Iagree: computer-aided instruction essay

Technology (ACT) are being felt in all walks of life, education, which is an instrument for adapting to change, has to undergo unprecedented reforms. The global educational landscape has been transformed as educational technology has converged with Information and Communications Technology. This has largely affected the way teachers teach; the way students learn and the way educational institutions are being supervised and managed. Retooling teachers on CIT skills, providing them opportunities to master and use them towards creating an improved teaching and learning environment is of paramount importance.

The new paradigm of education also requires that teachers should be adept in integrating CIT with pedagogical practices so as to develop 21st century skills among the students as well as the teachers. The current educational landscape has changed significantly with the introduction of new technologies. They have affected the way people live, work, play and learn. Moreover, these new technologies have challenged the time-tested methods and approaches in teaching and the way education is managed.

In the last couple of years, administrators of schools, colleges and universities have been preoccupied in outing up computer laboratories and in procuring hardware and software so as to keep abreast with the fast changing mode of teaching and learning. Hand in hand is their concern on the massive retooling of teachers and employees so as to be able to use these modern equipment in managing the affairs of their institutions. Thus we hear such terms as on-line registration, on-screen monitoring form, e-learning, virtual university, internet access, e-mail and others.

There has been a shift in the roles that teachers play in the classroom from that of a purveyor of knowledge to that of a oscillator or a guide in the quest for knowledge. Teachers are no longer considered as the sole source or fountain of knowledge, but the planner, the facilitator and organizer of a technology-based learning environment where students can play an active role in learning and in evaluating their own learning. Information Technology, a vast area of study in its own right, continues to have a strong impact on the entire education system.

It has provided easy access to worldwide information that enriches teaching and learning. In the early sass and sass (Incarnate Encyclopedia 2002), researches in the velveteen of communications theory and system concepts brought about Educational Technology as the focus. The subjects and content of educational technology came to be known as educational process, its elements and their interrelationship e. G. The teacher, teaching methodologies, the information conveyed, the materials used and the student and his responses.

Educational technology has converged with Information and Communications Technology (ACT) through multimedia materials and internet services. We come across terms like technology in education, instructional technology and technology integration in education books, ND educational media. Technology in education is " application of technology to any of those processes involved in operating the institutions which house the educational enterprise. It includes the application of technology to food, health, finance, scheduling, grade, reporting and other processes which support education within institutions. (David H. Janssen et. Al, 1999) Instructional technology is

a part of educational technology. It refers to those aspects of educational technology that " are concerned with instruction as contrasted to designs and operations of educational institutions. Instructional technology is a systematic way of designing, carrying out and evaluating the total process of learning and teaching in terms of specific objectives. " (Lucid and Boras, 1997) Technology integration means using " learning technologies to introduce, reinforce, supplement and extend skills. " (Williams, deed. 000) Like instructional technology, it is a part and parcel of instructional technology, which in turn is a part of educational technology. Educational media are channels or avenues or instruments of communication. Examples are books, magazines, newspapers, radio, television, modules and internet. This media also serve educational purposes. More importantly, educational technology had shifted from mere devices and materials to the examination and facilitation of the total learning process. Questions like the following are asked: How does learning take place? What conditions facilitate learning?

What makes learning more permanent? The answers to these questions seemed to have been found and it is the application or utilization of educational technology as this enables the students to imbibe information, concepts or ideas through two or more modalities e. G. Audio, visual and tactile. It is believed that earning is more impressive when two or more of the senses are involved. Quality teaching and learning comes about, as interplay of many forces among which are learning theories and principles, technology and content as related to the characteristics of growth and development.

It takes an intelligent decision though so as to be able to integrate, coordinate and synchronize their proven contributions to provoke the most effective teaching and learning. Choosing the appropriate technology to facilitate the delivery of instruction is an integral part of planning lessons. The teacher has to take consideration the eleven, the availability and the purpose for which the device is being used. In the event that the technology is not available on hand, and the teacher is obliged to prepare one, there are principles and procedures which he must take note.

There must be a plan or a design to be followed to insure that the preparation is smooth and that the device to be prepared will be utilized to the fullest. Time, energy, effort and money must not be wasted. Technology can play a traditional role, I. E. As delivery vehicles for instructional lessons or in a constructivist way as partners in the learning process. In the rotational way, the student learns from the technology and the technology serves as a teacher. In other words, the student learns the content presented by the technology in the same way that the student learns knowledge presented by the teacher.

In the constructivist way, technology helps the student build more meaningful personal interpretations of life and his world. In the constructivist approach, technology is a learning tool to learn with, not from. It makes the student gather, think, analyze, synthesize information and construct meaning with what technology presents. Therefore, technology serves as medium in representing what he student knows and what he is learning. According to Lizard (1990), " the continued deterioration of the quality of

education in the country can be ascribed to the grossly inadequate funding sources in both public and private schools".

The inadequate funding here implies several teaching and learning problems like poor classroom environment and accommodation, inadequate evaluative device and most importantly inadequate teaching aids and device. The lack of instructional materials is one of the reasons identified as contributory to such condition. That is why there is an extensive effort to alleviate the low reference of students in Agriculture and other subjects by the government to come up with materials that are readily available for use by students.

The search for network and linkages with funding agencies throughout the globe with the same interest of providing resources and avenues for students' improved academic achievements is also continuous. Agricultural knowledge and skills developed among students are crucial for most aspects of life in the modern society. One might expect this importance to be coupled with growing interest in the agriculture-related subjects. However many studies wowed that students perceived agriculture as subject lacking relevance.

It is therefore important that aside from being readily available, these teaching resources developed and provided must be appealing and relevant to students' way of life. Ramirez (2006) cited that many educators claimed that strategy and instructional materials are indispensable tools in the teaching and learning process. Maximum use of senses in the educative process proved to ensure better understanding of lessons. Further, she

mentioned that Austria (1990) wrote that children learn better when they are happy and free to experiment and discover.

She looked forward to seeing innovative and adventurous teachers who do not stick to the monotonous question and answer technique but explore new exciting strategies and who no longer resort to regressive feeding strategies that immobilizers rather than develop the child's intellect. On the other hand, the use of instructional materials that relate to technology is of great help to improve the learning of students because they find it more creative, interesting and easy to recall unlike the traditional way of " chalk and talk".

Today's learners prefer activities where they can interact, express themselves and get immediate feedback. Educators need to accept that students of the present generation are techno-natives who can easily navigate through new technology on their own. They have been highly exposed to various forms of media and technological tools, multi-censorial stimulation, multi-tasking, " instant" processes (that is, click-of-a-button access to information), " instant" products and a barrage of information from various sources-both accurate and inaccurate (Tan, 2007).

The widespread of CIT integration in teaching or the use of CIT in and for education is now considered as necessity worldwide and believed to have significantly undistributed to transform students role from passive receivers of content to active and creative participants and collaborators in the learning process towards becoming self-motivated and self-directed learners which consequently resulted to better academic achievements (Emmer, P. Metal, M. , 2007). According to George Siemens (2008) in his new learning

theory called " Connectivity" that is claimed to be Constructivism in a connected environment, " learning and knowledge is developed in a non-sequential, repetitive process of connecting with a diverse mix of opinions and making decisions by articulating, reflecting on and valuating the connections and options one sees in his environment (White, 2006).

Recognizing such learning process requires a shift from traditional teaching learning model to lifelong learning model that is characterized by 21st century four major skills which includes digital age literacy, effective communication, inventive thinking and high productivity.

Haddam (2002) had this to say, " Acts are powerful tools when used properly because they can improve motivation and engagement in the learning process, can develop multiple intelligence through multimedia presentation of materials and they aka it easy to understand abstract concepts by making them more concrete". The researchers believe that Agriculture being viewed as practical science can be taught using CIT to make such concepts more concrete and ensure proper motivation and engagement of students in the learning process.

In line with the cited ideas on agriculture education, students achievement, importance of ' CT-based instructional materials and on the belief that integrating technology into education in a meaningful way is a key to making learning relevant to the generation of young learners for whom technology is an important part of their ally lives, (BAS, 2004), the researchers conceive the idea that effective teaching in agriculture calls for a teaching framework fit for the digital age in addition to the usual and traditional mode of

teaching, and that the use of CIT based instructional materials may have an effect on students' achievement in Agriculture. The use of ' CT-based instructional material in teaching Agriculture may make a turn- around in the present low academic achievement of students in agriculture particularly in Crop Production, Animal Production, Horticulture and Aquaculture knowing that integration of technology in teaching the subject may be more appealing and relevant to the present generation of learners.

Hence, the researchers decided to develop a computer-aided learning module in Agriculture so as to determine whether lessons developed in the said subject would affect the level of competency of the students. Statement of the Problem This research study is concerned in developing a computer-aided learning module in Agriculture for Grades 7-8 of Central Bucolic State University of Agriculture- Laboratory High School. Specifically, it sought to answer the following questions: 1 . What is the available instructional module used in Agriculture for Grades 7-8? . What is the level of effectiveness of the available instructional module used in Grades 7-8 in Agriculture? 3. What is the alternative instructional module which can be developed in Agriculture for Grades 7-8? 4.

What computer-aided instructional module that can be developed using the available instructional module used in Grades 7-8 in Agriculture? 5. What is the level of effectiveness of the computer-aided instructional module that is developed for Grades 7-8 in Agriculture? Objectives of the Study 1 . To determine the available instructional module used in Agriculture for Grades 7-8. 2. To evaluate the level of effectiveness of the available instructional module used in Grades 7-8 in Agriculture. 3. To determine the alternative

instructional module which can be developed in Agriculture for Grades 7-8. 4. To develop a computer-aided instructional module that can be developed using the available instructional module used in Grades 7-8 in Agriculture. 5.

To evaluate the level of effectiveness of the computer-aided instructional module that is developed for Grades 7-8 in Agriculture. Scope and Delimitation of the Study The study focused on developing a Computer-Aided Learning Module in Agriculture for Grades 7-8 of Central Bucolic State University of Agriculture – Laboratory High School. This project is an ' CT-based instructional material to be developed and evaluated by the same proponents. Prior to the development of the latter, the content of this project is sourced and aligned with the K+12 Basic Education Curriculum – Technology and Livelihood Education Learning Modules in Grades 7-8, specifically in Crop Production, Animal Production, Horticulture and Aquaculture, of the Department of Education (Duped).

Since the learning module made by the Duped is in written arm, the researchers or the proponents initiated to create a prototype using computer-generated software so as to enhance it in a way that it can be used by either of the Agriculture teachers and students in a form of CIT-enabled instructional material. In developing this project, the researchers made use of Adobe Flash Software, Adobe Photos Software and action scripts freely and readily available in identified open-source websites. After working and developing the said project, the output is subject for beta version testing or piloting among the identified Grades 7-8 dents of Central Bucolic State University of Agriculture – Laboratory High School to be conducted and supervised by the researchers.

Not all subject areas included in the Computer-Aided Learning Module were considered in the study. Only the subjects being taught in inclusive period of months shall be evaluated. Said subjects were chosen not only due to its availability in inclusive time it is being taught but also due to time constraints. Nonetheless, the topics and competencies identified were stipulated in the syllabus of Agriculture teachers of the same school which is basically attuned to the Duped prescribed earning competencies. The CIT Laboratory Room of the school will be used during the conduct of the study with the permission of the concerned officials of the University.

Readily available computer units per counts shall be accommodated among the students for their use of the said computer-aided learning module. Significance of the Study This study is significant in developing a computer-aided instructional material in Agriculture for Grades 7-8 as well as its level of effectiveness. Eventually, the same would encourage other researchers to study the significant result on using this computer-aided instructional material. Specifically the researchers believe that this study would also be significant to the following: Students. The use of ' CT-based instructional material is fit to the digital age where most students are adept. It is perceived therefore that students will become active participants in the teaching and learning process.

This would create a learning condition that will provide students more opportunity to be proficient in the use of CIT based learning material. Aside from the dynamic appeal of the material, the learning of concepts in Agriculture will be ensured among students due to the precise simulations presented in the learning of concepts. In the process, the student will

develop a positive attitude and interest in Agriculture and thus, find relevance of the subject to their daily life. Moreover, this instructional material would be effective in enhancing and improving the academic achievement of the students and the utilization of such material could be implemented not only in Agriculture but as well as in other subjects to make learning experiences more relevant and lifelong. Parents.

The kind of insights, learning and attitudes that may be acquired and developed by students will consequently benefit the parents and perhaps the entire Emily. The parents would be assured that their children would academically benefit from the use of CIT-based materials not necessarily the negative habit developed when children are hooked to technology. Since the students would become active and dynamic participants in the learning process, the parents are certain that their children would spend time productively attending their classes especially in Agriculture. Teachers. The result of this study would motivate and inspire Agriculture teachers and perhaps other subject teachers to utilize this computer-aided instructional materials in their classes.

The material is ready-to-run software therefore teachers would have less worry in the use of the same. Also, the problem on absence or inadequacy of appropriate instructional materials would be answered and shall lessen the time spent by teachers in preparing conventional instructional materials. School Administrators. Administrators may institutionalize the use of the material not only in subjects like Agriculture but also in other subjects in the high school to ensure optimum achievement in all subject areas. It will also

encourage administrators to recommend to curriculum developers and teachers to include or integrate use of ' CT-based materials in teaching.

In addition, administrators would support programs and projects geared towards procurement of CIT materials used for instruction, capability trainings among teachers to improve proficiency in the use of such materials and continued appropriation of needed funds for related endeavors and sourcing for external support. Future Researchers. This study will establish profound basis or data as to the effectiveness of the developed computer-aided instructional materials in improving the academic achievements of students in Agriculture. Results of this study would revived necessary inputs to researchers who are interested to explore the domains of CIT in education and would aid them to conceptualize further studies pertaining to the use of ' CT-based learning modalities.

CHAPTER II REVIEW OF RELATED LITERATURE THe theoretical basis of media technology As early as the sass's Alvin Toffee's The Future Shock predicted revolutionary changes in the agricultural and industrial sectors as a result of the advent of machines and mechanization. After a decade he wrote The Third Wave, which predicted another revolution, affecting no less than families in households and children in schools. Toffee showed visions of machines which can think, act and relay information and warned against the dehumidifying effects of a future technological age. This new age has dawned upon us, but happily man has surmounted the grim possibility of being euthanized or enslaved by machines.

As matter of all earthly creations, he has transformed his mechanical inventions into instruments for his own welfare. Even the teacher, therefore, need not fear being replaced by educational machines. He needs simply to be aware that the youth today brings to school a visual sophistication not present a generation ago. The teacher today needs to understand the role and uses of these machines and technology. At the same time he must attune the learning situation to the fast-changing times. As long as the teacher can relate his tools for effective teaching, he need not fear that any machine can never replace him. For the teaching profession, certain terms in the new technology are hereby clarified. Media" refers to all modes of communication, including print and audiovisual forms and their accompanying technology. " Print forms" refers to all printed materials, while " non-print media" includes two types: the first (audiovisual) types of teaching trials such as film, filmstrip, flat picture, recording, chart and poster, and the newer " media" such as computer-assisted instruction, programmed materials, television and remote-access retrieval systems, including their relevant methods, systems and hardware. Media Technology in Education Good teachers have used audiovisuals for centuries. Sans drew pictures on the sand and used objects in the environment as teaching tools.

Commences wrote Orbits Pictures (The World in Pictures) in 1658 which is recognized as the most popular illustrated textbook ever written for children. Pestilential believed that sense impression is the only true foundation of human knowledge and his influence was felt throughout the 19th century. As new inventions brought about new technologies, the educational community derived benefits from the new development. Printing, recording,

photography, radio, television and the computer contributed to the vast array of resources now available to the teachers. Researches during the past two decades have verified the relative effectiveness of the use of educational technology as compared with conventional instruction.

Audiovisual aids complement teaching through concrete or nonverbal experience in he learning process, while other forms of instruction merely provide verbal or symbolic experience. In the entire teaching and learning process the contribution of the audiovisual or VA materials stands out prominently. Broadly interpreted, VA denoted special kinds of devices and procedures such as motion pictures, filmstrips, television or video, radio, audio recordings, posters and other graphic materials, models and three dimensional (AD) materials, demonstration and direct purposeful experience. We term them audiovisuals since 85 to 90 percent of the same stimuli, hen aroused by our environment and by these aids, enter our perception through the eyes and the ears.

A broad background of perceptual experience is the basis of learning; and ultimate understanding of the ideas hinges around a correct perception of the elements of the situation involved. The VA aids present multi- sensory experience and structure our perception more clearly and quickly. Three properties of audiovisuals help to indicate why they are used and what they can accomplish that teachers alone accomplish or will accomplish less efficiently. These properties are: (1) the fixative property, (2) the manipulative property, and (3) he distributive property. The Fixative Property. Audiovisual permits the capture, preservation and reconstitution of an object or event. Photographic film, video tape and audio tape can save

information, making such information at any future time. The Manipulative or Editing Property.

This permits the rearrangement of materials or information for purposes of updating, change of emphasis, or correction. The film celluloid, the video tape and the audio tape can be spliced and recorded. The Distributive Property. This property allows the transmission of an event through pace, simultaneously presenting it to thousands, even millions of viewers, who derive a virtually identical viewing experience. Information recorded in an VA medium can also be reproduced as needed. Media: Selection and Characteristics In selecting media of instruction, the teacher must first determine exactly what his objectives are and then select the most appropriate types of media for the task.

For example, if the teacher wishes the students to be able to identify different species of native birds in their natural habitats, he should probably use colored pictures that display the proportions, relative sizes and habitats of the birds. When effective or emotional behaviors are to be elicited, iconic media such as pictures, films, models, and exhibits seem to be rather ineffective when they merely exhibit physical qualities of something. Simulated situations, role playing, recording and playback techniques using video equipment, visits to institutions such as hospitals and prisons, are useful ways I which attitudes and feelings can be modified.