, entrepreneurship education (although still very new) for future self-employment, various extracurricular courses and engagement (politics, leadership, etc.), professional registration opportunities. Respondents further submit that they are becoming familiar with Open Education Resource (OER) and Massive Open Online Courses (MOOCs) like Coursera, FedEx, and Kahn Academy among others, and that they are promoting such programmes which are becoming extremely useful non-formal learning opportunities. They believe such programmes give student the flexibility of being able to select their preferred life/work/social skills which can help them compete globally, and they are also able to learn at their pace and time. It also helps exposure to additional qualification and understanding of trending issues and skills, and students get to learn with and from others from different parts of the world.

> *"There are so many open education resources I am familiar with, and which I always encourage my students to use. The ones I use in class are like Coursera, FedEx, CAN academy…These are the ones I encourage my students to go and study…You get one skill and you will be certified for that skill and it will help them to compete internationally with their colleagues from other countries…In choosing courses, there is opportunity for them to have life skills, work skills, social skills, cultural development etc…" [R1/M/62/31]*

They however noted major challenges regarding accessibility (gadget, internet connection and bandwidth), limited knowledge on the part of lecturers, feedback, monitoring, absence of hands-on opportunities in many subjects (e.g. laboratory-based sciences), students' and lecturers' negative attitude to such opportunities, as well as policy issues to related programmes like SIWES. Education has always been done effectively in informal/non-formal ways before the emergence of

formal schools. Lecturers noted that there is more recursion in out-of-class learning because it supports anywhere-anytime acquisition of knowledge in the real world. In addition, there is no forced learning because learning is usually based on learner preferences, and assessment is also practical or practice-oriented, and supports learner reflection. They noted that elective courses contribute to recursion, and can be considered as informal learning since they are flexible and can be chosen from non-strictly-academic options. Informal curriculum is very flexible; assessment may be grade-less as it is usually based on practical demonstration of skills acquired. Lecturers believed that if well-coordinated, practical skills are a truer demonstration of real learning than just passing a test. They however noted major challenges regarding the absence of formal regulation of learning activities and documentation with respect to informal learning, and how this may not enable replication.

Informal learning within formal learning, for example, teaching practice, is recognized as promoting diverse learning opportunities and interaction with the community and preparing learners for the post-university real world. Some lecturers believed that non-formal or informal education is not government business, and should not be regulated by government, but they submitted that government needs to show more interest in it and encourage students to take advantage of the learning opportunities it provides. The semi-structured nature of the curriculum affords great flexibility in terms of learner choice and pace. They also suggested that rigor can be promoted through integration of practical skill acquisition like the passing of relevant, government-approved professional qualification (e.g. accounting qualifications) as graduation requirement in relevant programmes.

Answers to the Research Question Two:

Social Change in Nigerian Undergraduate TE with Postmodern TE Instructional Strategies

Formal Instruction

Lecturers suggested that richness can be integrated in formal instruction by promoting ICT skills and access, use of educational technologies, motivating learners through talks, and the use of feedback, and fairness in assessment (e.g. assessing group assignments based on individual contribution). They also identified practical teaching and teaching practice, an open classroom that promotes teacher-student and student-student dialogues, non-judgmental, opinion-sharing,

questioning, and cordial teacher-student relationship and communication as well as the acknowledgement of individual differences in the classroom.

"Using my experience, formal introduction at the first appearance in the class, telling them about the course, the society and allow for responses from their perspectives and we interrogate" [R3/F/59/23]

They further listed the use of project-based learning, online research and writing assignments, promoting teamwork through projects and collaborative learning approaches, and promoting student voice and input in how instruction is done as means of promoting richness. They noted other strategies that are not being fully explored yet to include teacher-teacher mentoring and mentoring seminars.

They submitted that reflection makes learning more meaningful because it involves learning by understanding, as different from rote learning whose aim is to pass examinations and a feature of traditional instruction. They submitted that reflection promotes learning engagement and critical thinking, and can be fostered through service learning, student dialogues, and student research. It is obvious from lecturers' responses that they believed promoting reflection promotes higher order thinking skills (HOTS). Relations is promoted through multiple information sources (lecture notes, lesson slides, textbooks, practical workbooks, links to digital sources), synchronous and asynchronous teaching, assignments, multiple pedagogical approaches and other collaborative, team and blended learning approaches, and multiple assessment modes (CBT, MCQs, sentence completion, open-ended questions, etc.). Respondents submitted that although some teachers are already using this multiple assessment approaches, some are not trying them at all. Other means of promoting relations is through student-centered learning approaches including the use of modern media like visual board and social media as edutech. However, due to the challenge of connectivity and bandwidth, choice is usually based on ease of access rather than effectiveness.

Compulsory edutech courses will promote digital or information literacy, and foster critical thinking, innovation and creativity through locally-produced edutech. In addition, it will promote sensitivity to local (multi)cultural setting, and culture as ethics through various means including moral instruction, dress codes, etc. Lecturers considered the control of students' movement and time management as aspects of classroom control that is aimed at discipline. Collaborative learning is employed to promote social interaction and conflict management. Respondents agree that

relations may be hindered due to socio-cultural and socio-religious issues, for example, students from one region or religion resisting team work with students from a different region or religion. Poor relation may result in poor achievement which may be due to extremely difficult subjects, poor pedagogies and laziness on the part of the teacher as well as students, poor study habits, and inadequate learning environment.

Rigor in instruction should aim at promoting comprehensive and deep learning that enables graduates to compete favourably with peers outside their locality, region and country. It is enabled through peer teaching and peer feedback, pre- and post-lecture assignments, comprehensive learning techniques (e.g. use of multimedia, advanced organizers, demos, traveling/field trips). Other means are through online accessible course outlines, recognition of individual differences, promoting self-development and content knowledge, promoting interaction and dialogue through classroom discussion and experience sharing. Lecturers further listed promoting teamwork skills, motivating lesson to promote engagement, employing good strategies, as well as the use of teaching aids including digital and non-digital technologies. The teachers' teaching experience is also an important factor for rigor, as is acknowledging individual differences among learners (e.g. extrovert-introvert dichotomy, etc.).

Rigor is shown in demonstrated ability to study ahead, to boldly identify and note errors in instructor's delivery directly or indirectly, and confidently expressing their feelings about the teacher's instructional methods or content. Challenges with rigor within Nigeria TE include incessant strikes and time loss which are not usually accounted for as lecturers are expected to still cover the curriculum content. Another is reduced competitiveness due to disparity in content knowledge compared with ICT skills, ridiculously large classes, inadequate learning space and other facility to go with it. Others are irregular teaching resulting from multiple instructors teaching the same content at the same time.

Informal Instruction

Lecturers opined that richness in informal TE is enhanced when instructors are readily accessible, and ready to assist learners. Acknowledgement and consideration for individual differences to encourage self-exploration, the use of group assignments, and attendance at informal learning fora like seminars, public lectures, and student orientation also play significant roles.

Others are observational learning of lecturers, motivated instruction or qualitative student instructor interaction forums and other social engagements and programmes, colloquiums or similar forums. They also noted essential learning and storytelling, field trip, online/video lectures, project-based learning and other experiential learning scenarios. The flexibility of informal learning supports self-paced learning and choice through self-designed 'curriculum', personal course choices, and unrestricted credit load. It promotes students' personal development and the development of empathy, openness, positive attitude to teaching, affective development, and a mindset for appreciation of the profession (attitudinal change and character development). It provides detailed and comprehensive learning experience with richness demonstrated through qualitative societal impact, career progression, and general outstanding performance. Unfortunately, most universities have no facility or resource in place for promoting informal learning. The respondents however identified issues include misunderstanding of the concept of open education vs online education, lack of awareness of, and poor understanding of the concept of informal learning by lecturers.

Recursion can be promoted by competitive learning, including physical sports, informal learning during interaction and student discussion, role-playing, community engagement for problem-solving, questioning and critiquing, fostering motivation by rewarding performance and feedback. Because learning is mostly unconscious or non-forced, it is relaxed, more effective and does not pressure the learner and may be done out of class. Assessment is mostly informal, learning can also employ indirect approaches, like learning from experts, formal scoring is not used but rather referral to gain expert knowledge. More formative that summative assessment is also used. Rigor in terms of flexibility and student choice is hardly applicable in formal education. Informal instruction affords the student paced learning which can be slower or faster than average, and the loose structure makes it easy for the learner to move fast or slow. For example, there is no minimum or maximum credit load. Table 4.10 provides the summary of feedback and the related questionnaire items.

Discussion of findings

The socialization of TE undergraduates – being the focused community in the context of this study – into the teaching profession, thus defines social change. With social change conceived as a process involving changes over time, for TE undergraduates, SC becomes the gradual, observable

or measurable changes towards the achievement of TE goals experienced over the course of the TE period. Following criticism of modernism, and the underlying philosophical assumptions (VanGulick, 2009), postmodernism, involving society-transforming changes that involves 'information advances…and the rise of a post-industrial order' (VanGulick, 2009) became the lens for viewing education, and hence, teacher education in the twenty-first century. Thus, underpinned by the goal theory, the level of conceptualization of TE goals (CTEG) by TE undergraduates was identified as a factor that determines the achievement of social change as a focus of TE.

Following the above, and underpinned by Doll's postmodern perspectives on education, the TE system was evaluated in terms of the curriculum and instruction employed in its implementation. These were viewed or reviewed based on the in-class (formal) and out-of-class (informal and non-formal) aspects and covers everything that goes into the preparation of teachers in terms of general pedagogical and subject matter knowledge, how to bridge theory and practice, external evaluation of learning, multicultural perspectives, and technology application among others.

Doll's postmodern perspectives on education are captured in the 4Rs of richness, recursion, relation and rigor. Richness is described in terms of depth and quality, and is supported by curriculum's openness and layers of meaning. Recursion is promoted through reflection and aims to promote richness while relation focuses on the interpretation of curriculum culturally, and inter-/intra-disciplinarily. Rigor, refers to the rigorous and transformative ability of education and it is promoted through making access to alternatives available to the learner (Dolls 1993 p.182). All of these factors were identified in the feedback from TE lecturers, and goes to confirm that not only is a postmodern approach to formal classroom instruction required to prepare effective teachers for future classrooms, it is required as a basis for informal as well as non-formal TE.

Post-modernism is a flexible and loose approach in understanding differences and the irreducible conflict in human affairs, and plurality in ways of being and knowing. These features are primarily responsible for the adoption of the theory for this study. Doll's Post-modern perspective on education was employed in this study because it addresses the conduct of education and its goals, as well as the assessment of those goals. Thematically, conceptualising education with postmodernism means that education should help students to construct diverse and personally useful values in the context of their culture; that is, the end goal of education is social change as

shown in the conceptual framework of the study. This aligns with NPE goal for TE as to help prepare teacher to 'fit into the social life of the community and the society at large and…provide teachers with the intellectual and professional background…to make them adaptable to changing situations' and confirms TE is aimed at empowering would-be teachers for social change (Babalola, 2009; Paulley & Ikioumoton, 2015). The study thus affirms that the primary goal of Doll's 4Rs is social 165 change and the relationship between TE goals and social change is moderated by the implementation strategies.

Conclusion

This study emphasizes the importance of the informal curriculum, along with formal curriculum and instructional strategies, in shaping the conceptualization of teachers' education goals. By incorporating both formal and informal elements effectively, educational institutions can contribute to positive social change by molding teachers who are well-prepared, motivated, and committed to making a lasting impact in the field of education.

Recommendations

It was recommended based on the findings of the study that:

i. Educational institutions should reshape their teaching practices and curriculum to align with the desired social change in the field of education. This could lead to the development of a new generation of teachers who are more socially conscious, innovative, and equipped to address the evolving challenges in the society.

ii. Educational institutions should adopt a holistic approach to teacher education, where both formal and informal aspects of the curriculum are considered. This would lead to a more comprehensive and effective learning experience for aspiring teachers.

iii. This study took the data sample from public universities in the north-central region of Nigeria. Though the findings may be generalized for the region, further studies can explore other regions of the country. For example, the cultural difference can be explored to bring a variation in results.

iv. This study was limited to undergraduate TE, implying teacher preparation within the university setting; future research into the other aspects of TE, including those that compare

pre-tertiary and tertiary TE or tertiary TE and PD programme may shed light on important concepts.

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