

ROLE OF SCIENCE TEACHERS IN THE CONTEMPORARY NIGERIAN SOCIETY ON STUDENTS CREATIVITY AND INVENTIONS IN SCIENCE

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Abstract

The society is changing fast and becoming more and more complex. The child should be adequately prepared to live, cope and contribute effectively in creativity and inventions, to meet with the demand of the society. Science teacher carried out this duty for the society. They have to help the child to learn by performing his roles through creativity, and inventions by transmitting knowledge and skills, motivating students to learn, being accountable for the students learning, attending to parents, selecting appropriate academic programmes and drawing board to reflex science teachers professional knowledge that are interesting to the students. If the science teacher plays his roles effectively, the learner will be motivated to learn and the society will progress. Teacher trainers should make sure that science teachers understand their professional responsibilities well before they are certified as professional science teachers to ensure the attainment of their students creativity and inventions toward the national goals.

One of the essential tasks of education is to prepare the child to like and contribute effectively in his society taking into account the social Milieus Allen, (1982) the child should be taught certain qualities of character and temperament, skills and habits needed for all or most aspects of social life most especially those which relate to others

people such as respect, honestly, truthfulness, justice, helpfulness, patience control of one's temper and above all manipulative skills that will enable him tap the resources of his environment as an adult. The child is thus to be trained to be a responsible person who can, to a large extent, determine his even conduct and decide

to attend to what is good, right and be dutiful. According to Gyuse (2007) the child has to acquire adequate knowledge so that, he/she will be able to developed the spirit of creatively and invention within his environment, the requirement for healthy living, proper interaction with the biotic and other abiotic components of the environment, so that the environment will not be disastrous to him and other inhabitants. Sax (2005) noted that, the child starts learning the rudiments of living from the family. Just like higher animals, the child is fed and cared for, and also taught how to cope with the basic requirements of the environment.

In our society, most of the knowledge about the child's environment comes to him through the society preparing him to develop the skills of creativity and inventions through his/her parents, relatives, peers and organized institutions such as church, mosques and most importantly, the school whose functions is to bring up the child in consonance with the yearnings and aspirations of the society.

The Role of Science Teachers towards Enhancing Students Creativity and Inventions of new ideas in Science

Science teachers has many important roles to play in developing students creativity and invention. Some of the important roles, which the science teachers has to play are:

- Transmission of Knowledge and Skills to Enhance Students Creativity and Inventions in Science:

The main function of the teacher is to help the young acquire the required creative knowledge and skills that will enable him live successfully and contribute effectively to his society. Science teachers effectively implementing the curriculum in the classroom through teaching does this. To teach according to Hornby (2005) is to help somebody learn something by giving information about it or to show somebody how to do something so that, they will be able to do it themselves. He/she has to ensure that the instructional objectives have been achieved through appropriate evaluation methods. It is only then, that he can assess the progress of his/her students, their learning difficulties so that he can take an appropriate action and appropriateness of the curriculum and above all appraise his teaching as a professional.

- Motivating Science Students to developed their mine-toward creativity and inventions of new ideas in Science

One other important function of the science teachers is that of motivating learners to direct their action to learn, through self reliance. When people see reason and the importance of what they are required to be motivated by their teachers through the presentation of materials that are relevant to the learners' needs so that the students can

relate what they are learning from their environment and see the possibility of using their knowledge in developing new ideas toward improving materials in solving the societal problems. Muodumogu (2007) comments that, the curriculum implementation takes place in the classroom under the guidance of the teacher. The success or failure to attain the educational goals depends to a very large extent to the expertise and commitment of the teachers. Science teachers are accountable to the learner; the parents and the society for the learners' learning of what has been planned to learn in school tagged the curriculum.

- Science – Teachers Accountability in enhancing Students Creativity and Invention in Sciences

Jande and Dechi (2007) observed that, science teachers being accountable means he/she should blame himself/herself not the students, their parents or the environment when the learners fail to learn. Solomon (2008) observed that, it is the responsibility of the science teachers to help the learner learn how to be creative towards inventing things/materials base on the knowledge acquired, and when he/she fails to make learning take place he/she showed be blamed, no other person but rather look inwards to see where the problems of the failure is coming from so that he/she could rectify it. However, these will allowed the teacher to impact more ideas to students as to improved in their creativity and new inventions.

- Attending to Parents will Enhance Creativity and Invention of Student in Sciences

When parents know that the teachers have the interest of the child at heart they, the parents, show more commitment to the education of their children whenever the request material for learning. Science teachers should endeavour to attend regularly and promptly to the parents of their learners. This will assist solve problems which some students may encounter in the home for support from parents, for the teachers can have the opportunity to discuss the students problem with the parents.

- Emotional Involvement with Students and Parents toward Enhancing Students Creativity and Invention in Sciences

Science teachers should be concerned with what happens to his/her students and their parents. This will make the parents have more interest in the education of their children, and it will also enhance their learning creativity, because the students will look at the teachers as more than just their teachers but one who is interested in all aspects of their development.

Drawing Board to reflex Science Teachers Professional Knowledge, for Enhancing students in Creativity and Invention in Science

Teacher standards represent a measureable and public statement of the quality and professionalism regarding

Role of Science Teachers in the Contemporary Nigerian Society on Students Creativity and Inventions in Science - Samaila Bawa Tagwai

the required knowledge, skills, and attitudes of teachers. Teacher's standards should be the foundation and ultimate goals of the curriculum toward developing students for creativity and inventions.

The table below provides details about the teachers standard.

| Professional knowledge | Characteristic | Evidence |
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| Teachers know how learners learn and how to facilitate learning effectively. | Teachers draw on the body of knowledge about learning and contemporary research into teaching and learning to support students toward learning creativity. | Teachers reinforce good responses to create active and participatory learning. |
| | Teachers know the importance of prior knowledge and language for learning, and the impact of discussion group to his students. | Teachers should appreciate the previous knowledge of the learners in the lesson and build on it appropriately interaction and reflection in the learning process. |
| | Teachers should know how to engage learners in creative active learning process. | Teachers should ensure appropriate learning environment, provision and use of suitable instructional materials with a well-designed scheme of work and lesson |

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| | Teachers should know how class room and programme design, use of materials and resource and the structure creative activities, impact on learning. | plans etc. Classroom arrangement time table and duration of lessons, use of instructional materials including presence of improvised teaching materials in the lessons and learning activities, schemes of work, lesson plans etc. |
| Professional practice Teachers create and maintain safe and challenging learning environment for creativity and invention for students. | Teachers develop a positive learning environment where respect for individual is fostered and where learning is focus. | Evidence of learner's participation, freedom to express opinions, activities which enable the learners to discover who they are (their potentials and respect for one another). |

- Selection of Appropriate Academic Programme to Enhance Students Creativity and Inventions in Science:

Science teachers should design academic programmes in a way that meets the needs and desires of each

students so that the learner creativity will be motivated towards learning. The interest of the students should be his interest and he should feel concerned when students do not understand his instructions. The activities planned for the students should be those that interest the learners. The students will then take joy in learning and the teachers job will be more rewarding to him, the student and the society.

- The way Forward in enhancing Students Creativity and Inventions in Science

According Oyetunde (2002) the society is fast becoming more and more complex and if the child is not adequately prepared towards his learning creativity and inventions to face the challenges of his time living will become too difficult for him. Science teachers teach children so that they can face their future with more certainty as adults. The development of a nation hinges on the quality and dedication to duty of their teachers. Akinmande (2009) Science Teachers in the Contemporary Nigerian Society by Stakeholders in Inventions in Science - Samaila Bawa Tagwai

accountable to the children learning. Our Teachers should be more Accountable to the Children's Learning. We often say that children are the leaders of tomorrow, so if the learners are not helped now to acquire the knowledge and skills toward their creativity and innovations that will enable them live successfully. The society will not progress as desired.

Conclusions

In conclusion, creativity and inventions in children can only be developed when science teachers training colleges spend major portion of their time helping science teachers to be creative themselves. The relaxed classroom situation should be improved and create good conditions that would develop and spur creativity in children. The society is fast changing and becoming more complex. To live and cope with the changing society, therefore, one requires a certain amount of basic knowledge about the environment in which one lives. The skills that will enable individual tap the resources of the environment are also required. All the aspects of life that will enable the students face the challenges of the society are articulated in the curriculum, which is implemented by the teachers in the classroom through teaching.

Science teachers should therefore guide the students carefully to overcome their learning problems. This can be done by Stakeholders relating the learning to the problems in the society. No other persons but science teachers themselves will improve the working conditions of teachers. Teachers are professionals, who know what is required in the discharge of their duties. So they should ask themselves otherwise they will fail in their duty of helping the young to learn. They have to do everything possible to make the learning environment conducive.

Teachers as professional should be accountable for developing students creativity toward invention, all that goes on in the classroom where the curriculum is been taught.

Recommendations

The following recommendations are made so that the learner will be assisted to acquire the knowledge and skills that will enable him live and contribute effectively to the society.

1. Science teachers have an important role to play in the development of the society by making the students to be creative towards inventions. Teacher trainers should therefore make sure that teachers understand the issues involved in teaching as a profession before they are certified as professional teachers.

2. Science teachers should realize that, they are accountable to the students learning and the product of their teaching determines their professional competence. Teachers need to make the classroom activities stimulating enough to help students in learning. This can be done through motivation. The students and the learning out come should be the concern of the science teacher. He can do this by evaluating the students so that, they will be able to assess themselves on the learning process.

References

Akinmande C.T.O. (2009). Teaching Difficult integrated Science Concepts to the gifted child.

Journal of Science Teachers Association of Nig. 27(2) 84-97.

Allen, R.T. (1981). *The essential tasks of Education.* Zaria: NNPC.

Gyuse, B.Y. (2007). Editorial comments. *Journal of Research in Curriculum and Teaching.* 2(1).

Hornby, A.S. (2005). *Oxford Advanced Learner's Dictionary.* Oxford University Press.

Jande, T.F. and Dechi, A.A. (2007). *Enhancing democracy through science and Technology.* National Association of Science, Humanities and Education *Research Journal.* 5(1) 57-60.

Muodumogu, C. (2007). Teacher's perception of students learning problems implications for reassessing teachers commitment and attitude *journal of research in curriculum and teaching.* 2(1) 83-94.

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Oyende, I.O. (2002). *Curriculum Implementation at classroom level.* In T.O. Oyetunde & C. Piwunalends/*Curriculum and instruction. Insights and strategies for effective teaching* Jos: LECAPS Pub.

Sax, G. (2005). *Principles of Educational and Psychological*

Measurement and evaluation. New York: MacMillan Pub. Cp. Inc.

Solomon, J. (2008). *Group discussion in the classroom.* *School science Review.* 12(261) 29-34.