IMPLICATIONS OF SUPERSTITION FOR SCIENCE AND SCHOOL ADMINISTRATION IN THE 9-3-4 EDUCATION REFORM

Azubuike, K.A.
Department of Educational Foundation and Administration
Nwafor Orizu College of Education
Nsugbe

Chikobi, P.C.
Department of Biology
Nwafor Orizu College of Education
Nsugbe

Abstract
The paper looked at the issue of superstition from the standpoint of its implications for study of science in secondary schools as well as for school administration in the 9-3-4 education reform. It examined different ways by which superstitious beliefs can affect the teaching and learning of science in schools. There are both negative and positive effects. Superstitious beliefs constitute cultural barriers to change. In this vein they impair study of science and the administration of schools. On the other hand, superstitious beliefs can enhance them were culture agrees with science. Its recommended that teachers teach beyond superstition, encouraging beliefs that foster learning and discouraging those that hinder it.

Introduction
Many problems that face nations cannot be solved except through application of science and technology. Science is an order study of nature. It is a body of verifiable knowledge. It is empirical. The benefits of this claim largely elude societies where Superstitious beliefs are so laden on people that they rarely disabuse their minds of them. Superstitious beliefs are beliefs of people that are not verifiable. They have no obvious evidence of authenticity. They do not have clear underlying principles as in science. Effective teaching and learning of science in Nigeria can be thrown to the winds in the face of superstitious beliefs, and school administration can be hampered. School administration is the planning and management of school affairs.

Numerous academic articles have much discussed the nature of traditional/cultural practices and superstitious beliefs. For instance, Chikobi and Okafor (2000) noted different substances that regarded and treated as sacred in some different communities. For example, the cocoyam is so regarded and treated in Delta of
Nigeria, as with the python in Idemili North and Idemili South Local Government Area (LGA’s) of Anambra State. Chikobi, Ezennia, Anyamene and Ezumezu (2002) made similar observations. Such cultural beliefs and practices may hinder or promote the study of science. They may also hinder or engender school administration.

This paper highlights an account of how those practices and beliefs may hinder or promote the learning of science in Nigeria vis-à-vis the influence on school administration with particular focus on the 9-3-4 education reform. The influences of the superstitious beliefs on the teaching and learning of science as well as on school administration in 9-3-4 education reform do really need to be examined. The education reform is a modification of the education system, providing a new approach to the education industry for improvement of teaching and learning.

**Negative Effects of Superstitious Beliefs on Learning of Science**

Science is dynamic, and hence changes from time to time. Superstitious on the other hand tends to keep the minds of people in conservative states. Superstitious beliefs constitute cultural barriers to change and therefore impede scientific development (Barimba, 1993).

It has been observed that wherever traditional cultural practices of people, especially those of superstitious beliefs, conflict with scientific concepts and principles, the learning of science is jeopardized (Chikobi, Ezennia, Anyamene and Ezumezu, 2000). For instance, a boa constrictor is believed to be a sacred creature in some parts of old Bandel and Anambra States of Nigeria. Iguana is also sacred among some of the people. The same sacred status goes for tortoise and some species of cocoyam. In the Idemili North and Idemili South LGA’s of Anambra State the python has been noted to be sacred.

In Awka, it is the monkey, and in Ihiala it is the green snake that are regarded and treated as sacred. Such entangling quagmire of superstition abound in the black races of the African continent, especially South of the Sahara and North of the Limpopo. Any unfriendly handling of the things regarded as sacred is seen as a taboo among the people and treated as such. A science teacher who dares touch these organisms for any scientific teaching, or experiment, in any of the communities concerned is reprimanded as having committed a serious crime. In order to rectify the supposed crime one god or the other shall be appeased through some ritual practices. Matters like this keep science teachers and students in difficult positions especially in cases where they do not easily have alternative materials to use for their sciencing.

The problems of superstition in sciencing are immense. Chikobi and Okafor (2000), reported one situation whereby a health science teacher after teaching a curricular content on purification of water the students went home and still believed that some spirits purify their streams and ponds every sixth
day of the week (Friday) and on some other specific days of cultural rituals. The guinea worm scourge in Abakiliki persists as the people do not believe that their stream ponds is infested with the guinea worm. In the Delta State of Nigeria miscarriages in women are generally attributed to witchcraft. Students of different cultural background may give unscientific reasons for occurrence of earthquakes after receiving formal geography lessons on it at school. Attitudes like these are conservative and arise from conflicts between culture and science. These conflicts are promoted by superstitious beliefs, and impair science teaching and learning. Technological development, which is rooted in science, is accordingly jeopardized in such cultures.

Positive Effects of Superstitious Beliefs on Learning of Science

Superstitious beliefs may promote teaching and learning of science. This occurs where there is mutual agreement between culture and science. Harmonization of superstition with science would be a motivating assets to science and technology in developing countries, like Nigeria. A desirable situation like that will go a long way in enhancement of science teaching and learning vis-à-vis scientific growth and emancipation. For instance, children in some cultures are not given meat and fish because they are believed to cause problems of intestinal worms in the children. Intestinal worms are a common ailment of children in the African continent. That superstitious belief has been followed up with discovery of the fact that some species of animals, and fishes, are infested with tiny worms. Women in such societies do now keep themselves busy removing many of these worms in meat and fish before boiling them. Children now eat the meat, fish as do the adult.

In another instance of the enhancing implications of Superstitious beliefs for science, there is belief in some places that circumcision makes boys strong, healthy and virile. This superstitious belief has also been followed up. It has been discovered that the foreskin, which covers the penis, does often harbour pathogens such as cancer-producing bacilli. (Chikobi et al, 2000). They reported that the bacilli can cause cervical cancer in women. In such a case superstitious views and scientific findings agree with each other and elucidate the significance of male circumcision. The significance is in promotion of good health.

Another important example, as reported by Chikobi and Okafor (2000), is the traditional belief in some societies that there is a herbal remedy often referred to as wenowo used for changing a woman’s pattern of birth from female to male children. In this context genetics reveals that of the 46 chromosomes (23 pairs) that human being possesses, 22 pairs are of similar size and shape in both men and women. The 23rd pair, the sex chromosomes, is similar in females but dissimilar in males. Women have this as XX chromosomes (homogenous x
chromosomes) while men have them as XY chromosomes (heterogeneous X and Y chromosomes). If a spermatozoon that fertilizes the egg of a women is of X chromosome, a baby girl is conceived of. But if it is of Y chromosome, a baby boy is produced (Kimball, 1975). Accordingly, any maneuver that can influence the nature of the sperm cell at fertilization of the egg (ovum) will invariably change the pattern of conception and birth in respect of gender (sex) of the ensuing offspring.

Another, yet interesting, instance is the belief of some people and groups of people in soul travel - a mental construct notoriously used in witchcraft. It allegedly allows the soul of a person to travel out of the person’s physical body. This phenomenon can be likened to what psychologists and scientists refer to as dreams, hallucinations; or see as some functioning of the sub-conscious mind.

A common belief among many Nigerians in infant reincarnation (Oghanje among Igbos, and Abiku among Yorubas) has engendered the people’s understanding of sickle cell anemia. The sickle cell anemia is responsible for the death tolls of infants who were branded the Ogbanje and abiku. For another case, thousands of years ago the numerous arrangements of stars in the night sky were imagined to have shapes of animals and gods. These arrangements were called constellations and many of them were named after animals (example Great Bear and Leo) and gods (example Perseus and Cassiopeia) – Nelkon (1975). This perception of stars has emancipated study of astronomy and the Greeks have therein made complex models of the universe. The above examples, amidst many others, are cases of harmony between superstition and science. This harmony, if properly handled, would promote teaching and learning of science, as the superstitious beliefs become followed up with scientific investigations. The promotion shall lead to national growth through technological development, emancipation and empowerment. This is because science is the bedrock of technology.

Effective Teaching and Learning of Science in Superstition-Laden Societies

Cultural practices and superstitious beliefs are significantly part of the traditional pride and dignity of many societies especially of the black man. Nigeria for example, is vastly laden with superstitious beliefs among her different people. The cultural practices and superstitious beliefs of people may need to be preserved in order to safeguard the dignity and pride of the people. Much, however, needs to be done in order to enhance teaching and learning of science in the face of unfriendly cultural practices and beliefs. This is necessary for national growth.

For Africa with all her varied cultural practices and superstitious beliefs, Bajah (1982), observed that there is science in the black continent. The teaching of this science, Bajah noted, should be made relevant to the African child in respect of the needs and aspirations of his community. This is to make his learning of the cosmological realities of science meaningful to him. A
person collects different kinds of information from different sources and through different senses. When he/she bestows meaning and order on the information so collected knowledge emerges. The purpose of teaching, therefore, is to present to the learner meaningful information in an orderly form. Science teaching must therefore be orderly and relevant to the society in which the child finds himself/herself so that he/she can make meaning out of it. To achieve this, the teacher should disabuse his/her mind of pedagogical use of talking and chalking (the talk–chalk instructional method). He/she should lay emphasis on use of more effective instructional strategies like processes method, demonstration method, project method, hand-on-activity method, inquiry method—especially as used in guided discovery. The teacher must also lead students from known information to the unknown hence teaching from the known to the unknown.

The teaching of science should provide for all shades of learners particularly given the objectives of the Universal Basic Education (UBE) in the 9-3-4-education reform. These objectives round off in basic literacy for all citizens. Integrated science is a subject of its own, and it is a core curriculum in the junior secondary school (JSS) course in Nigeria. A close look at the integrated science curriculum shows that a good extent, it caters for the interests of different group of learners-learners of different personality/demographic variables. The science teacher should follow up this catering in his/her instructional approaches unhindered by any experiences of superstition.

**Influence of Superstitious Beliefs on School Administration**

Superstitious beliefs can influence school administration positively or negatively. This depends primarily on how the beliefs affect science in the school. Invariably, in situations where superstitious beliefs hinder the teaching and learning of science, the effects on administration will also be negative. For instance, when students refuse to collect or handle some specimens of study like the python in the Idemili North and South L.G.A’S of Anambra State because of their superstitious attachment to it, the school administration will have a difficult task in changing the position of the students. It becomes more difficult for the school administration if the science teacher has similar superstitious attachments to the python.

On the other hand, when superstitious beliefs enhance the study of science, the going becomes easy for the school administration. The teacher is enthusiastic to teach and the students are enthusiastic to learn. Discipline is maintained particularly as the students imbibe the scientific attitude. This attitude includes being honest, objective, self-criticizing, inquiring, open-minded, skeptical, and willing to suspend judgment until enough of relevant data have been collected and analyzed, reliant on evidence, co-operative, curious, courageous, painstaking, humble, patient,
observant, as well as being committed to accuracy (Chikobi and Okafor, 2001).

Summary and Conclusion

Much information has been given in the paper on the merits and demerits of supposititious beliefs in teaching and learning of science. If science teachers shall give sincere heed to the ideas presented in the paper, study of science in the country will be improved. Scientific and technological development will also be largely facilitated. The content of the paper shall help students see where superstition and science meet in mutual reinforcement of each other, as well as see where they part in utter disagreement. This will enhance the student’s understanding of scientific concepts and phenomena. It will also go a long way to enable preservation of culture while scientific growth and technological development are maintained.

On part of administration the paper will help school administrators, the secondary school principals precisely, to have insight into the relevance of science for administration vis-à-vis the implications of superstitious beliefs. On the whole, it is recommended that schools encourage beliefs that foster learning and discourage those that hinder it. The teacher must teach beyond superstition, and the learner must learn beyond superstition.

In conclusion, superstitious beliefs have both negative and positive influences on teaching and learning of science as well as on school administration. The situation depends on the context of beliefs vis-à-vis the subject matter of teaching and learning in framework of the school administration.

References


Science Teachers Association of Nigeria- 