

Teaching Creative Thinking Skills in Educational Institutions in Nigeria

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ABSTRACT

Creative thinking is a multidisciplinary concept that falls within the brackets of higher order thinking skills and its teaching in educational institutions in the 21st century has become inevitable in Nigeria in particular and the global community at large, because change occurs in split seconds with prospects, challenges and corresponding crises that keep man in a complete state of apprehension and loss without corresponding skills to explore the environment to man's advantage. Using the philosophical methodology, the paper discusses the teaching of creative thinking skills in educational institutions in Nigeria. The paper acknowledges that the inability of educational institutions in Nigeria to prioritize the teaching of creative thinking skills is responsible for the near to nothing level of productivity that exists in the Nigerian society compared to the number of educated persons in Nigeria. The paper strongly maintains that making the teaching of creative thinking a norm in Nigeria can be a springboard for entrepreneurial revolutions that can checkmate social vices in Nigeria. The paper makes recommendations, part of which are that education should be repositioned to prioritize the teaching of creative thinking to would-be teachers in the training of teachers in teacher education institutions, that instructional delivery across all tiers of

education should be based on problem based and project based approaches that prioritize practical instead of theory, a development that demands providers and sponsors of education to be more committed and that the curriculum of educational institutions in Nigeria should incorporate realities of the 21st century among others.

Keywords: Education, Teaching, Creative teaching, teaching creative thinking

INTRODUCTION

The ability of man to solve all his social, political, economic, moral, scientific, technological and general problems is one hundred percent dependent on his ability to think and individuals, institutions and societies that have made their marks in terms of solving their problems or in terms of monumental and phenomenal breakthroughs are individuals, institutions and societies that invest quality time in thinking and have produced men and women who can autonomously think. Thinking at any level it is applied makes individuals, institutions and societies to be constructive, critical, logical and creative and this simply shows that thinking develops in people and institutions different areas of focus and priority. Interestingly, what binds all the constituencies in which thinking can occur together is that thinking in all its ramifications and in all such

ramifications involves aspects of the practice, exploration and exercise of inherent and abstract philosophical dispositions and attributes God - Almighty in his infinite wisdom endows man with whose application cuts across all areas of human endeavours. Thinking is important and one unique feature or flashpoint that highlights the importance and uniqueness of thinking in the affairs of man, his institutions and society generally is spotted out by Nwaokugha and Abiakwu (2017:107) when they write that:

The ability of any human being to think constructively or logically singles him or her out as one who is rightly and constructively employing his God-given innate potentials and inability of any human being – man or woman to think constructively and logically indicts him or her as not using his God-given potentials maximally.

What the above emphasizes is that the ability of any human being – man or woman to think along all the dimensions and constituencies that thinking can be exercised and practiced is a determinant factor and predictor of the degree of success or otherwise of the person. Thinking is also a mark of the humanity and humanness of the individual man or woman and correspondingly it is no exaggeration and cannot be that any deficit or impairment in the ability of any individual to think constructively or logically may have inherent potentials to deny such person(s) opportunities in the society and on the other hand, improved and enhanced abilities of any individual to think creatively, constructively and logically has potentials to skyrocket the personality of any individual to effectively compete for positions, space and scarce resources of the state. What has been systematically implicated here is that thinking is the radar and compass that guides the individual and effective indulgence in thinking along the right lines is the talisman upon which any individual and by implication any society that is desirous of innovations,

robust, effective and fruitful innovative breakthroughs can be successful. In fact, Nwaokugha and Abiakwu (2017:107) say it all when they write that “no problem no matter the scale escapes the critical scrutiny of thinking or remains the same when currents that carry the right weight or proportion of thinking pass it”.

Certainly, thinking especially creative thinking is the hub and foundation upon which individuals, institutions and societies can make progress, develop, create, recreate and rewrite their histories in all ramifications. Creative thinking is at the heart of all the radical and revolutionary measures and policies that promote survival and the continuous flourishing of man and his institutions. In fact, at the heart of any form of innovation, transformation or transition from old ways of doing things to new ways in any discipline or any other endeavour that is targeted at human survival and the sustainable development of the society is the ability of the individual to be creative and think creatively. From antiquity, creative thinking and creative insights have been the motivating driving force and the hub that trigger curiosity for inventions, real and genuine human development. Across cultures, individuals and societies that have lived above boards in terms of initiating superlative breakthroughs that trigger innovations and discoveries are those who made it a point of duty that creative thinking must be part and parcel of the norms of their society. True to its versatility and centrality to human development is the fact that creative thinking is characteristically a complex and a multidimensional construct but equally compensates for its complex and multidimensional nature by having multiple sources through which knowledge about it can be gained. All these accolades on thinking and precisely creative thinking notwithstanding, there are worrisome developments that are serious cause for concern and this is that there is a creative

thinking deficit in educational provision in educational institutions in Nigeria. Educational institutions in Nigeria teach Nigerians facts and content knowledge without teaching Nigerians how to creatively turn such facts and content knowledge into avenues for the production of marketable values that can generate income and correspondingly add value to the quality of lives of Nigerians by placing food on the tables of Nigerians. On the basis of this terrible deficit, the focus of this paper is on how awareness can be created in Nigeria so that the teaching of creative thinking in educational institutions in Nigeria can become a topmost priority.

The methodology to be adopted is basically philosophical and characteristically, philosophical research methodology, according to Angadi (2019:37) is a qualitative type of research that prioritizes “reflection and clarification of assumption and meaning”, in addition to incorporating “the collection of extensive narrative data on many variables over an extended period in a naturalistic setting to gain insight not possible using other types of research”. What is implicated in the above about philosophical research methodology is simplified by Nwaokugha and Danladi (2016: 421) when they write that philosophical research methodology incorporates and involves speculation, analysis and prescription.

According to Nwaokugha and Keri-Frank (2023:38), speculation as a philosophical research methodology is robust as many scholars have one or two things to say about it. According to Aminigo (1999:4), speculation invokes a meaning that revolves around attempts to find logical coherence in an entire realm of thought. To speculate in the words of Odour (2010: 89) is to wonder, conjecture, guess or to hypothesize while Nwaokugha (2022:159) writes that speculation as a method of philosophical research revolves around attempts to find

logical clarity or coherence in a piece of presentation that is the focus and subject matter of a philosophical exercise or endeavour. The central and fundamental nature of speculation in philosophical research in particular and philosophy generally is hinted at by Angadi (2019:39), when he writes that speculation is needed in philosophy because it is that aspect of human thought, which strives to extend the boundaries of understanding beyond its previously established limits.

One can say very precisely that the whole idea of speculation as a philosophical research method revolves around the thesis that the reasonableness or reasonability and authenticity of a proposition depends on the orderly or logical consistency of the claims that constitute the proposition. (Nwaokugha and Ihuoma, 2019:276). The *modus operandi* upon which speculation as a philosophical research methodology flourish is highlighted by Nwaokugha and Wogonwu (2023:4) when they write that a scholar who is favourably disposed to the speculative methods carefully builds up ideas and systematically demonstrates how one idea is inherently and logically related to other ideas in the larger system of ideas. In fact, a speculation that meets the criteria that is expected of a good speculation is one in which the conclusions so reached or arrived at derive from the premise of the arguments so far established.

That speculation is basically concerned with construction and building of ideas and acceptability and authenticity of these ideas so built and so constructed depends on their inherent connectedness and relationship reveals that language and logic are fundamental and central to effective speculation in any philosophical research. It is equally important to point out areas in the pursuit of knowledge that are most receptive to the use of speculation; all philosophical topics or subject matters especially those that fall within the brackets of metaphysics (that

branch of philosophy that focuses on theory of being or ultimate reality are best handled or discussed using speculation. Metaphysical topics are unique and most amenable and receptive to speculation because according to Nwaokugha and Keri-Frank (2023:39), they are topics without any definite answer or one-size-fits-all answer as how one systematically, logically and orderly makes his presentations or speculates such topics, gives clues to the understanding of such metaphysical topics and presentations. It is equally important to point out that philosophical discussions that prioritize or focus on axiology (that branch of philosophy that studies and focuses on values) particularly ethics, political philosophy, social philosophy and aesthetics are best handled using speculation on as a philosophical research method. Justifications for the use of speculation as a philosophical research method for topics that fall under the above branches of philosophy are provided by Nwaokugha and Keri-Frank (2023:39) when they write that:

The modus operandi here is for any scholar who shows interest in any of the areas mentioned above to critically examine realities as they presently exist in his preferred area(s) which may not be in order and through speculation, present what he feels should be the case.

Again, the use of speculation, according to Angadi (2019:38) in any research or academic exercise enables the researcher or scholar to find connection and differences between various ideas.

Analysis is a core and fundamental philosophical practice as well as a key component of philosophical research, which seriously focuses on making explicit the various meanings that are associated with a word, term, concept or proposition. This excess devotion and commitment to meaning is targeted at removing whatever clumsiness, ambiguities, contradictions meaninglessness and absurdities that may be associated with a

word, term, concept and proposition. That this is the case means that clarification and precision in man's use of words, terms, concepts and propositions on one hand, resolution of conflicts and correspondingly promotion of peace and harmonious living are inherent targets and objectives that the analyst intends to achieve. Where all these are achieved through analysis, man can be said to be heading for a society where the repeated occurrence of such incidents as disagreements, violence, confrontation, anarchy and disorder that are responsible for human misery, frustration, general disenchantment and their associated under-development can be reduced to their barest minimum. These accolades on analysis may be justifications why Nwaokugha (2021:102) writes that analysis as philosophical research methodology is key to clarifying and decoding inconsistencies and ambiguities that are ever-present in man's daily social, political, religious, scientific, economic, technological and environmental activities. Another advantage that the society derives from analysis is highlighted by Nwaokugha and Wogonwu (2023:5) when they write that: Analyzing words, concepts, terms and propositions is also a basic entry point in providing multiple and many layered opportunities for establishing meaning and proper contexts of use of words, concepts, terms and propositions as the more analysis is done, the better for man, his institutions and the knowledge industry.

Analysis comes in various shades and configurations, the major ones are conceptual and linguistic analysis. Any analysis of a word, term, concept or proposition that revolves around conscious attempts to establish idea(s) that are or that may be associated with such word, term, concept or proposition is designated as conceptual analysis while any analysis that is focused on establishing the meaning that is associated

with a sentence and statement falls under the umbrella of linguistic analysis.

In recognition and appreciation of the contributions of analysis to human flourishing in particular and the world of knowledge in general, contemporary approaches to studying philosophy as a parent discipline, its various applied disciplines and the pursuit of knowledge in many disciplines in the knowledge industry has become basically analytic. Language and logic play key and fundamental roles in analysis as they robustly and creatively function to achieve and establish what Hirst and White (2000) call relationship between language and reality or word and world.

Prescription as a method of philosophical research is at the heart of any serious academic endeavour as no scholar, researcher or institution that is committed and desirous of solving one problem of the society or the other can successfully do so without it. It is in recognition of this that Nwaokugha and Kerifrank (2023:40) write that “every serious piece of academic work must have elements of prescription and how this works out is highlighted by Odour (2010:97), when he writes that “to prescribe is to recommend or set down as a rule or guide”. It has to be pointed out that the tradition whereby scholars and researchers proffer suggestions and recommendation to solving problems that are the focus of their academic endeavour qualify as prescription, which Nwaokugha (2021:102) claims:

Is achieved in research in the form of a researcher making autonomous value statement on how an issue that has been the focus or subject matter of a philosophical discussion can be resolved so that all the wrongs noticed in the course of the discussion can be harmoniously addressed. In a way, suggestions and recommendations in research and other forms of writing fall within the frame of reference of prescription.

As indicated above, every scholar and researcher prescribes, but disciplines and scholars that concern themselves with issues that border on axiology (values), which by their nature, inherently and traditionally change over time are mandatorily and compulsorily inclined to make prescription a central and fundamental tool. This is why scholars whose areas of specialization are axiology (social philosophy, political philosophy, ethics and aesthetics) wholeheartedly embrace prescription and what accounts for this is the persistence and ever-presence of change as well as the prevailing turn of events in the affairs of man and the society, which in most cases sharply deviates from what should be the norm, a development and a challenge which practitioners of axiology respond to by ethically and professionally maintaining and stressing what should be the case.

Academic success and academic breakthroughs are very much easier through the use of philosophical research methodology and on the basis of this, philosophical research methodology has become a destination of choice for scholars and researchers and among its numerous advantages are; philosophical research methodology enhances researchers’ investigative skills, widens researchers’ and scholars’ epistemological vision and space so much that researchers and scholars become freer to investigate areas which ordinarily they would not have ventured into, boosts researchers and scholars’ levels of confidence in academic matters as researchers’ and scholars’ see academic challenges as solvable and resolvable, brings about the diversification of research, a development that triggers phenomenal breakthroughs and the breaking of new frontiers of knowledge; and philosophical research methodology brings about epical refinement and monumental improvement of scholars and researchers.

As what is a tradition with any academic exercise that adopts the philosophical research methodology is to undertake a detailed clarification of the key concepts under investigation, to this we now turn.

The Concept of Education

Education as a concept is unique; it is one concept in which many people are favourably disposed to and part of why this is so is that education ranks as the first among concepts that are responsible for human capital and national development and seriously combines these with determining epistemological boundaries, curricular and pedagogical methodologies for other disciplines. Education belongs to those concepts that inherently admit a multiplicity of definitions and such definitions robustly represent what education stands for. Scholars technically admit this by acknowledging that the concept of education is very fluid (Unyanga and Nwaokugha, 2014:104). Based on the fluidity of the concept, there are scholars whose definitions of education are influenced by the etymological root word – *educare* and *educere* which scholars of education claim education is derived from. In any case, these two root words have different meanings and consequently have divided scholars of education into camps with the scholars subscribing to the influence of the camp in which they owe allegiance to in their approach to defining education.

As a way of resolving the definition issues associated with education, Okoh (2003) proposed four broad based perspectives from which education can be defined as stipulative, normative, socio-anthropological and programmatic viewpoints. In any case, one feature that is instructive about the concept of education according to Nwaokugha (2018:81) “is that no scholar of education no matter his etymological leaning in the definition of education disagrees with the others when the focus is on the use of education in addressing

or resolving the ever-present problems of man”.

True, education as a concept is the basic foundation that individuals, institutions and states look up to for direction, guidance, transformation and what becomes of the individual, institutions, states and humanity in general. Individuals existentially embrace education as a social provision upon which they can acquire basic and fundamental creative thoughts for addressing the numerous social, moral, political, economic and environmental challenges that confront man. Individuals especially those who are receptively desirous of introducing changes in the forms of innovations or ideas for influencing others and the society generally in positive directions do so through education. Across societies, most responsible parents embrace education as the only befitting legacy that they can bequeath to their sons, daughters and wards. Parents ensure the realization of this objective by ensuring that their children receive good quality education and any parent according to Nwaokugha (2019:148) who comes short of this expectation considers himself or herself as a big and monumental failure. Institutions of the state that are committed to reforming, transforming and repositioning the state through the introduction of innovations, social justice policies or the creation of awareness on human rights, liberation, empowerment and emancipation issues introduce such measures through education.

These account for why education according to Shively (2005), ranks very high among social services that responsible states provide for their citizens and part of why this is so is that responsible states hold and embrace education as one social provision, which when effectively provided can be used to address specific and general problems of individuals, institutions and the state. In fact, the state relies on education to bring about changes, formation, reformation, transformation,

orientation and reorientation of the citizens and institutions in directions that can address the social, moral, ideological, philosophical and developmental needs of the people and the state. Another important reason why the state holds education in high esteem is because education is a human right. A human right is a right which every human being is supposed to enjoy on account of his or her humanity irrespective of race, tribe, nationality, social economic status, educational qualifications, levels of developmental sophistication or lack of it and the fundamental idea of making education a human right revolves around the thesis that education is a form of empowerment that has inherent powers to make the individual who has acquired it to think autonomously and correspondingly contribute to human and national development and on the reverse side, he or she who has not acquired education becomes a double victim, who is constantly used against himself and the state as he can neither think to liberate himself nor make any meaningful contribution for the advancement and development of the state. In fact, the attitude of individuals, institutions and states towards education can be better explained in this observation by Nwaokugha and Theanachor (2020:36) that:

Across societies, people preciously hold education in high esteem so much that societies that have reached their peak in development still embrace education as a platform upon which they can manage their development and societies that are terribly underdeveloped and those that are developing see education and its vigorous pursuit as the route for their attaining their ambition.

The high regard that is given to education by all and sundry can seriously be pointing or revealing that providing education for a people can make a people and their state and not providing education for a people and their state can mar such people and the state. In fact, providing education by the individual,

institution and state is a moral duty, a moral responsibility and must-do investment for shaping the individual and the collective destinies of a people and their state. The Federal Government of Nigeria (1989:8) recognizes the fundamental critical role of education in the survival of citizens of Nigeria and the continuous flourishing of Nigeria when it writes that:

Education will continue to be highly rated in the national development plan because education is the most important instrument of change and any fundamental change in the intellectual and social outlook of any society has to be preceded by an educational revolution.

In virtually all that has been said about education, there is one variable that is as constant as day and night in the way individuals, institutions and states respond to education and this is that there is no neutral education (Eboh, 1996). Education according to Eboh (1996) is either for domestication or for freedom. Education serves as an instrument for the domestication of a people when the provision of education in any state is targeted at producing a bandwagon of yes-members whose actions and sense of moral responsibility cannot make any meaningful contributions or effect any meaningful or positive change in the society. Here, education is so provided so that its recipients can, without any sense of critical scrutiny continue to do the biddings of those in positions of authority, which in all ramifications are targeted at the recipients of such education working against themselves by serving the interests of those who oppress and marginalize them. On the other hand, education serves as an instrument and institution for freedom when education helps to develop a sense of critical consciousness or critical mindedness in those who have received it in the form of the people autonomously and existentially taking their destinies in their own hands through initiating

actions that can improve and change their condition for the better or acquire skills that can enable them to question the “whys” or the causes or sources of their misery or predicament with a view to existentially challenging whatever that maybe on their way to survival or development. This is where the provision of education is for guiding the individual to achieve, actualize and demonstrate all the civilizing, moralizing, empowering and emancipating ideals that are associated with education. The right education is one where its provision is tailored towards producing and instilling in the people a sense of autonomous moral and ethical thinking that can lead the individual into developing skills for best decisions all the time. Education achieves all what is associated with it through teaching.

The Concept of Teaching

Teaching is one concept in which different scholars hold different views and ideas and what emerges as a result of this are attempts by different scholars to offer different definitions of the concept so much that one scholar can offer more than one definition of the concept. Teaching according to Munna and Kalam (2021:1) can be defined as a transformation process of knowledge from teachers to learners, while Rajagopalan (2019:5) simply refers to teaching as impartation of information or skills from one person to another. Okoh (2003:71) provides a multiple definition of teaching when he writes that:

- (i) Teaching is the conscious and deliberate effort by a mature or experienced person to impart information, knowledge, skills, and so on, to an immature or less experienced person with the intention that the latter will learn or come to believe what he is taught on good grounds.
- (ii) Teaching is an intentional activity or goal-oriented activity in which a teacher is fostering or seeking to foster in a learner (who

has voluntarily subjected himself or herself to the teacher) worthwhile dispositions/skills by pedagogical methods.

(iii) Teaching is a deliberate and intentional activity which results in education - Education in the sense that something worthwhile is being or has been rationally transmitted to the learner in a morally acceptable manner.

A simple analysis of all the above definitions can point to the fact that teaching signals many things in the mind of the members of the society, prominent among which are, a profession, a relational and social activity involving a teacher, learners and a subject matter, a deliberate, conscious and goal oriented activity that is basically and fundamentally targeted at achieving the objectives of education and a process and a human endeavour that basically and fundamentally leads to learning. Any careful and critical observer can notice that teaching is basically a human activity which according to Nwaokugha (2014:13)

Focuses on human beings and targets transforming them into embracing those behaviours which are of high value to the society. Because it targets developing quality human beings, innovations for transforming the society are usually disseminated to the target audience through teaching.

The idea of a profession that is a flashpoint whenever teaching is mentioned points in the direction that to participate in teaching or to be a practitioner in the teaching profession requires some levels of education where acquisition of content knowledge of what to teach, relationship and communication techniques among others are key especially the type of relationship and communication that must be goal oriented so that the objectives of education can be achieved. Education in which teaching targets to achieve its goals and objectives is a gateway to modernization as well as key to the general transformation of man and his society.

Education on its own does not achieve any of the transformational ideals that are associated with it, rather all that is associated with it are achieved through teaching. In fact, educational policies and programmes no matter how well planned will remain aspirations and correspondingly may not be achieved without effective teaching and reasonable percentage of learning that occurs among learners occurs through teaching.

Outside the numerous definitions that scholars associate teaching with, there are some scholars who see teaching as both an art and a science. Teaching as an art invokes a meaning that revolves around all the imaginative, artistic, dramatic, manipulative and creative abilities initiated and created by the teacher to support and promote conducive learning environments that can trigger and stimulate learners to learn. Teaching as science invokes a meaning that revolves around the procedural, mechanical, structural, aesthetic and logical steps that a professionally trained teacher can coherently and systematically follow to achieve predetermined goals and objectives in his teaching learning environment.

From whichever perspective anyone looks at the concept of teaching, there are common denominators that unite all such definitions. Teaching in its proper context revolves around intimate contact between a mature or experienced person who has a good knowledge of psychological, sociological and philosophical skills and one who is less experienced or less mature. The intimate contact is principally targeted at educating the less experienced and less mature person or put differently intended to ensure that the less mature and less experienced person learns a particular subject or subject matters from his or her contact with the mature or experienced person. Again, such intimate contact must be targeted at positively influencing and changing the behaviour of the less mature or less experienced person. The interaction or

ultimate contact takes place in a classroom within prescribed and definable period.

Discussions that are focused on teaching often involve the teacher and the reason for this is that the teacher is a principal agent in all attempts to realize and achieve all that is expected to be achieved through teaching as he controls and manipulates the classroom in order to achieve all the predetermined objectives. However, as true as this can be, the teacher has no control of the behavioural characteristics that learners bring into the classroom from the various backgrounds where they come, axiological, metaphysical and philosophical beliefs that influence and determine their responses to what happens in the classroom and the teacher needs to be aware of this. Also, the teacher has no control of the class size as well as the level of sophistication of the physical facilities in the classroom. Professionally, any competent teacher knows what to do as such a teacher has enough professional operating space to creatively manipulate and creatively modify his instructional strategies and classroom management and interaction techniques so as to handle his business of teaching that can stimulate, sensitize and motivate the learners to do their business of learning.

For the teacher to perform effectively in the classroom, the teacher must have an intention, there must be a content, there must be a method, there must be communication and there must be feedback and effective deployment of all these must result to learning. However, there can be an exception and such is that learning can occur without teaching. A good teacher must behave in a manner that upholds teaching as a moral and normative enterprise as well as ensure that any method or strategy he adopts must be one that produces positive effects on learners. A good teacher must ensure that he morally respects the integrity and personality of his learners and instructionally inspires, builds and embraces flexibility capable of making

him to modify, improve and develop modern strategies of teaching that can be in line with global best practices in whatever configurations of teaching he wants to adopt. A good teacher must acknowledge and correspondingly be guided by the age long recognized position that teaching is excessively a democratic enterprise, a relational and cooperative endeavour. By implication, what is revealed here is that teaching is robustly and receptively hinged on suggestions and seriously repudiates or jettisons any attempt by the teacher to dictate what learners should accept and believe. Learners are one hundred percent free to choose what to accept or believe and this is why a good teacher should concentrate on improving and developing the ability of the learners to think clearly, rationally, logically and creatively.

We can say and say it very strongly and authoritatively that teaching is the hub and engine block of all conscious activities and efforts to reform and transform man and his society. Any good teaching must in addition to disseminating and generating ideas or knowledge develop in learners a sense of independent and autonomous moral thinking which according to Nwaokugha (2014:13) is to enable the learner to create and recreate “his environment in readiness for exploring, exploiting and responding to the challenges of a postmodern world”: On the basis of this, it needs to be stated very unambiguously that current challenges and developments in the global community that globalization and postmodernism have triggered make the activation and prioritization of certain knowledge flashpoints and engine blocks in educational provision so as to make the products of the education system ready, viable, relevant and be abreast with the rhythms of things in a world that has become a global village. This means, there should be change of gear in educational provision that can make learners creatively responsible by

aligning them to the demands of a new world where change occurs in a split second order, so visible and glaring that a change in the morning becomes obsolete before evening. That new order for salvaging and aligning man to the requirements of the twenty-first century is the understanding and teaching of creative thinking skills to learners in the twenty-first century educational institutions in Nigeria.

The concept of creative thinking

The complexity of the twenty-first century occasioned by developments such as globalization, postmodernism, science and technology coupled with the rate in which change takes place and people’s responses to such changes trigger reactions, that stimulate or project opportunities and challenges that keep man at a loss and in a confused state. Being at a loss and in a confused state requires the development of a corresponding psychical and innovative attitude such as the development of receptive behaviours that can help man address and respond to the complex situation in which he finds himself. Facing the developments occasioned by change in the twenty-first century requires man to think, which Doncean and Doncean (2022:123) rightly say is the highest triumph of the spirit. The truth and justification of the above claim can be anchored on the fact that the ability of the individual to survive in a complex world as we have it today is one hundred percent dependent on the quality of thinking the individual is capable of producing. It is a fact that cannot be disputed that the ability of any individual to think and think critically and creatively is considered to be the highest blessing any individual can be bequeathed with and the ability of the possessor of this innate potential to effectively exercise it is the highest demonstration of what makes the individual a human being. In short, a right attitude for man under his present predicament is one where he upgrades or

steps up his ability to acquire skills that can aid or help him address, solve and resolve his problems and challenges. Addressing, solving and resolving man's problems requires man to make it a norm or part of his life, such that he thinks in directions that are productive and thinking along this line requires man to embrace and make creative thinking his focal flashpoint.

Because creative thinking has been identified to be at the centre of human survival and human flourishing particularly in the twenty-first century, it has received robust scholarly attention among scholars and correspondingly has been the focus of many researches by scholars, the result of which has been receptive and robust attempts by these scholars to define the concept in different ways. Creative thinking according to Fajri, Ginting and Simanjuntak (2023) is a thinking activity that produces new methods, concepts, definitions, discoveries and work. Creative thinking according to Nasriati, Tahmir and Upu (2024:3206) is the ability to generate new and original ideas and critical thinking according to Chiam, Kong, Ning and Tay (2014:35) refers to one's ability to generate new ideas within or across domains of knowledge, drawing up or intentionally breaking with established symbolic rules or procedures. Citing Moma (2017. Siska Dwi Astiati (2023) writes that "creative thinking refers to students ability to generate and develop ideas for problems and alternative solutions as well as the individual's ability to look for new ways, strategies, ideas or ideas about how to obtain a solution to problem. According to Duff, Kurczek, Rubin Cohen and Tranel (2013), creative thinking is the ability to produce original ideas or answers while Piawa (2010) writes that creative thinking is the ability to perceive new and unsuspected relationship or unrelated factors. Doncean and Doncean (2022:123) are more detailed and elaborate in their definition of creative thinking as they write that:

Creative thinking is essentially a complex mental activity that results in a particular product; it is the mental capacity of the human individual to achieve new things, in different forms, theoretical, scientific, technical, social etc. to reveal unknown facts about reality to develop original approaches and solutions to solve problems and to express them in unique personal forms.

In the view of Wahsheh (2017:409) creative thinking is a mental process in which an infinite number of creative ideas characterized by originality, effectiveness and applicability are produced. This scholar goes further to say that creative thinking focuses, prioritizes and makes the creation of ideas, tools, styles, solutions etc. that have four central items namely flexibility, fluency, originality and sentiment to the problem.

The plethora of definitions of the concept of creative thinking is a pointer that it is at the heart of the basic and fundamental competences that institutions in general and educational institutions in particular must make its provision a priority in the twenty-first century and such plethora of definitions is a proof that scholars are responding very receptively to this twenty-first century clarion call. It has to be pointed out that any insightful observer who critically looks at all the definitions can simply acknowledge one fact namely that all definitions share one thing in common, which is commitment to developing in learners skills for solving problems so that education can be redeemed as the beacon of hope for addressing the various problems of mankind, which for sometimes now has been missing. Learners have been missing the use of their knowledge in solving the various local, national and international problems that have held humankind hostage, and educational provision for reactivating this all important component of education is creative thinking. Characteristically, creative thinking is inherently multidisciplinary in that it can be

applied across many disciplines and at many distinct levels. Doncean and Doncean (2022:129) associate creative thinkers with imagination, problem sensitivity, curiosity, intuition, discovery of ideas, tolerance for ambiguity, independence (autonomy), originality, enthusiasm, perseverance and risk-taking. Creative thinking according to Kemendikbud (2017) falls within the highest level of higher order thinking skills and correspondingly is divergent, richly produces ideas and is receptively committed to finding solutions to problems. Ulger (2016:696) elaborates on the above when he writes that:

Creative thinking produces ideas, enables a dissimilar point of view, is imaginative, has potentials to produce advanced ideas and change, is able to produce many ideas, likes to fantasize, tends to immediately view a problem from multiple perspectives, is skilled in extending and breaking the borders of a problem.

There are certain inherent qualities and abilities which individuals who are desirous of acting and thinking creatively must possess and demonstrate. According to Guilford (1965), such qualities and abilities include:

1. The ability to identify and state problems
2. The ability to generate a large number of problems
3. The ability to quickly produce various ideas
4. The ability to create remote association and non-standard solution
5. The ability to improve on an object by adding details
6. The ability to see new object characteristics and new ways of its application

It has to be acknowledged that the modus operandi or the trigger upon which most act of creative thinking occurs owe their roots to challenges or problem situations that defy all known innovative solutions for attending to such challenges or problem situations. Correspondingly, the foundation upon which

creative thinking is hinged on is the ability of the individual to conceive an idea or an imagination that can trigger or stimulate possible answers (Doncean and Doncean, 2022) and translate such an idea or imagination into reality. In a way, the new found reality through creative thinking must be capable of addressing or resolving existing problems, which old innovative practices could not address. Ulger (2016:696) acknowledges this when he writes that creative thinking tends to produce original ideas when he writes that creative thinking tends to produce original ideas, views new perspectives for solving problems. From another dimension, creative thinkers excel in the art of creative thinking when they repackage, redefine, reexamine and re-modify former innovations, experiences, information and knowledge (Wahsheh, 2017) into something new, nobler and of greater value and greater comfort to humanity. In fact, such ideas and imagination so conceived must deviate from what has been in existence by being new, in addition to adding value and contributing to improving the quality of life of man and his institutions. One must emphasize that creative thinking jettisons and repudiates the promotion and sustenance of the status quo or the continued reliance on that which has been in existence, but creative thinking is receptively disposed to the creation and development of new products especially when the road map that leads to the development of the new product leads to resolving problems and originates from the ideas of an individual, group or institution. This is the basis upon which creativity and creative thinking is regarded as a trigger for change that must result to something new, capable of adding quality value to the life of people. This is highlighted by Doncean and Doncean (2022:124) when they write that:

To be creative is to find new ideas or new ways of doing things. In creative thinking, one must put aside one's personal beliefs and

sometimes try the impossible. Through series of steps, one can indeed move from impossible to possible.

Creative thinking has triggered many radical and revolutionary reforms in education in many countries of the world, yet there are countries where not much has been achieved. Many factors are responsible for this. Learners are not properly taught the techniques and dynamics of acquiring creative thinking skills. The next section of this paper focuses on the techniques and dynamics of teaching creative thinking in educational institutions.

Teaching and Developing Creative Thinking Skills in Learners in Educational Institutions in Nigeria.

Creative thinking is one aspect of skill and knowledge acquisition that has been described as key and fundamentals in the twenty-first century educational provision, without which the innovative, human capital development, empowering, emancipating and liberating ideals of education cannot be achieved. This observation makes case for effective teaching and learning of creative thinking in educational institutions. Part of what has necessitated and promoted the teaching and learning of creative thinking in educational institutions is the unique nature of the twenty first century where knowledge explosion, nature of the twenty first century where change occurs in split seconds, developments in science and technology, globalization, post modernism multiculturalism, interconnectivity and more disturbingly changes in the demographic composition of states. In the prevailing circumstance, chaos, uncertainty, hyper-competition and lack of trust among members of the society become norms in epic and phenomenal proportions partly because there is high creative thinking deficit among the people. In the midst of all these, the ability to think creatively and the

ability to teach people how to think creatively becomes a focal flashpoint.

Teaching learners creative thinking or precisely how to think creatively is an innovation that is more of a transformation and a transition from old ways of teaching and learning to a modern way of teaching and learning and correspondingly is unique in all ramifications. The first and most important bold attempt at teaching learners creative thinking can start with the teacher and his abilities to manipulate his pedagogical skills especially his ability to present his instructions in clear and unambiguous terms, his ability to ask and pose questions to the learners as well as the teacher's ability to develop his learners' power of analysis, synthesis, comparison, generalization and develop the learners' sense of imagination (Umirzokova, n.d p. 74). The importance of questioning especially by the learners in the teaching learning process is that any teacher who presents his instructions in a manner where students fail to ask questions has systematically and structurally failed in his professional duties as a professional teacher because such instructional presentation has not fulfilled an important pedagogical requirement, which is the development of creative thinking skills that learners can demonstrate through effective questioning. This position is so taken because the teacher sits in the driver's seat in the teaching learning process and correspondingly manipulates every other variable in the teaching learning process. How clear a teacher is in presenting his instructions to his learners goes a long way in determining the level of creative thinking that can be generated or that can go on in the mind of his learners. One can say it with every amount of certainty that the teacher's use of the right pedagogical skills is instrumental in developing the learners' analytic, reflective and reasoning skills that are fundamental and necessary in a learner's development of

creative thinking skills that can lead him into taking informed decisions.

A teacher who is desirous of developing his learners' creative thinking abilities through his teaching in the classroom can trigger his learners' curiosity through exploring and harping on moral, social, political, economic, etc. issues around the environment of the learners. The moral, social, political economic etc. environment of the learners may accommodate terrible contradictions and the teacher can capitalized on such terrible contradictions in the environment of his learners to stimulate and trigger creative thinking abilities in his learners. One scholar who recognizes the use of terrible contradictions in issues and discussions involving the development of critical and creative thinking skills is Nwaokugha (2018), where he highlights how a teacher can teach learners creative and critical thinking skills using the case of Nigeria.

According to him:

Nigeria is globally recognized as one state where there are abundance of social contradictions and these social contradictions can become springboards upon which higher education institutions can exploit for promoting critical thinking (creative thinking) skills in learners in Nigeria's higher educational institutions. In fact, making Nigerians to be aware of these can challenge them to think critically (creatively) so as to resolve the contradictions (P. 123).

The teacher can identify or present such contradictions or professionally pose mind bugling questions to his learners as well as encourage his learners to critically reflect on such contradictions by asking questions, provide answers to such questions, make observations or comment on why such contradictions are norms in their society and the way forward. Exposing learners to the situation as exposed above has potentials to chart conscious ways of creatively teaching

learners how to analyze information, how to identify problems, how to critically make comparisons and how to effectively draw up conclusions. These skills are necessary for the development of creative thinking skills in learners and a good teacher should strive to develop them in learners through his teaching. What has been said above about the professional competences which a teacher who is desirous of teaching and developing creative thinking skills in his learners should explore is closer to the position maintained by Utaevia (2023:51) when he writes that the use of problems situation and open-ended task are some of the ways of teaching and developing learners' skills of creative thinking. What this practically translates into is that the teacher should jettison posing questions that have ready-made answers but should rather emphasize questions where learners can source for the answers by themselves.

The teacher, parents and the government have roles to play in developing learners' creative thinking skills and this is in the form of the three important stakeholders in the education of the learners playing their respective roles without any form of compromise. Any attempt by the teacher, parent and the government to withdraw from providing supportive and conducive learning environment can impair the concentration of the learners and correspondingly the learners' creative thinking process can be affected.

Skills of asking probing question by a teacher is vital in developing learners' creative thinking abilities. A teacher who develops in his learners the skills of asking probing questions has consciously developed and inculcated in them the critical and creative habits of subjecting propositions and ideas to reflective and analytic examination before believing or accepting. Nwaokugha (2018:123) highlights the importance of asking probing questions as a condition for developing and teaching learner's creative thinking when he writes that:

Ability to ask probing questions has potentials to develop in learners the capacity to identify ambiguity and the ability to identify ambiguity on its own stimulates and triggers curiosity in the individual with an intention or urge to resolve such ambiguity. The end product of this endeavor is the involvement of the learner in critical thinking (creative thinking). It is important one points out that the identification of an ambiguity and the ability to resolve if logically harmonize with the problem identification condition that a good critical thinking (creative thinking) skill must fulfill.

Professionally trained teacher develops and teach creative thinking skills to their learners when they use Project Based Teaching-STEM model in their teaching. Project Based Learning models have potentials to trap down learners' attention due to their ability to be focused and being focused removes elements of abstractness that are associated with some concepts and helps to boost learners' level of motivation as well as accelerates learner' level of active participation that culminates in the development of creative thinking in learners. The success teachers record in the use of the Project Based Learning model is so because the model affords opportunities for the involvement of learners in the teaching learning process. In the same way, teachers whose model of teaching are the problem based learning can have higher degrees of success in developing learner's creative thinking skills. What is responsible for this is that the problem based learning and the project based learning provide learners opportunities to have real experiences about what they are taught. By implication, a common denominator that unites the project based learning approach and the problem based learning approach is that teachers in their conscious move and desire to develop the creative thinking skills of their learners should constantly embrace, integrate and incorporated elements of pragmatism as well

as effective use of instructional materials in their teaching. What has been said above simply means that learning can be promoted and enhanced when learners are provided real life experiences of what they are learning as providing such real life experiences helps to remove all traces of abstractness that are associated with learning and correspondingly challenging learners to actively participate in the learning process through consciously and effectively creating and recreating similar opportunities in different forms at different times.

Teachers can also use brainstorming technique in teaching and developing their learners' creative thinking skills. Brainstorming implies encouraging learners to freely express their thoughts and ideas on a particular concept, topic or subject matter. It can be in the form of a debate or any other form that allows individual learners opportunities to express themselves. What happens when brainstorming has been done is that from the various ideas so far raise, there can be guides into possible lines of actions that can lead to possible resolution of problems that are the focus of the brainstorming. During brainstorming session, every participant is free to make his contributions without any inhibition as it is a fact that the ideas of any one can ignite the key for arriving at the creative points or destination for the resolution of an issue or problem. On the basis of this, there is no room to judge or analyze the presentation of any one as such attempt or effort can stunt, stifle, cripple or limit the genuine efforts of the learners to generate ideas for resolving the issues at stake. However, the judgment, evaluation or analysis according to Malkawi and Smadi (2018: 593) are deferred or postponed to the end of the brainstorming session. The goal and objective of brainstorming in the teaching learning process according to Khan and Ashraf (2021:421) is to direct students to new ways of thinking

from the traditional way of learning and any teacher who uses brainstorming in his teaching is directly, indirectly, consciously and unconsciously promoting and developing the methods of creative thinking in his learners and at the same time reducing total and unnecessary over dependence by the learner on the teacher for the generation of ideas in the teaching learning process.

A teacher who uses brainstorming as his method of teaching creative thinking consciously develops and builds confidence and trust in his learners especially the act of learning from the ideas of one another and this guides learners on systematic ways of solving and resolving issues from the ideas of others as well as helps learners build relationship among themselves. The success of any brainstorming session as it concerns developing the creative thinking of learners heavily depends on the teacher, who must create the enabling atmosphere that guarantees democracy and open interaction among learners. A teacher achieves this by creating a democratic teaching learning environment where learners show no trace or sign of fear, intimidation, or any other symptom that can prevent them from demonstrating their creative manipulative skills and creative thinking abilities in the teaching learning process.

CONCLUSIONS AND RECOMMENDATIONS

A drive towards genuine formation, reformation and transformation of people and their society from one level of advancement and development to the other is at the heart of teaching. In its inclusive and comprehensive outlook, teaching is deeply rooted in an epistemological frame of reference where its practitioners are professionally educated to respond to change, to initiate change and to realistically serve as agents of change. This means that those who teach are supposed to be professionally educated so as to identify

when change has become necessary and inevitable in the affairs of man and correspondingly trigger it. In Nigeria, anyone with any casual sense of critical scrutiny can identify that there is a terrible creative thinking deficit among teachers, meaning that learners will also not have the skills for creative thinking and this has the ability to limit the achievement of the objectives of education across all the tiers of education for the individual and the Nigerian society. It is very clear that this deficit is responsible for the near to nothing level of productivity that exists in the Nigeria society compared to the number of educated persons in Nigeria.

In the education industry, which is the professional constituency of the practitioners of the teaching profession, teaching creative thinking has become a necessary instructional direction and foundation for making learners and the education industry more productive and the Nigerian society a better place for all. It needs to be said and said very clearly that one critical feature that must be built into 21st century educational provision in Nigeria, without which the innovative, empowering, emancipating and liberating ideals of education cannot be achieved is creative thinking. Making the teaching of creative thinking a norm in educational institutions in Nigeria is a recipe for making learners and educational institutions become aware of what is expected of them, become sensitive to issues of human survival, sustainable development of the Nigerian state as well as become sensitive to producing ideas for solving the ever-present social, moral, economic, political, scientific and technological problems of Nigeria. This is so because the mantra of creativity and creative thinking is the solving of problems and the production of new goods and services that can add value to the quality of lives of citizens and improvement of the society. All these are doable and achievable if we strengthen and reposition our teacher education institutions to

the extent that creative thinking is made a major priority during the education of the teacher in the teacher's teacher education programme. A teacher who is not exposed to the act of creative thinking cannot impact such skills to his or her learners because one does not give what one does not have. In the same way, learners who have been exposed to the skills of creative thinking should be ready to put the skills into practice. When this is maximized, creative thinking has the ability to trigger entrepreneurial revolution in Nigeria and correspondingly checkmate social vices, frustration, hopelessness and general disenchantments that are fast becoming norms in Nigeria. The various educational institutions in Nigeria, ranging from the pre-primary to the tertiary levels are not left out as they need to reposition by way of taking into considerations the quality of instructions they provide their learners vis-à-vis the extent such instructions can lead them into producing new ideas that have tangible value in the labour markets of the 21st Century. In short, the curriculum of educational institutions in Nigeria should incorporate realities of the 21st century and beyond.

Governments, parents and supporters of education in Nigeria must step up their games if teaching creative thinking is to be successful in educational institutions in Nigeria. This is so because making sense in teaching creative thinking prioritizes project based and problem based approaches to teaching and learning where the learners learn what they intend to learn practically and this means more of practicals and less of theory. This approach to teaching and learning demands that providers and sponsors of education must make the right sacrifices and investments by providing all that is needed for studies in their right quantity and quality and not the current lip service, that education receives in Nigeria. In short, genuine progress and success in education that targets teaching that can snowball or trigger creative thinking

is a team work that requires stakeholders to actively do their respective sides of the work expected of each of them.

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