

Advancing Creative Thinking Skills of Gifted Students in the Context of Inclusive Education Practice in Nigeria

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Abstract

Creative interventions towards solving the socio-economic and political problems unequivocally contribute to making living conditions meaningful and impactful in any society. The foregoing is a pointer to the fact that creative thinking skills are an essential requirement for creating a new order in any culture. An effort at developing such skills among gifted students, using the instrumentality of inclusive education practice in Nigeria is a right and timely approach. Therefore, the paper projects various experimental techniques that could be deployed in fostering creative thinking skills of students noted remarkably for cognitive and potential creative tendencies in Nigeria. Within the context of inclusive system, gifted students, among others with special needs, are afforded the opportunity to have access to skills acquisition. Hence, gifted students learn and are guided on how to advance creative thinking skills with the use of systematic techniques by the teacher. Notably, the learning outcome among the students is of high impact to the students themselves, school system, immediate environments, and could be channeled towards addressing Nigeria's problems such as insurgency, economic crises, leadership ineptitude among others in the long run. Against this premise, logical conclusion is drawn, while recommendations are made to relevant stakeholders.

Keywords: *Inclusive education practice, Creative thinking skills, Gifted students*

Introduction

Cognitive skills are crucial to the overall development of any human being. The skills are essential for mental processes such as learning and memory, problem solving, decision making, communication, creativity, adaptability, attention and focus,

processing speed, executive functions and critical thinking. Developing strong cognitive skills can lead to improved academic and professional performance. Such skills are vital for success in various aspects of life, from education and career to personal relationships and overall well-being. As a subset, thinking is a mindly process to produce thoughts, hold attention, store or retrieve memories, and select appropriate responses and actions. It is a mental resource that plays a pivotal role in determining the personality make-up and academic attainment of students in any educational system. It is therefore logical to establish that students who make headway in their academic pursuits are those who deploy their thinking towards school activities. Hence, achievement levels could be observed among students. In the school system, there exists both low-ability and high-ability students, and the difference between the two sets is traced to how thinking skills have been utilised in the achievement of set goals. An individual student who understands the importance of engaging thinking skills interacts with descriptive information and available learning materials in an intellectual manner. Such thinking skills could be demonstrated in a unique way, through the originality with which study-related ideas are generated, academic challenges are addressed, class tasks are accomplished or student academic records are generally improved. The originality expressed in the above processes is an indicator of creative thinking skills. Gifted students – those who give evidence of high achievement in schools by virtue of their superior intelligence and outstanding abilities – have been observed to have such intellectual characteristics as creative thinking skills. Gifted students are capable of using creative thinking skills towards creative problem solving. The students use both convergent and divergent thinking processes in the interaction with their learning materials. Gifted students' creative thinking abilities are therefore a function of cognitive prowess or endowment, and such have been used in a diversity of ways to turn out quality academic results within the school.

Exploring Diverse Creative Thinking Skills of Gifted Students

Gifted students' creative abilities often set them apart from their age-mates. These students with their ability to generate possibilities are flexible, fluent, elaborate and original thinkers. Asiru (2022) remarked that the students are able to produce new steps, ideas, resources or other embellishments to a basic idea, situation or problem. The students are willing to entertain complexity and seem to thrive on problem-solving task(s). They have the ability to generate knowledge from the information provided by the teacher. The above suggests that creative thinking skills of gifted students cannot be over-emphasised, and these skills are expressed through a wide range of styles. Keles (2022) observed that gifted students possess creative problem-solving characteristics and they differ in the dimension of divergent thinking in comparison to non-gifted counterparts. This is to reiterate that the students are capable of giving the diversity of answers and the quality of outputs in any brainstorming session or situation. By virtue of exposure to problem-solving situations, the students utilise their creative endowment under the auspices of the teacher and the school system by extension.

The creative thinking abilities of gifted students contribute to their making of a mental effort towards understanding the complex system and building a proper mental

representation to model and explain the system (Lopez and Pinto, 2017). The students continually modify and re-organise their mental model (a good reason to construct good knowledge in explicitly explaining the allegations of a phenomenon) in every new experience, especially after learning process (Butlolona and Diantoro, 2023). According to Lopez and Pinto (2017), the new experience is not only oriented to the mental model, but also the skill in thinking. A platform that affords the students to engage their creative instincts usually creates an opportunity for them to explore areas of interest. In addition, Ceylan (2022) pointed out that creative thinking skills are important in solving problems in the era of openness. Once gifted students are allowed to operate within the spectrum of versatility of interest, they will be able to address issues or problems by deploying their creative thinking endowment. In the same vein, Tawarah (2017) noted that such creative thinking skills are seen as the ability to offer new perspective, generate novelty and meaningful ideas, raise new questions and produce solutions among gifted students. It is imperative to note that these skills help the students find solutions to socio-emotional problems confronting them in schools.

From the foregoing, it could be argued reasonably that the ability to think creatively in learning is the ability to express ideas creatively in solving problems. Rubric (2023) claimed that the ability to think creatively in gifted students could be observed when addressing any problem. There are quite a number of indices for measuring the ability to think creatively especially in the face of problem-solving situations. Wulandari and Jumadi (2023) identified these indicators as fluency, flexibility, originality and elaboration. Fluency is the ability to generate various kinds of ideas and solutions in solving problems. Flexibility is the ability to produce a number of varied strategies. Originality is the ability to create new ideas that are owned (Riberio, 2023; Aldila, Rini, Octaria, Khaidah, Sinaga and Septiani, 2023; Pujiarto, 2020). Asiru (2020) considered all the above as assessment procedures for creative thinking among gifted students, and identified fluency as diverse, flexibility as adaptive, originality as unique and elaboration as innovative. In effect, the ability to think creatively is beneficial in increasing gifted students' knowledge (Herinawati and Chen, 2023).

Angaraeni, Suheiman and Guntara (2023) submitted that creative thinking skills as high-level abilities are significantly impactful in this era of globalisation, and such skills can be developed through learning that involves students directly in the process. According to Mariam, Isnet, and dan Kistiono (2023), gifted students need to hone the skills in relation to ability to think critically and solve problems, ability to convey (correspondence), ability to collaborate and ability to imagine and develop in the era of globalisation. Suarez, Garcia-Costa, Perez, Lopez, Inesta, Grimaldo and Torres (2023) lent support to the above idea that gifted students are poised to acquire a set of competencies and skills that focus on sustainability. These competences include critical thinking, communication, creativity, collaboration and problem solving. All these centre on creative thinking skills, and gifted students are able to master the skills, using four stages through the guidance of the teacher. The first stage is preparation, which involves activities such as brainstorming, research, and planning before writing. Incubation is the second process when the creative ideas takes the shape and comes to life. Illumination stage occurs when gifted students finally get a clear

ideas of what they want to create. Originality, relevance, fluency and flexibility are all important factors to consider when evaluating the process by the teacher, while implementation stage is when all of the ideas, plans and evaluations come to limelight (Syahrin, David, Suwignyo and Wahid, 2024). The foregoing is a pointer that creative thinking skills could be improved using the above template, especially within the context of inclusive education practice.

Advancing Creative Thinking Skills of Gifted Students within the Context of Inclusive Education Practice

Nigeria has embraced inclusive education as educational approach for meeting the academic needs of diverse learners within the same classroom (Arigwaomaodoko, 2023). The country has taken such a step, because inclusive education takes into account the unique requirements of students with exceptionality. Kurth, *et al.* (2018) noted that the original concept of inclusive education aims to provide opportunities for students with special education needs, because it is believed that the system of inclusion helps them to maximize their potential abilities. To this end, inclusive education practice utilises highly individualised processes that adapt to the ever-changing dynamics of the classroom, considering factors such as activities and individual group dynamics (Naeemy and Yoneda, 2024). Such dynamics make it possible for teachers to be fully prepared in advance and use appropriate methods. However, only teachers with positive attitudes towards inclusion employ instructional strategies that are beneficial to all students in a classroom (Agati and Caballes, 2023). Sharma and Sokal (2016) emphasised that the more positive the attitude of teachers towards inclusive system the better the practice becomes. Against this backdrop, from the environment created by the school culture within an inclusive system (Asiru and Nnamani, 2023), trained teachers with positive attitude towards inclusion are believed to be resourceful enough to discharge pedagogical duties in such a way that gifted students learn in a productive manner. Within an inclusive education practice, teachers who handle gifted students could use a collection of strategies (eclecticism) to advance creative thinking skills of the students. With this end in view, Renzulli and Reis (2021) remarked that Tyler's multiple talent model as the basis for any training programme is designed to enhance productive thinking and decision making skills among gifted students. The objective of the model is to equip the students with a well-rounded skill set that empowers them to tackle problems creatively, make informed decisions and thrive in different contexts. Kuo and Liang cited in Aladwan (2024) reported that gifted students are more likely to use creative thinking strategies and productive thinking processes involved in a more systematic approach to problem solving when an experimental strategy is employed by the teacher.

Robotics and coding education, which arms to teach gifted students to establish close relations with technology and becoming independent individuals is another productive technique for improving productive thinking among the students. According to Okcu, Guller, Canpolat and Yaman (2023), the students find opportunities to develop problem solving, computational thinking, creative thinking and language skills when robotics and coding education are deployed within the classroom domain. Robotics can teach critical learning skills; then students can come up with problems in their everyday life that they think

robots can fix or consider things that robots could automate. Within the inclusive classroom, the teacher could allow gifted students to develop theories that can be tested in robotics projects. This is believed to strengthen the students' ability to form hypotheses. Similarly, gifted students could use their abilities such as categorising concepts, making generalisations, stating hypotheses and using numbers effectively while solving problems, based on the adoption of Longeot's Test of Cognitive Development and premised on correct thinking methods and techniques (Yildiz, 2022). Such scientific teaching procedures engender logical reasoning which is a requirement for a high-level thinking skills to form hypotheses and test their accuracy. The students collect as many observations as possible about a topic of interest or problem, evaluate such observations, create a list of possible explanations and analyse the result.

Application of problem-based learning model to improve gifted students' creative thinking skills is also key. As pinpointed by Barriyah (2021), problem-based learning model that focuses on problem-solving process in collaboration in small groups encourages gifted students to be independent, prepares for long-life learning and requires students to learn actively. Akben (2020) observed that such a learning model is an indicator of intellectual behaviour and higher-order thinking skills that need to be acquired by the students. In the context of the model, gifted students use their abilities to identify problems, propose various solutions and determine the right choice of solution based on the data obtained (Barriyah, 2021). The model is effective in improving gifted students' thinking skills and can improve their ability to determine various strategies in finding solutions to problems faced so as to create a meaningful learning environment (Safitri, Chotima, Hudha and Rahardjanto, 2023). In a related development, Science, Technology, Engineering and Mathematics (STEM) learning approach has been utilised and observed to be an effective strategy in building creative dispositions and creative thinking skills of gifted students (Sewu, Sukarso, Lestari and Handayani, 2023). The implementation of STEM in learning in inclusive schools prepares the students to acquire critical, creative and innovative thinking skills in solving problems and making decisions as well as being able to communicate and collaborate (Izzati, Tanbuna, Susanti and Siregar, 2019). It could be inferred from the foregoing that research with STEM approach to foster creative dispositions is imperative in order to obtain creative thinking skills among gifted students within the system of inclusion.

The application of blended learning in science influences gifted students' critical and creative thinking skills (Hikmah, Febriya, Daulay and Asrizal, 2023). According to Trinowati and Firmadani (2020), blended learning is a model that combines direct face-to-face (traditional learning) with online learning, using modern technology so that learning becomes more effective in order to improve gifted students' creative thinking skills (Ibrahim, 2023). The application of blended learning is also able to provide freedom for gifted students to use the facilities for learning, provide opportunities for the students to explore new ideas, discuss them, ask questions and provide responses, using technological devices (Hikmah, et al., 2023). The School Wide Optimum Model (SWOM) strategy has been adjudged as potent in improving greater thinking skills of gifted students (AlAli, Wardat and Al-Qahtani, 2023). The SWOM is considered as one of the strategies that represent the direction of fostering thinking through the school curriculum, focus on higher-level thinking skills, based on integrating thinking skills with academic content and aim to improve learning and develop

the thinking skills of gifted learners (Hussein, Hassan and Al-Jadan, 2022). SWOM strategy focuses on using activities and teaching both to bolster creative and critical thinking skills of gifted students. It also aims to create pedagogical effectiveness and make gifted students thinkers and critics (Dahesh, Ibrahim and Salman, 2022). Al Ali, Wardat and Al- Qahtani (2023) considered SWOM a strategy in the success of the educational process through which the interaction between the teacher, and gifted students and the educational process is achieved to prepare a generation of productive learners, who are characterised by thinking and continuous self-learning.

Zaidat and Al-Ziyadat (2016) reported the effectiveness of training programme based on the six Hats Model in developing creative thinking skills of gifted students. The purpose of the research is to evaluate gifted students' performance and to improve creative thinking, increase thinking flexibility using 6 thinking Hats Model. In this model, each student expresses what he or she has learnt, while reading depending on the colour of that specified hat and specific meaning at that stage. For instance, the black hat for analysis of situations and criticisms, yellow hat for optimism and linguistics communication strategies and the green hat for students' new ideas and advantages that were not mentioned by the author of the text. It is observed that the model is good for creative thinking skills of gifted youngsters in elementary and junior secondary schools. Anggraeni, Suherman and Guntara (2023) also considered the project-based learning model as a strategy for involving gifted students actively in the learning process and improving their creative thinking skills. In this model, the students determine their way of learning to explore their knowledge (Artika, Uyun and Isnaini, 2023). In problem-based learning model, gifted students focus on activities and are interested in participating correctly, actively and creatively in the learning process. The above model is similar to independent study approach described by Fakolade, Adelodun and Asiru (2021) as a planned research process that develops cognitive and creative skills of gifted students, which has been recommended to meet the creative skills of gifted students in an inclusive system. However, there are issues to be addressed around inclusive education in Nigeria if all the above strategies will be utilised by the teacher of the gifted.

Challenges of Inclusive Education Practice in Nigeria

Nigeria has been observed to have been among other nations of the world to achieve inclusive education (Obiekezie and Alexander, 2024), but the country is still underdeveloped in its practice of inclusion (Ayowole, 2022). The underdevelopment is characterised by deficiencies in professional competency towards advancing creative thinking skills and classroom provisions, caused by structural inhibitions in the national framework on education. Although the Nigerian laws and guidelines on inclusive education in Africa remain the best, one of the significant challenges the country has faced is in implementing these policies across educational institutions (Angwaomaodoko, 2023). Lawal (2022) noted that implementation of policies on inclusive education in Nigeria is dependent on the holistic systematic reform. According to Orlunga and Alikor (2023), inclusive education practice has failed in the implementation stage, because of such issues as corruption, lack of proper sensitization, and inadequate educational facilities which require attention for the

workability of the system to be a realistic endeavour. Funding, structural inhibitions as in curricular overloading, curriculum modification, deeply cultural beliefs and stereotypes and so on have been advanced as factors that hamper the practice of inclusive education in Nigeria (Angyraeni, Suherman and Guntara, 2023; Ayowole, 2022).

Mostly concerned about is the challenge that is connected to teachers, because such individuals are directly involved in making use of experimental techniques to advance creative thinking skills of gifted students. As reported by Agati and Caballas (2023), Nigerian teachers still require more in-depth training and hands-on involvement and participation in conducting inclusive education practice inside classrooms. This presupposes that, for the system to work effectively in the country, especially in the practice of gifted education, teachers have a lot of work to do in terms of positive attitudes to pedagogical practices. More so, the paucity of teachers for gifted students negatively impacts the level at which the practice of inclusive education achieves results (Okoli, Nwazuoke, Ezeanochie and Oduwole, 2019). Scarcity of teachers of gifted students is hereby perceived as a bane of the expected adoption of the scientifically proven techniques for improving creative thinking skills among gifted students in Nigeria. Although Ajuwon cited in Asiru and Nnamani (2023) remarked that general education teachers could be trained to be of help in this regard, the fact remains that a dearth of qualified and competent teachers is still a setback towards advancing the students' creative thinking skills in the context of inclusive education practice in Nigeria.

Conclusion

Creative thinking skills of gifted students could be advanced through experimental techniques used by the teacher within inclusive education practice in Nigeria. It follows that inclusive education in the country has to be a working system in the first instance for such strategies to be employed. On this note, the following are drawn:

- i. the implementation of policies is germane to making the inclusive education practice work;
- ii. monitoring and follow-up are required after the implementation of the policies on inclusive education; and
- iii. the challenge of qualified and competent teachers for gifted students within an inclusive education practice hampers the adoption of the experimental techniques, and by extension advancement of creative thinking skills among the students.

Suggestions

The following suggestions are made to relevant stakeholders:

1. The Nigerian government should implement inclusive education policies.
2. The Federal, State and Local Governments should constitute a team of experts who see to monitoring and follow-up of the practice for the purpose of quality control and assurance.

3. More professional teachers in the area of Gifted Education should be recruited.
4. In-service trainings of teachers of the gifted in the area of pedagogical practice should commence in due course. Such trainings would provide guidance on how to use the techniques examined in this paper in order to advance creative thinking skills of the students. It is therefore believed that such creative thinking skills of the students, once advanced could be tailored, in the long run, towards addressing some socio-economic and political problems confronting Nigeria. .

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