

MULTIMEDIA APPLICATION IN GENERAL EDUCATION: TOWARDS DEVELOPING A MODEL INDIGENOUS LEARNING PACKAGE FOR CHILD EDUCATION IN NIGERIA

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Abstract

This paper focuses on developing a model indigenous multimedia instructional package for Nigerian child tagged instructional Learning Package (ILP). It is based on the premise that quality education should embrace certain basic knowledge, values, competencies and behaviours that are specifically attuned to globalization but reflect the beauty and riches of our diversity expressed in different forms of belief, spirituality, culture and language. This paper introduces a vision motivated by the urge for cultural expressionism and rapid advancement in digital technology as they affect educational development. The instructional Learning Package (ILP) model will feature new form of Indigenous Computer-Generated Instruction (CGI) with a contextual customized library of: Text, Color, Images and Animations that are capable of advancing basis mental development of the Nigerian children.

In the process of this product design and development study, important conclusions were drawn as springboard for understanding broadly the socio-eco-cultural characteristics of African. Among these conclusions would serve as basic premises upon which the focus of this paper would postulate that; there are objects that make Africa a unique pearl of beauty like its folklores, Architecture, art, music and sports, some of which are apparent in plays, rhymes and storytelling activities reflecting the African characteristics in needs, feelings and styles. These forms the cultural panacea for community development acts as something to the child's gory experiences. Agreeing that the term "experience" is generally synonymous with "exposure to the environment", it is usually inferred that learning has taken place when changes in behavior occur as a result of experience, practice and training. This is referred to as socialization, a process of nurturing the child to consciousness of the way his/her society functions and of his/her right and responsibilities as he/she aspires to become a full citizen.

As a result, positive attitude evolve to produce a child that is prepared to take up his or her role as a useful member of the society. As potential social members of a community, it is one of the tasks of education to prepare its children for that full membership. Unfortunately, according to the Millennium Development Goal Report (2006), educating all children presents a significant challenge due to the large number of children who live in remote, rural areas of developing countries. High rates of poverty in rural areas limit educational opportunities because of demands for children's labor, low levels of parental education and lack of access to good quality schooling. Ayo (1995) asserts that the average African literacy rate is 58% as against developed countries that have achieved 98.6%. in view of the aforementioned predicaments and in realization of the significance of formal education, frantic efforts are required by both government and private concerns towards enhancing educational opportunities. Therefore, as social engineers today, teachers, educational administrators and educational technologists, cannot succeed in their advocacy goals unless they are able to adjust and

rethink their methods to meet the changing demands of a changing world. According to Grol (2006), this can be done through improving upon the traditional education system by integrating contemporary methods considered flexible and capable of promoting constructivism in learning. McLoughlin and Oliver (1999), opine that one of the limitations in current instructional design models is that they do not fully contextualize the learning experience and are themselves the products of particular cultures. Moreover, they add, that recently theories argue for the need to provide a culturally sensitive learning environment.

The consequence implies that, in Africa for instance, such methods and materials should be structured to integrate Africa's socio-cultural heritage. It is no doubt that an "integrated system" indigenous to Africa is pertinent, which if successful has the potential to boost learning among millions of preschool children. Evans (1995) asserts that in defining the early child development (ECD) curriculum experts favour approaches that are educational, declaring that experience has shown the importance of fitting such approaches to societal needs and socio-cultural characteristics. In addition to culture, however, McLoughlin (1999) postulates that designers need to bear in mind that ninety percent of communication are non-verbal and are conveyed through visual means like gestures and images. This implies that pictorial stimulation (i.e. visually guided cue), aids comprehension especially in the early stage of mental behavior, which proffers a relevant medium for grassroots mobilization.

Aina (2003) noted that the use of instructional materials serves as measures to make subject matter more meaningful, concrete and practical, the rationale being to relate concepts and principles learnt to day-to-day activities. Interestingly, the advent of multimedia technology for instance, entails the use of digital applications in designing, producing and delivering visual images and audio resources through interactivity to select, control and self-pace learning. This flexibility, according to constructivists' stipulates that the role of teaching is not to transmit knowledge, but to facilitate individual construction. The need therefore, to develop an all-inclusive (i.e. a techno-cultural) instructional resource capable of engulfing the physical, mental, emotional and spiritual characteristics of the child becomes absolutely imperative. Moreover, Marito (2000) declares, it has been established that ECD programs possess positive long-time benefits on future learning potentials, educational attainment and productivity.

Conventional teaching approaches in Nigeria have become inadequate in the wake of deepening illiteracy due to diminishing resource allocation towards education, an average of which is 5.1% of GDP in 1997 as against the recommended 26% (Iromantu 2004). McLoughlin and Oliver (1999), argue that one of the limitations in current instructional design models is that they do not fully contextualize the learning experience and are themselves the products of particular cultures. The "i-CLAP" initiative therefore, is aimed at developing a contextualized instructional resource that integrates two features to aim at developing a contextualized instructional resource that integrates two features to education, that is: culture and multimedia technology components. Culture simply refers to the behavioral customs, the manners, the interests and values of a society which includes all the characteristic activities and interests of a people. It is a historically transmitted pattern of meanings embodied in symbolic form by means of which people communicate, perpetuate and develop their knowledge about and attitude towards life. Geertz, as cited in Taylor, 1991). Mokuwunye in Azi (2005)

Multimedia Application in General Education: Towards Developing a Model Indigenous Learning Package for Child Education in Nigeria

claims that since children all over the world are born into a culture not with one, a solid foundation to their education cannot be laid outside their culture. Therefore, there is the need for educators, parents, as well as society to inform children of their cultural heritage and to teach them its values. Vilder (1995) on the other hand, assert that technology allows the learners to interact with the media towards selecting, controlling and self-pacing their own learning, presented in a visually relevant and creative manner. Afele (1998) opines that a virtual system is an innovation that should reinforce conventional lessons with virtual schoolteachers and textbooks. This simulation of digital interactivity promotes curiosity driven learning, by blurring the line between exploration and learning, entertainment and scholarship.

It is against the backdrop of this challenge, that the development of a “contextualized” multimedia instructional resource is proposed, to serve as a complementary initiation towards facilitating literacy development. The initiative is tagged the “instructional Child Learning Package” (ICLP), which is aimed at advancing the “education for all” agenda in Nigeria. The paper therefore examines the need to improve the effectiveness of instructional resources by adapting culturally sensitive components capable of enhancing assimilation, retention and recall among school pupils and also to develop, the “ICLP: instructional Learning” module, as a “contextualized” instructional resource, capable of reinforcing the teaching and learning of ABC at the Nursery school levels in Nigeria.

Many models for the improvement of instructional goals have been proposed, the most commonly used is the “ADDIE”, containing five phases: analyses, design, development, implementation and evaluation. It is guided by suitably models such as the ADDIE and set goals; this project aims at developing a resource that is accessible, simple, flexible and sensitive to learners’ needs and preference capable of reinforcing early learning in Nigeria. Interestingly, this need has become a global concern not only to educators but also administrators, psychologists, sociologists, computer programmers, software developers, web vendors etc. Hence, this paper is developed on the standpoints, that quality education should embrace certain basic knowledge, values, competencies and behaviors, that are specifically attuned to globalization but reflect the beauty and riches of our diversity expressed in different forms of belief, spirituality, culture and language (UNESCO, 2003);

In support of this intend, McLoughlin and Oliver (1999) advocate that the use of technology to mediate learning is permeated with cultural values and assumptions. Against which platform therefore, the design and development of the “ICLP” model is to feature the following instructional objectives: Alphabets, Shapes and Colors Recognition. The use of recognizable everyday local visual and audio cues would be of significant value towards the realization of the package’s goal, against which backdrop indigenous themes and story lines, capable of basic mental-skill development, shall be relayed. In developing this model, therefore, the “MCLP” initiative intends to work towards determining the effectiveness of adapting culturally sensitive instructional components towards enhancing academic achievement in grass root school learning delivery in Nigeria.

The theoretical framework of this paper was developed through locating, reading and evaluating reports of researches, observations and opinions related to instructional design and development generally. The task involved probing into issues that pertained: psychology, sociology,

education, mass-communication, digital art and design to name a few. The main goal was to source literature on the influence of socio-cultural dynamics in instructional multimedia development, especially with a view to initiating a contextualized resource for enhancing child education in Nigeria. The need for an investigation into these issues therefore becomes crucial; the aim is towards developing a resource that is comprehensively engaging, developmentally appropriate, culturally responsive and likely to promote positive academic outcome among Nigerian children. The need for a contextualized system capable of supporting early education for children as individuals as well as members of families, cultures and communities is imperative. It is within this background, the Interactive Child Learning Package (i-CLP) is looked into developing “indigenous” instructional multimedia models, with specific objectives of determine:

- (i) the effectiveness of adapting culturally sensitive instructional components towards enhancing assimilation, retention and recall in children school learning delivery;
- (ii) the cause and effect of using computer-generated animation in reinforcing flexibility, motivation and engagement in teaching and learning ABC at the Pre-primary educational level.

Significantly, this paper is geared towards developing a localized instructional resource as a bridging between the two worlds of “technology” and “education”. In order to attain these objectives therefore, a consideration of the role of socialization as a springboard for child development in Nigeria is of prime importance, this is in order to appraise learners’ characteristics. For such an analysis to succeed it has to be drawn from the point of view of related theories and models of instructional design and then discussing issues arising about it. A process which entails a comprehensive integration and application of concepts in: educational technology, graphic design, digital arts and computer programming to name a few. This review therefore was first an attempt to identify an appropriate model of application and among the major instructional design and development models identifies were the: Dick and Carey Model, Robert Gagne’s ID Model, ADDIE, Minimalism, Kemp, Morrison, and Ross, Rapid Prototyping, Epathic Instructional Design. Interestingly, according to Hoffman & Margerum-Leys, all of these models share some basic common features that include the following: Needs assessment, Goal and objective identification, Audience and setting analysis, Content and delivery development and Evaluation and redesign.

The Wikipedia (2006) affirms that instructional design, also known as Instructional Systems Design generally, entailed the analysis of learning needs and systemic development of instruction. The challenge entailed the entire process of analyzing learners’ needs and goals and the development of a delivery system to meet those needs. It includes development of instructional materials and activities; and tryout and evaluation of all instruction and learner activities (<http://www.umich.edu/~ed626/define.html>). Although, obvious references must be made to some of the aforementioned models like Dick/Carey, Gagne and Rapid Prototyping, the structural design of the “i-CLAP” prototype is based on the “ADDIE” model. That is acronyms for: analyze, design, develop, implement and evaluate, around which the literature review discourse of this project would be conducted. Although, the legendary game designer James F. Dunnigan declares that there are no ironclad guaranteed guides to designs of this nature. Siemens (2002) and Wikipedia (2006) speculate ADDIE as possibly the best and the most commonly used model for creating instructional design

materials. In supporting its methodology, Malachowski (2002) commends the ADDIE model for its simplicity, ease of application and cyclic nature.

Most of the current instructional design models are spin-offs or variations of the ADDIE model and one commonly accepted improvement to this model is the use of rapid prototyping. This is the idea of receiving continual or formative feedback while instructional materials are being created, this model attempts to save time and money by catching problems while they are still easy to fix. Instructional theories also play an important role in the design of instructional materials. Theories such as behaviorism, constructivism, social learning and cognitivism help shape and define the outcome of instructional materials, details of which would be analyzed as this review progresses. According to Malachowski (2002) first, in applying the ADDIE Instructional Design technique methodology; the steps are to Assess and analyze needs, Design instruction and presentations, Develop materials, Implement activities and courses, and Evaluate participants' progress and instructional materials effectiveness. This makes it essential therefore to study the ADDIE design processes systematically as the technicalities involved in defining a structure for the "i-CLAP" model initiative.

Having identified the ADDIE model as the main theoretical structure of this paper, there is the need for detailing its individual components more broadly (i.e. analyze, design, develop, implement and evaluate). That is to be done through "examining" the potential learners' characteristics by assessing how socio-cultural factors affect early child development especially in Nigeria. All of which results into a chain of inter-and intra-connected processes referred to as formative evaluation, which according to Reddi (2003) refers to the process of data gathering and analysis as part of the design and development process. A task which when undertaken enables the development of policies that influence implementation decisions and determines fiscal resources allocation, technology choices and deliver methodologies. Interestingly, these procedures are attributive of the ADDIE model, justifying its applicability in the "i-CLAP" design and development initiative

Culture and Early Learning

To enhance learning today, new kinds of theories and models are required to strengthen the old ones. Gagne (1994) observes that the theories that have been developed by educational psychologists in general, match a specific kind of learning, the school setting. As we enter the information age, hence the age of learning and we need to create specified resources capable of supporting a new and wide range of intellectual style (Papet, 1993). The Draft Plan of Action of the 1998 National Summit on Africa asserts that as the 21st century approaches, it is clear that the key to the attainment of sustainable development in Africa is African human capacity. In order to fuel their own development and to ensure successful participation in the emerging global economies, African countries need to develop education systems that are sensitive to local and national development needs while simultaneously being current and internationally comparable.

McLoughlin (1999) asserts that a great deal of research has been conducted in Europe on the design for trans-European delivery. Also, the "Rightside Response", operators of an "Indigenous Multimedia and Web Projects" in Australia, is working with a number of leading Indigenous organizations to design and develop products that apply IT solutions to the business of maintaining

traditional protocols in culturally-appropriate ways. Furthermore, given that computers are playing an increasingly important role in education, in Kolkata, India students attend computer workshops towards enabling self-paced development in learning given the flexibility of computer-assisted learning. The critical question therefore is, if indigenized initiatives are considered fundamental to the Europeans, Australians, Indians and rest of them, why not Africans. Moreover, developments in African education and culture are important to the US, Britain and other parts of the world, because rapid globalization means that even events in distant countries can have a serious impact on the other countries.

Education and National Development

As an agent of socialization, therefore, schooling or education (being central to this study), is an activity which goes on in a society, however, its aims and methods depend upon the nature of the society in which it takes place. Education is development; it creates choices and opportunities for people, reduces the twin burdens of poverty and diseases, and gives a stronger voice in society; creating a dynamic workforce and well-informed citizens able to compete and cooperate globally. The 1990 Conference on "Education for All" pledged to achieve universal primary education by 2000. but in 2001, over 100 million school-age children were still not in school, 57 percent of them girls and 96 percent were in developing countries – mostly in South Asia and Sub-Saharan Africa. In Nigeria, over the years, government's efforts have been such that varieties of programs have been inaugurated towards child development including educational development reforms. Affirming, the Federal Ministry of Education in a 2005 reports that education has been designed to align training towards the areas of enterprise most needed for the growth of the nation. Emphasis was placed on technology, agriculture and other allied areas of endeavour (<http://www.fmegovng.org/>). Consequently, primary schools are designed with western style education in mind, setting up prerequisite standards for the secondary and tertiary levels as manifested in the curriculum of the various art, science or teacher training schools, colleges and universities of technology, universities of agriculture etc.

Problem of Educational Development in Nigeria

Unfortunately, according to Abani (2003), years of military misrule, economic mismanagement and lack of public accountability has condemned close to 70% of the population to abject poverty (sadly in a country which is rated the 8th largest exporter of oil in the world) and the potentially destructive impact of HIV/AIDS looms large. The return to democracy in 1999 bodes well for governance, but the realization of most economic, social and cultural rights remains a mirage for the country's 120 million citizens. Grol (2005) notes however, that lack of money might be a reason to abandon educational innovations. Education especially at the grassroots has been bedeviled by series of factors, fundamental among which Gidado (2006) enumerate as: poor planning, problem of supervision and monitoring of progress, irregular payment of teachers' salaries, the problem of distance from home to school, no clear-cut program for parents and the school to facilitate child-care and basic education, high competition between private basic education centres (nursery-primary schools) and public (government-owned centres) and poverty.

Given the advent of technology revolution, the role of Computer Aiding Learning resources in enhancing academic achievements cannot be overemphasized. According to Vidler (1995) it appears from observations and discussions with people exposed to multimedia, that a well-designed and

presented lesson can make learning easier. That is, by focusing on the big concepts with “reinforcement” and “interaction”, the learner’s overall understanding of the subject matter can be increased. Design, therefore is concerned with: Subject matter analysis, Lesson planning and Media selection. Hence, requires the development of learning objectives and the choice of an instructional approach. Instruction may focus on skills from three different objective domains; Cognitive, Psychomotor and Affective.

The Concept of Design

Design has become one of those words having such a wide range of reference that represent such varied situations that the underlying processes appear to share little in common. Lawson (1980) contemplates, how is it that an engineer may be said to design a new gearbox for a car while a fashion designer may be said to design a new dress? Which are hardly the qualities associated with fashion design, which by contrast, seems rather nebulous, spontaneous, chaotic and imaginative. However, many kinds of design call for a process that combines both extremes in varying proportions like Town Planning, Urban Design, Architecture, Interior Design and Industrial Design. Design is used for two primary purposes: personal expression associated with art (abstract or realistic); and also in product development, categorized into aesthetic (industrial design) concerned with looks and feel of product and functional (engineering design) concerned with function of a product. According to the Wikipedia “Definition of Design” (2005), design is both a noun and a verb in the context of the applied arts, like: industrial design, engineering, architecture and other such creative endeavors. The verb is the process of originating and developing a plan for an aesthetic and functional object, which usually requires considerable research, thought, modeling, adjustment and re-design. The noun is used both for the final plan of action (a drawing, model or other description), or the result of following that plan of action (the object produced). Design is a set of fields for problem-solving that applies user-centric approaches to understand user needs (as well as business, economic, environmental, social, and other requirements) to create successful solutions that solve real problems.

Instructional Design

Papet, (2003) affirms that in the educational field “design” can be broken up into three categories namely: Instructional design, conceptional design and presentation design. Instructional design includes all environmental factors; it is concerned with the learning environment, learning model, contents or evaluation processes, it is a union of all factors entering the learning process. Papet adds that, when educational multimedia is discussed, usually it focuses on two subsets of instruction design, which are conceptional design and presentation design. While, on the one hand, conceptional design is concerned with, how educational multimedia content is organized, which tools are available to the learner, and how it is delivered to the learner. Presentation design is concerned as usual with questions as layout, functionalities of screens (Graphic User Interface) etc. Both issues are problems the multimedia designer is concerned with, not the trainer.

Educational Multimedia Design

Educational design has been addressed from various views; the best organized and systematic structured method is that of instructional design. Several online resources abound to find examples of educational games depicting exquisite conceptional and presentation designs. At “Kids Click” for instance, there are well over 500 children’s educational software programs, with fun games and

engaging activities to make learning meaningful and fun for babies to teens (Kids Click Educational Software, 2004). With hundreds of websites like this the need to choose strictly the best programs with solid educational contents within an interactive environment that appeal to children, become quite imperative. Children love the computer and educational software lets them learn at their pace in a non-threatening environment. It is worthy of note that there are age appropriate packages for Baby/Toddler, Preschool, Primary, Secondary, Middle/High School/College/University among lots of others. Examples of educational software package include brands like: Beauty and the Beast, Barbie, Crayola, Dr Brain, Hallmark, Kid Pix, Lego, Math Blaster, Mind Power, Mighty Math, Nickledeon, Sesame Street, A Bugs Life Active Play, Aladdin Math Quest, Beauty and the Beast Magical Ballroom, Disney Learning Preschool, Lion King Classic Game Collection, Magic Artist, Timon & Pumbaa Jungle Games, Zoog Genius Math/Science/Technology just to name a few. Most of these games are designed to be played against the computer or one friend. In Blue's Clues ABC Time activities, kids 3-6 explore the words of letters, sounds and words with their favorite puppy friend Blue. Some others are outstanding keyboarding program that kids would love to play (Typing with Timon & Pumbaa) and others are adventures in typing or arts.

Quest for a Culturally Inclusive Instructional Design Model

The current instructional design need assessment seems to address specific multicultural targets superficially. It is rather concerned with group satisfaction across a wide spectrum (cross-cultural in approach). The educational software packages earlier referred to serve as good examples, wherein the ideas portrayed are western in nature like the "Sesame Street", "Lion King", "A Bug's Life" and so on. Therefore, making a learning resource that is accessible to the Nigerian learner; touching on his/her peculiar socio-cultural background is the main concern of the "i-CLP". In a critically assessment of current instructional design approaches, McLoughlin (1999) claims that many of them lack the depth and scope to enable them to provide culturally inclusive learning. It is believed that if education is to be viewed really as a socialization process, then it should prepared the child for successful participation in social relationship and the fulfillment of appropriate adult roles in the society. The need for efficiency in learning is not a day old issue; Nkom (1999) affirms that right from the Greeks era, individual teachers have, through personal initiatives, used teaching aids to ensure effectiveness in the teaching-learning process. Four hundred years later, John Locke advanced Aristotle's notion of human's initial state of mental blankness by proposing that almost all reason and knowledge must be gained from experience.

The Child Learning Package model is therefore designed with a view to facing this challenge, through advancing the development from the Audio-Visual level to a Multimedia system approach and integrating indigenous contents. Computer graphic animation being the main components of multimedia is probably the most successful application of digital technology in the creative arts. Developments in digital technology from a crude form in the early days of civilization to the vast array of computer-technology driven devices of the 1990s, have significantly improved on the theory and practice of art and design. Computer technology allows for the creation and fusion of text, graphics, real images, and animation, audio and video stimuli in a single interactive environment (Vidler, 1995). It is seen in ambitious and imaginative television productions, film effects, computer games, instructional videos, computer-generated cartoons, scientific visualization, flight simulation, virtual environments and interactive media applications (Campbell, 2003). These technology-guided

Multimedia Application in General Education: Towards Developing a Model Indigenous Learning Package for Child Education in Nigeria

resources of the information revolution will cause certain traditional teaching resources to be rated as obsolete (Kinelev, Kommers & Kotsik, 2004).

The “i-CLP” initiative advocates the application of these IT devices to produce digitized resources relevant to Nigeria’s socio-cultural values for educational development. The 1995 Copenhagen Declaration on Social Development affirms that new ICT approaches used by people living in poverty can help in fulfilling social development goals; hence recommend the need for their design and application (Afele, 1998). This would enable an entire a community to utilize a few unites of TV, computer, VCR and cinema, through national or local transmissions to offer new delivery prospects in basic education. Learning involves physical, mental and psychological experience, which is affected by interaction with the environment. Learning theories have significant bearing on instructional design, as there is a logical development from learning to instruction. Instructional design optimizes learning outcome while learning theories are the backbone of any learning processes.

Socio-cultural theory, for example, based on the work of Vygotsky emphasizes that learning is a form of enculturation in which the individual is socialized through gradual participation in tasks, assisted by adults until full competence is attained (McLoughlin and Oliver, 1999). Instructional design is the manifestation of the learning theories, and its main aim is to optimize learning by using the known theories of learning. Instructional design has grown out of the “systems approach” rooted firmly on a position that has dominated the field of instructional design since the 1960s. There are three basic schools of the theories of learning (Behaviourism, Cognitivism and Constructionism), which all have implications on instructional design. However, instructional design developed in the 1980s by Gagne, Merrill, Reigeluth and Scandura is largely due to the influence of cognitive theories of learning (McArdle, 1991).

It is important however, to know that an instructional method cannot guarantee that the desired learning will occur, it can only increase the probability that it will occur. In Morgan (1997), Reigeluth (1997) refers to this as conditionality – asserting that a method which works well under one condition, may not work well under another. It is noteworthy that while designing strategies and contents, instructional designers no longer depend on any one theory, rather they draw upon and incorporate from different learning theories, mixed with other information and apply the results to meet human needs (Van, 1989). McLoughlin (1999) postulates in an argument on “cultural inclusiveness on the web” that as learning is a cultural activity, the design of Web sites is also infused with cultural meaning and with cultural undertones and identity issues even as the instructional designer brings his or her viewpoint in the design process. She maintains that two categories of design considerations abound: web sites that are made for a local context and culture which are highly embedded in styles of particular cultures and serve the needs of such audiences. Secondly, are those that strive to reach a cross-cultural audience and serve the needs of dominant international audiences, on the basis of which the “i-CLAP” model resource is to advocate cultural inclusiveness targeted at the local audience.

Development Phase

The development phase involves the process of creating the instructional materials and testing the participants' learning experience using the proposed course. Undertaking this task involves an integration of the efforts of the instructional designer, subject matter experts and the productions teaming (in this case, all the research supervisors). According to Vilder (1995) the skills required at this stage therefore include subject matter and participant analysis, instructional design, resource production, graphic user interface design, model building and testing, product building and quality assurance, documentation production, pilot version testing and packaging.

Instructional Design for Multimedia

Multimedia is a single, integrated medium that consists of media like text, audio, graphics, animation and CD-ROM etc. The major challenge in designing instruction through multimedia is, therefore, the choice of media and their application for optimizing human learning with reference to the stated instructional objective (McArdle, 1991). FitzGerald (1997) postulates that multimedia design strategy is to build a system that is clear making learning easy and is very simple to use, not allowing the viewer to be aware of what makes up the software experiences. Text for instance, is a powerful medium for carrying abstract information, it allows for reading at one's own pace and reviewing or digesting information hence can be adopted as an interactive object. For language learning through multimedia however, audio support is very important, hence appropriate to convey indigenous tales, rhymes and sound (music). In multimedia modeling various media carry out various kinds of information, like a film conveys emotions more accurately on the face of the actor rather than merely voicing disappointment.

Animation Production for Multimedia Application

The nature of information to be acquired in using teaching aids of all sorts determines the selection of the most befitting media. Multimedia serves as support mainly when learning is required in the areas of: reading comprehension, identify generalizations or gain ideas, classifying, problem identification, practicing skills or memorizing vocabulary. In view of the versed applicability of multimedia design, therefore, the "i-CLAP" initiative finds its endorsement for use an issue of high priority. It is therefore important to have a brief insight into the different processes of creating animation. Although, the "i-CLP" model design and development would adapt the Computer-based technique, which is the Digital Animation, understanding the processes of creating hand-drawn animation would be appreciable.

Conclusion

In addressing the need to adapt culturally sensitive computer-Assisted Instructional components towards enhancing academic achievement in learning among Nigerian children, the "i-CLP" model was proposed. It has been established that early child development (ECD) program possess positive long-time benefits on future learning potentials, educational attainment and productivity. The "i-CLP" model is an attempt to take advantage of advances in technology which avails digital applications for designing, producing and delivering visual images through interactivity allowing the selection, controlling and self-pacing of learning. The challenge is to develop an all-inclusive educational model that harmonizes African artistic and cultural experiences to contemporary multimedia technology devices.

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