

FACILITATING AND LISTENING AND SPEAKING SKILLS FOR SCIENCE ACQUISITION USING EDUCATIONAL TECHNOLOGY MATERIALS IN PRIMARY SCHOOLS

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Abstract

The topic of this paper is Facilitating Listening and Speaking Skills for Science Acquisition using Educational Technology Materials in primary schools. Most students believe that sciences are very complex and abstract to understand. This may account for few students opting for the subjects because they find them very difficult to understand. Science and technology is the key for development in any nation, yet few students opt for it. The way science and technology subjects are taught in the schools may be the cause of students running away from it. Listening and speaking skills can be used to rekindle students' interest in sciences at the primary school level. This paper therefore addresses the following; (a) incorporate speaking and listening skills while teaching different subjects, (b) Teaching listening and speaking skills incorporating sciences. (c) Availability and use of educational technology materials for teaching listening and speaking skills beyond the English Language class in the primary schools. It is believed that effective application of the skills using these materials can enhance learning and understanding of sciences. It is suggested that the government should make Available educational technology materials in the primary schools for effective speaking and listening class for science acquisition.

The possession of language more than any other attribute of man distinguishes him from any other animals. Okonkwo (2006) states that there is the need to understand the language that makes

man human since it is the only means to understand one another-communication of ideas, feelings and desires.

Language such as English language performs multifarious function as national language as well as official language in Nigeria. English serves as a vehicle for knowledge in the teaching and learning of science and technology, publication and other scientific discipline. Most pupils and students in primary and secondary schools respectively are finding it difficult to understand what they read and learn in science and technology. Hence, few students opt for sciences among students in the senior secondary schools.

Listening and speaking skills become necessary for maximization of science acquisition in primary schools in pursuit of national development vision. This dream can only be realized through educational technology option.

Udosen and Ekpe (2003), state that the ability to attach meaning to, and make use of written symbols is by exploring the sounds of spoken

Language which is at the root of learning to read. The teaching of spoken and listening English is not new in Nigeria because it is among the earliest methods of teaching reading which was abandoned and revisited, Strickland (1998). The question is no longer about whether phonetics should be taught but the medium which can enhance maximum listening and speaking skills to achieve science and technology using

educational technology option remains the objective of this paper.

Listening and speaking Skills in English

These have to do with paying attention to learning the letter-sound correspondence which exists in language. May in Udosen and Ekpe (2003 ; called it "grapheme-phoneme correspondences". The process of learning spoken English involves paying absolute attention and listening effectively. This enhances appropriate and Effective science education delivery which is iterative for national development in Nigeria. To achieve this, Udosen and Ekpe (2003), state that a general knowledge of the sound system represented by the English alphabet is inevitable. Because of this, listening and spoken Jish does not have a consistent one to one sound alphabet correspondence. Phoneme is in the individual sound, example /f/,/k/,/n/ but letters that represent speech sound is called graphemes. Example 'f' is a phoneme which represents graphemes 'f' as in fish, enough, phone and food. /k/ as in cough kind cane, kettle and /n/ as in sound which represent the grapheme coming, season, song etc. The phonetics uses the connection between the letters and the sounds of speech or between a combination of letters and their sound. The sound speech has relationship with the letters of the alphabets. Children become aware of this relationship, this is because effective listening aids speaking. Children become aware of the relationship as they see the shape of the letters and listen to the corresponding sound, this is pivotal to Nigeria children especially where English is a second Language. For Nigeria children to understand sciences effectively, they need systematic instruction in phonological and phonemic structure of English language which provides foundations for listening and speaking comprehension in a language such as English.

Clagget (1993) identifies visual, auditory and kinetics sensory discriminations as being important in teaching listening and spoken English in phonetics. Visual discrimination entails that the

eye must establish relationship with the written symbols. The auditory aspect involves the ears in discrimination between contrasting and related sounds coordinators. Clagget (1993) is of the view that phonetics lessons in Nigeria primary school should be informal, playful, game-like and stress free. Developing and mastery of listening and speaking skills enhance understanding in teaching of sciences . This is because words found in the field of sciences can be incorporated in the process of phonetics instruction.

Teaching Listening and Speaking Skills Incorporating Sciences

A teacher can emphasize on a particular letter such as Ff in both capital and small letters. The teacher emphasizes on name, how it is written, and the form of the letter F in words such as flower, fan, father, fish and face.

The teacher should draw, drill the pupil on the words and then use words in sentences such as

I love rose flower.

Ada has a beautiful face.

The fan is blowing cool air.

Fishes live in water.

My father is a good man.

The teacher makes the children understand that the phoneme /f/ is also noticeable in the words such as phone, photo, phobia, cough, rough etc. *In* each case the teacher provides explanation to the meaning of each word and uses s such word in sentences.

Make the children listen as you read and let them identify the words in different sentences and words in the field of sciences. Use phonetics cassettes and play for listening and speaking skills.

Obviously, it is clear that classroom reaching teaching alone cannot solve the problem of listening and speaking for science acquisition. It therefore becomes imperative that educational technology be incorporated in teaching and learning of listening and speaking skills in English for science acquisition

Educational Technology as an Aid in Listening and Speaking Skills in English for Science Acquisition

The basis for all learning ultimately is experience, either first hand or vicarious and the most common vicarious is verbal communication, (Agwu, 2002). Modern media communication which is technologically based becomes essential in listening and speaking which is vital to acquisition of science in children. Technology materials should be used in teaching to prepare pupils for reading. Technological materials enhance comprehension and learning and no doubt serve as a great facilitator for listening and speaking skills which could be used to harness learning of sciences. Some of The educational technology teaching materials and how they can be used to enhance learning include:

Tape Record and Record Players

These could be used for recording lessons in listening and speaking that . incorporate sciences. The aim of the lesson is for attentive listening and speaking. Lessons could be recorded in series. Science based subjects could be recorded and taught in form of listening and spoken English classes.

Radios

Radios could be used to enhance listening and speaking English classes. They facilitate listening and can be viable means for science acquisition. Specialist in the language class could be brought to teach in the radio. Again, model speakers in language classes involving sciences could be brought to teach. The important thing is that, the children should be made to listen attentively while the lesson is going on.. Activities in the class should be made to include dialogue among children. Based on these, the radio instructor should make the teaching to be interesting and very easy to understand.

Television

Television is a powerful media that can serve the purpose of audio and visual. Different types of lessons in spoken and listening based on sciences can be organized in series. The advantage of this is that the children can see examples used in different actions and be brought into light. Examples include fishes in water, different types o animals (their mode of lives and life history), sources of water and their uses. Children can be made to practice pronunciation and spelling, read from the screen and made to pay attention to important points. Sometimes, children can be called to be part of the lesson in the science class in the television while children at home and school listen and watch them attentively. The children are made to join in the action and the processes while the lesson is going on.

Over Head Projector

This is visual materials that can be played by a teacher or an operator. From time to time, the instructor can point at important fact on points. This demands listening attentively. Lessons can be prepared ahead of time stored and played when needed.

Other Visual Materials

These include, models, pictures, overhead projectors, posters, chalkboard, slide, maps, etc. The operation of all these should involve a model operator since they serve as instructional aids. Lessons can be discussed step by step and each case, important points are pointed at... Science acquisition is high in this case, since children are made to listen to pronunciation and get the information. All these are necessary for science acquisition.

Textbooks

This can service as listening and speaking materials and as a teaching media for science acquisition. The skill of reading is

necessary. Facts are written in prints, pictures, arrows, maps. Drawings are normally colourful and they are used to arouse visual sensory imageries. Models such as the teacher could read while the children listen attentively. Pronunciation of words are done correctly and children listen and could be asked to read, construct sentences or pronounce words. Based on that, Agwu (2002: 186) identifies three general factors which have brought about:

1. Information explosion in the world today
2. Population Explosion in the schools
3. The great shortage of teachers. Others could be identified in Nigeria as
 - i. Unavailability of fund
 - ii. Unavailability of educational technology in our schools
 - iii. Acute shortage of educational technology instructors.

All these constitute great hindrance to effective teaching of listening, speaking and reading for science acquisitions. Science is the field of knowledge that needs to be seen felt and even touch. Children can only speak of what they had been taught, what they heard, they have seen and felt and even touched. Use of educational technology therefore becomes necessary in science acquisition. For science acquisition to take place, students must learn to listen to comprehension and speak of what they have heard.. Beaver and Bolger (2002) states that the aim of teaching is to convey certain ideas and basic knowledge to pupils within the shortest possible time. Teaching aids are, therefore unavoidable if these objectives are to be accomplished and knowledge retained. Based on this, Agwu (2002 : 149) defines educational technology as

a systematic way of designing carrying process of learning and evaluating the total process of hearing and teaching in terms of specific objectives based upon research in human learning and communication, and employing a combination of human and non

human resources to bring about more effective instruction

Children need to be introduced to this media to enhance listening, speaking and reading for effective science acquisition.

Some important educational technology that can enhance listening and speaking for science acquisition are those materials the children can listen to, pronounce and speak of as well as those they can see, feel, or touch. Teaching of sciences should therefore be made experiential which should incorporate speaking and listening skills to facilitate science acquisition.

Audio Tapes, Radio and Radio Cassette Player

These are materials that children can listen to, attentively and get information. Oral form of language could be taught there, such oral form could draw examples from science fields of studies. Comprehension involving science areas such as agriculture, physical sciences and health education can be co-opted in the listening and spoken English class. The advantage of this is that it can be played with or without an instructor. The children only listen to what is being played and these are called audio materials.

Model passages from science fields could be drawn and treated as listening comprehension. Hence children's attentions are drawn to science based subjects. If effectively taught, children's interest will be tending towards sciences.

Library

The issue in educational technology cannot be discussed without library. This is a storehouse for current print materials. Agwu (2002) sees the library as all information centre or learning resource centre where student can find variety of information. The teacher will need to introduce the children to the use of library.

She can introduce them to the variety of books in different fields especially those language texts that drew most of their passages from science based subjects.

Availability

The media, although vital for instruction are not available in most government and private schools. Ezema (2002) is of the view that the absence of electronic teaching aids in schools constitute problem in teaching and learning. The government, non-governmental organizations, charitable individuals, churches etc should join hands in ensuring availability of these vital resources. Parents however should ensure provision of audio and visual aids for the children at home. If these should be done children's interest should be drawn to science based subjects through listening and speaking skills.

Conclusion

To improve science acquisition in an English language class, there is need for maximization of listening and speaking skills. Availability of fund, training and retraining of more teachers, training of educational technology instructors and most importantly making available educational technology in schools, can make this dream to be realized. Phonetics involves the act of listening and speaking. Effective listening aids speaking and children become aware of the relationship when they see the shape of the letter and listen to the corresponding sound. Systematic instruction is needed in phonetics and phonology which provides foundation for listening and speaking skills. These however can be related to science based subjects as passages could be drawn from these areas while teaching listening comprehension. Thus, drawing children's attention to sciences. Teachers cannot carry out the task alone because of the tedious task involved in teaching and learning of language. It becomes

necessary therefore that educational technology should serve as an aid to project science acquisition in the language class. Audio aids such as radio, tape recorders and record players, audio visual aids such as televisions, textbooks, libraries and others should serve as an effective aid to the teaching of listening and speaking skills for science acquisition. Most of these things are not available in our schools. The government, charitable individuals and non-governmental organizations should join hands and make educational technology materials available in our primary and secondary schools. In this way, science based subjects can be incorporated in listening and speaking classes in language such as English. This is believed will make an interesting class and instill the interest in studying sciences in Nigerian pupils. This can be a sure way of achieving national development.

References

- Agwu, S.N. (2002). "Teaching English in Nigerian secondary schools in the New millennium: Educational Technology Options" in *Journal of education* (EBSU) (Vol.) .1.1.
- Beaver, G.G. & Bolinger, E.W. (2005). *Visual aids their construction and use* (Revised Edition) Princeton. New Jersey: D.van Nostrand company Ltd.
- Claggett, D. (1993). *Christ-Centered Phonetic Lessons for flash cards 1 to 31* Ed. R.L Crete. Niceville, Flichrist-Centred Publications.
- Federal Republic of Nigeria (2002). *Committee on Instructional Technology in Nigeria A Hand Book* Abuja
- Ezema, P. (2002). Factors militating against the teaching and learning of English in rural areas. *Journal of Curriculum Studies* 3(2)29.

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May, F.B. (1994). *Reading as communication* (4th ed.). New York: Macmillian.

Okonkwo, F. A. (2006). *English Language Special Method*. Enugu SNAAP Ltd.

Stricland, D. S. (1998). *Teaching Phonetics today: A primer for Educators*. Newark, DE International Reading Association.

Udosen, A.E.& Ekpe, S.I (2003). Teaching Phonetics in Nigerian Primary School In Onukaogu C. E., Arua A. E & Jegede O. B (Ed). *Teaching Reading in Nigeria: A guide book to theory and practice*. Newark, DE, International Dev. In African Committee.

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