

HEALTH EDUCATORS' INSTRUCTIONAL TECHNOLOGICAL IMPROVISATION AS A REMEDY FOR EFFECTIVE CURRICULUM IMPLEMENTATION IN COVID 19 PANDEMIC ERA

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Abstract

The paper examines how health educator improvises instructional technology in COVID 19 pandemic era to remedy school curriculum delivery especially when learners have to adapt to new methods of taking online lessons. The technological new approach may impact on the health, safety, comfort, finance and academic performances of learners. Learners have to interact with new instructional technologies like computer, mouse, chair, table, desk, electrical outlets and lots more designed from an ergonomic manner forcing students' body segments to adopt uncomfortable postures during lessons like physical soreness/ pains which may be back, neck, legs, hands, waist and wrists. Another example is the utilization of unfamiliar instructional technological applications such as zoom Join meeting/ seminar/ workshops, Facebook, WhatsApp, Instagram, YouTube, AtomGram and internet driving e-learning among others just to fulfill Google class assignments. Usually, instructional technology refers to teaching resources like chalkboard, flannel board, charts, electronic white board, magnetic board, video tapes, 8mm films, 16mm films, projector, print or educational technology. Instructional technology is a component of educational technology designed to stimulate, influence, inform, propel, project, enhance, arrest learner's interest and assist a teacher to become more effective if properly utilized. To improvise means to innovatively introduce a novel factor/material in order to effect improvement in teaching. This is why, it is called teaching aid, apparatus/ instructional resources materials or media. Teacher improvises when original material

is not readily available. It can be concrete or abstract. The main aim is to bring about teacher effectiveness.

Keywords: Health Educators, Instructional Technology, Improvisation, Teacher Effectiveness, curriculum implementation, COVID-19 pandemic & Era.

Introduction

Instructional technology is not entirely new term to classroom teachers today but its innovations by way of improvisation has dramatically transformed in this COVID-19 pandemic era to reflect technological advances and breakthroughs mainly in scientific and communication industries. Already, audio visual Centre has been set up in Kaduna whereby instructional materials for quick realization of support to teacher effectiveness in school curriculum implementation. It is significant to be sufficiently informed of what instructional technology is all about and how best to improvise them in our schools to support teaching needs for optimal realization of educational objectives during this coronavirus pandemic era. Instructional technology can make teachers to bring entire world into the classroom so that the most abstract ideas or concepts may be structurally presented in vivid, explicit and concrete manner which can easily be understood by learners (Alade, 2011). The essence of instructional technology is to stimulate learners' interests to do things on their own individually and learn.

Besides, teachers can sustain interest and attention of every learner in his/her class using instructional technology to effect curriculum implementation. Hence, improvisation of learning resources tend to regenerate latent intellectual potentialities by opening up sensory communication channels acting as carriers of relevant information to learners for quick understanding and cognitive assimilation. Therefore, instructional technology describes how to stimulate the learners in the pursuits of knowledge to learn or acquire skills/ attitude. It assists the teacher to enhance teaching activities in school subject. Examples of instructional technologies include chalkboard, bulletinboard, textbooks, charts, graphs, projector, film strips, globes, audio-tape, radio set, and television set. Instructional technology can be an application of equipment in the classroom to help improve teaching learning processes. It is a systematic application of hardware and software equipment and materials in the process of instruction. To incorporate technological materials into classroom require systematic planning, appropriate selection of pieces of material to meet the yearning instructional needs and aspirations of teacher effectiveness especially in this coronavirus pandemic era. For example, to adapt zoom join meeting in order to observe COVID-19 pandemic

new normal protocol of social distancing calls for careful planning of curriculum implementation between teacher and learners. Zoom lesson in this context is an improvised curriculum delivery innovational approach as well as using YouTube, Facebook and WhatsApp platform (Henebery, 2020).

Instructional material enable learner to visualize, recall, rehearse or recapitulate concepts or ideas mentally. In this connection, (Awuja, 2021) states that understanding is always difficult in the absence of any term of reference; be it concrete, verbal and so forth. And so, student teacher should guide against incident of misusing instructional technology. It is gratifying to note that certain lesson demands verbal illustrative example but other simply need practical demonstration, real object, model or improvised type. Instructional technology is expected to extend teacher's effective communication ability in the classroom. The purpose of this paper is therefore:

1. To examine how improvisation and curriculum implementation of instructional technology promote teachers' effectiveness in schools.
2. To guide health educators on how best to utilize improvised instructional technological materials in daily lesson when original ones are not readily available.
3. To help health educators to effectively improvise and implement curriculum.

These purposes are scientifically connected to functions of national technology Centre located in Kaduna due to their inbuilt content structural application. The theme of this paper is therefore drawn from the functions of the national technology Centre in Kaduna to train audio aid specialists who can produce or improvise instructional technology locally to serve the basic scientific curriculum implementation need in school subject like health education, food and nutrition, integrated science, home economics, physical education, physics, chemistry, biology, social studies, history, fine art, music, English language and others. Curriculum implementation of instructional technology contributes greatly to teacher's effectiveness since they are devices put in place to improve, enhance and attain specific instructional objectives when properly implemented. In Nigeria for instance, commercially designed instructional technologies are not always available in the market when required by teacher. This circumstance can prompt a professional teacher to improvise specific needed educational technology materials to enhance his or her class curriculum implementation (Ijiga, 2009).

Improvised instructional technologies like beans bag, orange, toy-ball, clay pot and so forth can be used to teach certain skills such as bounce-pass, dribbling, shooting, kicking inside or outside foot in team sports like soccer, basketball, hand ball, badminton and table tennis. These Instructional materials can also be improvised to teach simple skills in backhand and forehand drives grip and services whereby student can easily learn. Clay pot

can be used to cool water like refrigerator in health curriculum implementation.

Application of scientific knowledge enhances drug production in chemistry as well as can food in nutrition as a topic in health education lesson. Teacher effectiveness attempts to measure teacher behavior, personal characteristics and technical skills that seem to be closely related to and causal effect on pupils' achievement. Infact, effective formal instructional procedures using curriculum implementation directly affect pupil's behavioral changes in health education classes. For instance, reinforcement by way of rewarding student who demonstrate acceptable health behavior like care of the eye or teeth brings about improved educational attainment of the stated goals. There are three major categories of identifying teacher's effectiveness which include:

1. Personal characteristics of a teacher,
2. Attribute of instructional process and
3. Impact on pupils' behaviors.

Teacher effectiveness appears to have potential for bringing a clearer understanding on how teacher can be more efficient in assisting pupil to learn in formal educational setting. Interestingly, humanistic educators tend to emphasize individual goals of student as self-realization, self-fulfillment, self-actualization and positive self-concept. Effective teaching is "the activity that introduces desirable change in human learning, Teacher's effectiveness can be seen as providing positive attitudes/ behavioral traits to support learners to learn, acts promptly to prevent disruptive students' behaviors and applies sound classroom management strategies for learners to attain maximum predetermined instructional objective (Ngowe, 2015). Schools and colleges that have the means of turning to school radio broadcasts should adjust their programmes to integrate appropriate radio broadcast. The national educational technology center in Kaduna transmits its recorded radio and television programs on wave length from federal radio corporation of Nigeria Kaduna: 31 and 49m or 506mw. Production and transmission of school radio educational programme can be very easy if the teacher view such technological material to be very useful for teacher on television programme by recording using cassette or tape recorder.

A critical examination and analysis of this function literally reveal structural extension of thought using hand recording (writing) on display board, filmstrips, slides, textbooks, magazines, journal, overhead projector, opaque projectors, model, picture or real object. The use of textbook for instance demonstrates intellectual improvisation of the author's knowledge. A number of classroom teachers around the world particularly in third world countries like Africa, Asia and elsewhere spend unestimated hours and energy trying to use a suitable word to convey meaning, intensions or knowledge to

students due to underutilization of instructional technology locally in order to improvise teaching aid especially when the original ones are lacking.

Kinds of Instructional Technologies

Instructional technology is encompassing and comprehensive which embraces a wide range of items. These items are categorized from simple cum inexpensive ones like chalkboard, diagram, drawing, picture, chart to expensive, more complicated and highly sophisticated electronic or audio-visual, equipments like television, radio, video-tapes, circuit television, slides, cable networking and projectors. Given the limited space and time available to treat this very interesting topic, it is perhaps difficult if not completely impossible to enlist every known instructional technological materials in this write up. However, effort has been made to group them into three major broad heading for easy identification and application, namely visual, audio and audio-visual. Let us briefly discuss them one by one.

1. Visual material as the name implies embrace every instructional technology teachers do employ to convey meaning when teaching which possesses visual characteristic to support verbalization. Graphic symbols convey little or no meaning unless they are seen. Consequently, most schools in Nigeria today adapt one form of instructional material or the other because they are readily found within their local environments. Examples of such instructional technologies range from real object, picture, model, specimen, photographs, drawing, book, graphic, diagram, maps, puppets, globes and chart. Indeed, the list is inexhaustible but it is however imperative to state that visual instructional technological materials may be easier collect as they create lasting cognitive impression to learners during curriculum implementation.

2. Audio technology on the flipside are those instructional technological materials which produce sounds or vibrations to support teacher's voice during teaching. The discovery of audio technologies such as radio, cassette recorder, record player, telephone, walkie-talkies, zoom join meeting, and satellites are some example of this type. This is to break monopoly of teacher's voice as medium of instruction. Audio-active comparative system is very versatile and it is commonly found in a standard language laboratory whereby a two listening and speaking back headset tape recorder are being used which has in built mechanism that links each end to a control panel usually operated by a teacher to communicate directly with any one of his or her students through a telephone and micro phone called "headset" recorder. It has special facilities capable of operating on two track simultaneously. Summarily, the application of audio material reduces teacher's voice effect and introduces variety to classroom activities as an instructional technology package.

3. Audio-visual instructional technology is the third type which combines both audio and visual qualities. These materials permit learner to see and hear simultaneously. Audio-visual instructional technology include television, video, film, slide projector, laptop computer and internet computer. Internet is described as a rapid growing collections of information with .varied topics in health, physical education, sports, business, e- library, sciences, medicines, art, education and information technology which are located therein. It simply means access for all because it is a global collections of many different kinds of computers and their networking digital environments together.

Audio visual equipment are normally purchased by respective school authorities for their teachers' utilizations. Audio visual technological resources are very expensive and sometimes need power supply before one can operate them. In addition, technical staff are required to be employed as health educators.

Instructional Technological Improvisation and Curriculum Implementation

The usefulness and relevance of instructional technological materials to effective teaching is enormous as they are attached to teachers' resourcefulness in providing or improvising wide range of material such as chart, chalkboard, bulletin board, textbook, model, mockups, radio, television, computer, projected and none projected devices to make curriculum implementation effective (Chukwu, 2015). It happens at its best when students are actively participating due to their active involvements in a variety of learning experiences and activities in which they are well charged to think creatively. It is imperative to stress that learning environment should be enriched with varied instructional technologies to make teaching more effective. Today, several schools lack meaningful presence of instructional technologies due to current waves of economic recession and wholly because of teacher's inability to improvise instructional technological materials. The truth is that most teachers feel that utilization of improvised resources are rather inconveniencing, time consuming and irrelevant. This assumption is untrue, unreliable, unfounded, malicious and should be rejected in its entirety as every lesson needs one type of teaching aid or the other.

It is becoming very expedient for a teacher to fill the students' environments with varied instructional technologies to enable them select the most stimulating and motivating to their students' to learn. It is high time teachers begun to de-emphasise wrong notion of using instructional aid as an appendage to implement curriculum rather, it is the heart and brain of curriculum implementation. Section '3' of subsection ten'd' of the national policy on education says that government is to set up audiovisual aid development Centre in Kaduna and will continue to fund it. Section 3

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subsection ten 'e' also has provision for specialist teachers specifically in science, health education or language arts with emphasize on teaching music, fine art and domestic science with increased supply of relevant facilities in the teacher training institutions. The policy document is very clear as it further declares that much of the teacher's effectiveness shall depend on the quantity of facilities, technologies and equipments which students interact with.

Guidelines for Health Educators' Effective Curriculum Implementation of Instructional Technology

Real objects are most authentic instructional materials as they look rugged, simple and depict precise ideas, concepts or principles. The qualities of real objects which determine their effective utilizations in curriculum implementation include boldness, clarity, attractiveness and moderately placed on strategic point. Instructional technology should not be used at random to protect their facial values. Such material must represent the purpose it is actually designed to serve (Nwajei, 2004). Teachers are advised to get familiar with whatever instructional technological materials he or she intends to present and be confident during presentation in order to decide when and how to utilize such materials properly. It is proper to check any available desirable teaching aid to be used so that faulty ones can easily be replaced to avoid time wasting while implementing subject curriculum. Serial arrangement in case of technology presentation is necessary. For instance, when teaching how to count from zero to five using card numbers, one would expect card numbers 1, 2, to be counted before card numbers 3, 4 and, 5. This calls for chronological arrangements of place values of these card numbers for easy comprehension (Awuja, 2021). Also, try to create enough space especially when certain items are to be displayed on board or wallcharts. Sitting arrangements should be orderly positioned for conducive learning environment.

Improvisation of Instructional Technologies in Schools

Improvisation is not a new concept or word to a classroom professional teacher at any level of instruction but his or her inability to improvise due to ignorance, laziness, ill preparation and lack of technical knowledge of how certain instructional materials can readily be improvised. The concept of instructional improvisation relates closely to teacher's resourcefulness in educational best practices around the world to be effective in curriculum implementation. Again, it is one thing to understand the meaning of improvisation and it is yet another thing to acquire necessary skills of improvisation. Improvisation is a technique of organizing a totally new tool, instrument, implement, material device or modifying an existing one for a particular purpose during curriculum delivery. Accordingly, there is always need and room for improvising technological instructional materials. Nigeria teachers need to rise up to the current educational challenges regarding

underutilization of technological digital teaching resources as a result of unresourcefulness, laziness and ignorance on the part of teachers. There must be a way out of this predicament of accusing teachers of too much talking while teaching without utilizing technological teaching aid. Teachers need to learn how to use available desirable materials instead of complaining about its hazard, time wasting, inconveniencing or shifting blame to government. The sure way out is improvisation as government alone cannot continue to produce every bit of material resources for school's utilization. Teachers can create most exciting, interesting and action driving oriented classroom environment within the community which learners can understand whatever idea or concept presented to them in the course of implementing curriculum. Verbal explanation alone cannot be an accurate substitute to instructional technology utilization. It is high time teachers took to their professional responsibilities of improvising or originating lacking educational technologies in our schools and colleges especially when the desirable ones are not available in this COVID-19 pandemic era.

School children can be used to collect available desirable local technology resources. Some resource materials include plants, flowers, fruits, dry bones, roots, leaves, yams, fibers, potatoes, tins, animal skin, leather, calabash, bead, clay pot and charcoal which can be used to darken chalk board as black paint. Similarly, pupils can be assigned to gather bottle covers carefully arranged in ranks of 5, 15, 20, 25, 30, 35, 40, 45 up to 50 or more as a better substitute to "abacus. Traditional artists or craftsmen should be consulted to construct hoop or skittle as improvised materials without waste of time and energy. Different sizes of local pots can be modeled to replace English types or ready-made. Pupil's school bag can be improvised out of animal skin. School surrounding in Nigeria are naturally filled up with many educational technology resources which are inexpensive, better stuff and convey meaningful technological materials to the receivers (learners). It is quite heart disturbing to hear that a teacher does much talking while teaching than employing an improvised resource material. Improvisation can be classified into two; namely: (1) improvisation by substitution, and (2) improvisation by construction. A teacher uses available desirable local technological materials instead of ready-made materials.

Besides, advanced instructional technology and communication industries had effected necessary positive changes in the nature of education vis-à-vis instructional technological materials so that health educators no longer depend solely on foreign equipments to impart knowledge. It is frustrating when inappropriate technological resources are used to implement curriculum simply because the teacher refuses to improvise such materials. Unfortunately, this is the stage health educators are operating now. Unless

teachers yield themselves to advance and proper preparation of instructional technological improvisation in curriculum delivery, they cannot become effective. Note that instructional technology is a term used to denote teaching aid, apparatus, resource material, instructional material, instructional technology, instructional medium/ median, curriculum material or learning resource. Therefore instructional technology has been used interchangeably with any one of these mentioned above which a committed, dedicated and devoted health educator can easily improvise.

Conclusion

In conclusion there is no effective educational system without effective teacher in any nation around the world because the national policy on education in Nigeria (2014) states that no educational system can rise above the quality of its teacher. It means that teacher education is very important due to the fact that qualified teachers can produce, develop, create, innovate or improvise appropriate instructional technological equipments and materials which can assist effective teaching-learning encounter leading to attainment of educational learning outcomes. Improvising and utilizing instructional technology remedy teacher's ineffectiveness in schools. Previous collection of old calendars, pictures, books, journals, fruits, flowers, roots, beads, cartons, old magazines, charts, flannel board, old clay pots or models could be stored in the school instructional box for any subject for future use. Sometimes, these collections are scrapbooks and objects like rock, collection of different species of insects, leaf, map, postcard, photograph, slide, farm tool, letter and essay which can be preserved in health education, science, social studies, English language, integrated science, agricultural science, physical education, physics, biology, home economics, business education, computer science, mathematics, civic education, history, geography and chemistry laboratories. The collections may be real sources of instructional technological materials in the nearest future. Finally improvised instructional technologies are used particularly whenever the original one is lacking.

Recommendations

The recent awful sudden appearance of COVID-19 pandemic has many impacts on health educators, learners, parents, community and entire Nigerians in areas of economics, social, interpersonal relationship, intercontinental relationship and international levels that require careful management to avoid further wide spread of the deadly disease called coronavirus. To this effect, it is imperative to recommend that:

1. Health Educators should be sensitive enough to this ugly situation of COVID-19 Pandemic and accept the responsibilities of improvising

instructional technologies for adequate curriculum implementation to help cater for teaming youths in schools.

2. Government needs to release fund allocated to schools as well as provision of essential facilities/ materials required in school clinic to save life.

3. Health educators should embrace modern instructional digital technologies like zoom join meeting, whatsapp, Facebook, YouTube, World Wide Web (www), e- learning and e-library.

4. Government should provide internet facilities/ internet services within the school systems to enable teachers and learners key up to the new method of curriculum implementation.

5. Further empirical study can be conducted on how best to implement health education curriculum in this COVID-19 pandemic era with the use of improvised instructional technologies.

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