

THE RELEVANCE OF LIFELONG LEARNING TO SELF-RELIANCE: THE ROLE OF SCIENCE, TECHNOLOGY AND MATHEMATICS (STM) TEACHER

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ABSTRACT

The main thrust of the paper was to examine the concept of life long learning and its relevance in self relevance. It discussed the role of Science Technology and Mathematics (STM) teacher in enhancing life long learning by adopting students centred active teaching techniques that could improve students activeness and promote maximum retention of STM knowledge and makes learning real and applicable to life situation. It suggested that teachers should encourage students to see learning as an integral part of successful living.

Introduction

Information and knowledge explosion of today requires individuals to acquire different forms of knowledge and be able to develop skills for maximizing knowledge assimilation, processing and utilization. This entails a rising level of scientific consciousness and advancement in science and technology. To achieve this, there is the need for well informed men and women to serve as teachers. A teacher need to engage in endless search for knowledge in order to upgrade, refresh and refurbish his knowledge and skills in teaching so as not to stagnate. According to Wasagu (2005) the world of a teacher is simply a world of learning. He further opined that teachers whose professional knowledge and skills are not up-to-date are not only obsolete but also down-right dangerous to the society. This therefore demands that teachers should help and take part in the search for knowledge and consider this as an on-going feature of their lives.

This paper discussed the concept of life long learning and its relevance in developing skills for self-reliance in the learner. It also discussed the role of STM teachers in life long learning and it suggested ways in which STM teachers can enhance life long learning for themselves and their students.

The Concept of Lifelong learning

Life long learning is regarded as the opportunity given to a person to learn throughout his life. This is with the view of providing the individual with the opportunity to unfold, and develop his talents, intensify and continually update his knowledge. According to Etim (2002) the concept of life long learning recognizes learning as a continuous process occurring in and out of schools – education beyond the formal school system. Ifeakor (2005) also conceptualized life long processes as the acquisition of skills that would sustain recipients throughout life, making them useful as individuals and to the society in which they are living.

For Jaryum (2005) life long learning is the development of human potentials through a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their life time and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environment.

Etim (2002) identified three key lifelong learning concepts. These are:

1. There should be coordinated learning opportunities for people of all ages
2. All manner of organizations – school and non-school concerned with the well being of people should take part in facilitating learning.
3. The community (or city or metropolitan region) should be the focus for planning and coordinating learning activities.

Alazi (1987) cited in Ifeakor (2005) gave four principles of life long education as follows:

1. Out of school learning should be an integral part of school education
2. People should no longer accept formal and professional teachers as the sole mediation for learning.
3. People need to acquire new attitudes toward learning and believe in themselves as capable of learning throughout their lives and know how to carry out learning.
4. There should be a new relationship between different learning settings so that the gap between them would be minimized or even closed up and learners would have the opportunity for transferring from one learning environment to another.

Tough (1971) cited in Etim (2002) reported that life long learning is deliberate and it has the following definite characteristics:

1. It has a definite, specific goal and it is not aimed at vague generalization such as “developing the mind”
2. It is intentional – learners are aware that they are learning
3. This goal is the reason why the learning is undertaken (i.e it is not motivated simply by factors like boredom).
4. The learner intends to retain what has been learnt for a considerable period of time.

Schools should therefore cultivate real awareness of life long learning opportunities to students and help them to enjoy learning experiences throughout their life time. This means school curriculum should integrate life skills and teachers should adopt flexible, active and child-centred techniques that are practical and experimental in nature, giving examples with real life situation and emphasizing on the utilitarian aspects of the science subjects. This enables the learner to be active in learning and make what is taught worthy of being learned.

Lifelong Learning for Self-Reliance

Emphasis in education is changing today from learning as acquisition of knowledge to learning for the utilization of knowledge. This is in line with the nature and tempo of the age in which we live. Globalization is confronting the world with great challenges among which is the challenge of successful living and adjustment within the society. This demands schools to impart in the learners needs-oriented, capacity building skills necessary for self-reliance. According to Mero (2009) self-reliance is synonymous with self-sufficiency. It means doing things for ourselves. It does not mean that we do not need others in our lives, only that the kind of help we ask of others is the kind of help that makes us better able to care for ourselves. This requires teachers to give learners proper guidance as this is said to provide proper instinct for brain development (UBE Digest, 2005). Thus every learner must be encouraged to regard learning as a permanent challenge. According to Dukku (2003), no matter the level of individual's educational attainment or professional competence “there still must remain some as yet unused capacity for his mental, moral and spiritual growth”. This requires an individual to always be learning and improving himself. Thus the need for life long learning which is identified as the only way to meet the challenges of the unknown future.

To survive in a scientific and technological age, new dimensions in the goals and direction of teaching and learning process have emerged and continued to appear. Science teaching is now considered as an activity-oriented enterprise which involves critical thinking, creativity, resourcefulness, enthusiasm and the ability to develop scientific skills and provide functional STM facts, concepts and principles. The result of this is the production of competent, job-oriented, self-reliant individuals fully

equipped with life lasting skills that makes them useful to themselves as individuals and to the society in which they live. This is what is considered as desirable knowledge, the type that is relevant to human needs; that has broad social benefits and makes its recipient, well-adjusted and socially efficient. According to Ifeakor (2005) every aspect of STM teaching must have operation of living a life as its ultimate significance. That every STM subject must be taught to be an end in itself in the lives of the learners.

The success of the learner in acquiring this kind of learning depends to a large extent on the STM teachers' ability to apply their professional knowledge of science content and pedagogy effectively to be able to raise the scientific and technological awareness level of the students, improve functionality in STM and emphasise the interrelationship that exists between the needs, purposes and interests of the learners and what is taught and how it is being taught.

It is the goal of science teaching to produce innovative scientists, medical doctors, engineers, technologists and technicians who can make practical use of their scientific knowledge and technical know-how to create and invent things with the view of creating job for themselves and others thereby solving the problem of unemployment for better, fuller and self-reliant life.

The Role of STM Teacher in Lifelong Learning

The primary job of a teacher is to promote learning. He cannot do this if he is not well informed himself. This is because he has to lift his students higher than himself. Doing this requires teachers to be up-to-date in their learning. They need to continuously clarify and deepen their understanding of science content and also know how to be effective in the classroom. According to Dukku (2003) the need to update one's knowledge or skills is always there for the individual to keep abreast with changing situation and circumstances in personal and public affairs.

In curriculum implementation, one of the stages of curriculum development is where the planned, structured and sequenced content of the curriculum of STM is put into use by the teacher for the benefit of the learners and the society through direct instruction in the classroom (Salaman, 2007). The performance of the teacher in the classroom teaching/learning situation is a major determinant of the success or failure in the realization of the objectives of life-long learning.

The competence of the teachers is the main focus here and the quality of STM knowledge and skills to be acquired by learners will to a large extent depend on the quality of teachers. This is in relation to their qualification, in terms of training and areas of specialization, years of teaching experiences, use of adequate and effective

method of teaching. (Salman, 2007: 66). Enhancing life-long learning for self-reliance will, therefore, depend on the teacher's ability to support his teaching with concrete evidences, using a variety of methods, audio-visual aids and his ability to be creative and productive among others.

In these days of scientific advancement, the goals for each level of education up to the university level stressed the need for every student to be STM literate. Salman (2007) asserted that for a nation to help her citizenry to become intellectually informed in science, technology and mathematical ideas, notation and skills for logical reasoning and scientific and technological enquires, there is a need for well groomed and qualified professional teachers of science, technology and mathematical. What teachers do in the classroom could be seen, therefore, to have direct influence on the learning outcome of the students. Whether they will embrace the idea of a life-long learning will depend on the orientation given to them in and outside the classroom setting.

The teacher is a powerful force in any educational system. Teacher qualification, preparedness, training, skill acquisition and attitudes are determinants of the success or failure of the system. However, the teaching of science is not a task that every teacher can easily handle. It requires the expertise of some basic professional skills to be able to display the business like qualities of STM teaching. As the facilitator of science learning, the science teacher is concerned with curriculum development, instructional development and pedagogy of science. He must show competency in the subject contents, the ability to design and interpret science learning programmes, and committed to realizing sound and functional science learning outcomes. He must be conversant with the process and products of science and promote practical science with emphasis on hands-on-activities.

Teachers of science, technology and mathematics must therefore have an active mind and must keep it sharp by constant activity. This is done through private study, attending workshops and conferences thereby discussing with others on topics that exercises the intellect. They should therefore develop a belief in the value of learning through out their life and convince students that learning will give them better opportunities and choices in life.

Life long learning therefore has become an essential feature in the life of both teachers and students of STM as it supplies necessary knowledge and skills for successful living within the society.

Suggestions

- Students should be engaged in activities that are practical in nature apart from the theoretical offerings. The importance of practical works in science, technology and mathematics could be affirmed by the old Chinese proverb that says:
 - *I hear and I forget*
 - *I see and I remember*
 - *I do and I understand*
- Student-centred approach to teaching – the use of “Active Learning Techniques” that enables the learner to learn more materials, retain the information longer and enjoy classroom atmosphere. This teaching technique could improve students’ activeness, challenge practical exposure and promote maximum retention of STM knowledge in and outside the classroom situation (Petty, 2004).
- STM teachers should encourage students to see learning as an integral part of successful living. Thus the spirit of education as a life long affair should be inculcated in them for continuous educational enrichment of themselves.

Conclusion

This paper discussed the concept of lifelong learning and its relevance to self-reliance. It also discussed the role of STM teacher in life long learning and concluded that life long learning is an essential feature in the life of both teachers and students of STM.

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