COMMON ICT APPLICATION SOFTWARE IN THE TEACHING AND LEARNING OF AGRICULTURAL SCIENCE IN PUBLIC SECONDARY SCHOOLS IN JALINGO

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Abstract

The study examines the use of information and technology on teaching and learning of Agricultural Science in public senior secondary schools in Jalingo Local Government Area of Taraba State. The population of the study covered 26 public senior secondary schools in Jalingo LGA, 30 agricultural science teachers and 10,379 students. The sampling techniques adopted was stratified sampling techniques. The data for the study was sought from thirty (30) Agricultural Science teachers and two hundred (200) Agricultural Science senior secondary school students which were randomly drawn from public senior secondary schools selected in Jalingo Local Government Area of Taraba state, Nigeria. The instrument used for data collection was well-structured questionnaire. In order to ensure that the instruments measures what it was intended to measure in the main study, three specialists in the field of Education from faculty of education, Taraba State University validated the instrument. The data was analyzed using Decision Rule, Mean and Standard Deviation. The study concludes that ICT facilities and packages are scarcely available in public senior secondary schools and that the

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available ICT facilities and packages in public senior secondary schools in Jalingo Local Government Area of Taraba State are not utilized in the teaching and learning of Agricultural science in the public senior secondary schools. The study, therefore recommend that Jalingo Local government authorities in Taraba State should establish Teachers' Resource Centre for the development and testing of instructional ICT facilities and packages so as to key into the sustainable development goal, that Teacher education curriculum should be reviewed to emphasize knowledge and skills related to the use of ICT in teaching and learning of Agricultural science, that public senior secondary school in Jalingo LGA, that a computer laboratory for general use may help if it is not possible to make ICT facilities/packages available to all Agricultural science teachers, that regular ICT literacy program for Teachers should be organized, that public senior secondary schools in Jalingo LGA should be connected to the internet. The State Government should provide digital libraries, the State government can also help by subsiding or reducing the tariffs on importation of ICT facilities so that schools and others can afford the purchase of these ICT facilities and accessories since the price will come down.

Introduction

ICT refers to Information and Communication Technology and the central electronic device in ICT is the computer system. ICT does not only transform teaching of Agricultural science in public senior secondary schools but also the learning processes. The transformation gets to increase learning gains for Agricultural science students, which provides the learners the opportunity to develop creativity, communication skills, and other thinking skills. It enables the use of innovative educational resources and the renewal of learning methods, establishing a more active collaboration of students and the simultaneous acquisition of technological knowledge. It is much easier for students to create team projects, cooperate and learn from each other, computer facilities are used in learning process.

Torruam and Abur (2013) noted that the use of ICT-driven instructional aids in teaching and learning process makes learning real, practical and more permanent to the learners. This is obvious, because student will benefit better from the use of instructional ICT, as it leverages the gap between the gifted students and the slow learner students; makes innovations more relevant to student activities;

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enhances the predictive capability of students; concretizes learning; aids students' assimilation; and promotes cooperate learning among students. Adesote and Fatoki (2013) pointed out that Information and Communication Technology (ICT) is a force that has changed many aspects of human endeavor. Although, Alfred (2014) argued that the focus in each lesson or unit should be the curriculum outcome, not the technology, it necessary for the teachers to be equipped with knowledge of how to integrate technology into lesson presentations to aid curriculum outcomes.

Technology (especially, ICT facilities) in education aids the teaching and learning of Agricultural science in public senior secondary schools in the following ways:

- Interactivity – the computer can present many problems and require learners' responses.
- Immediate feedback – The computer informs the learner immediately if the answer is wrong and tells the learner why.
- Infinite patience – It can go all days without getting tired or irritable to learners.
- Variable level of difficulty – The computer can adjust the level of difficulty. This could be set by the teacher or by the learner or the programme may adjust automatically based on the student's performance.
- Motivation – Through the use of gaming elements which is on the computer, a drill and practice programme may be more motivating to students than similar paper-and-pencil exercises.

These characteristics make the computer an excellent tool for drill and practice.

The effects of ICT in teaching and learning processes play also an important role in facilitating agricultural growth in practice because they increase the efficiency of market interactions and provide access to real time information mainly by enhancing farmers' access to markets and their pricing power through the use of trading platforms over the Internet through web/mobile. In other words, Information and Communication Technology (ICT) supports farmers by facilitating access to markets through real-time data on market prices, weather forecasts, information on pests, seed varieties and planting techniques. There are also software which help in the prediction of weather conditions and estimation of agricultural production, which needed to have been taught using ICT devices even at secondary school level. Similarly, computers are used for record-keeping of information related to costs involved in production and transportation of

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agricultural produce, likewise in the estimation and calculation of profit and/or loss. All these were made possible from impact made by use of ICT in teaching and learning agricultural science from the secondary school level.

The teaching and learning of Agricultural science is a major part of senior secondary school curriculum because it enables prevocational skills among students for local, national and international development. It creates personnel for food security, ecological and societal harmony. Yassanne (2014) showed in the results of the study that there was a significant difference between the academic performance of students in biology who were exposed to Computer-Assisted Instruction and those exposed to the traditional method of teaching. It was therefore recommended that Computer-Assisted Instruction be integrated into the teaching of biology to enhance students' academic performance in science. Also, Serkan (2015) revealed that the students taught through Computer-Assisted Instruction as supplementary strategy performed significantly better; also, Aitokhuehi, Johnson and Ojogho (2014) find out that computer literate students perform better than non-computer literate. On the other hand, Wakkala, Aliyu and Sajir (2019) affirmed that the level of teachers' job performance is high when the level of teachers' computer literacy is high. Likewise, Michael and Igenewari (2018) recommended that teachers should use the knowledge of computer in the teaching and learning process

Oyeniyi, Oyeniyi and Atumba (2020) suggested that government should devote more money, time, materials and human resources by providing sufficient computers for school record keeping in order to back up and regulate teaching and learning process as this will enhance better teaching and learning process. At the same time, different categories of learners ranging from fast learners to slow learners shall be able to learn at ease, when instruction is aided with appropriate electronic records. It is therefore in this regards that this study is carried out to examine the use of information and technology on teaching and learning of Agricultural Science in public senior secondary schools in Jalingo Local Government Area of Taraba State.

Statement of the Problem

There is a global change in approach to educational issues, especially the teaching and learning of Agricultural Science in senior secondary schools. The 'force' of globalization demands digital approaches to teaching and learning processes in senior secondary school, precisely in Agricultural Science. From my personal

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experience as teacher, the use of ICT in teaching and learning of Agricultural Science in senior secondary schools in Jalingo Local Government Area of Taraba State varies from schools to schools; that is, computer, being a major electronic device in Information and Communication Technology is either or not being use directly to aid the teaching and learning of Agricultural Science in senior secondary school and this has led to poor retention of Agricultural science lessons, be it theoretical or practical.

It is therefore necessary to examine the level of utilization of information and communication technology in teaching and learning of Agricultural Science in public senior secondary schools in Jalingo Local Government Area of Taraba State, so as to recommend its optimal use to aid better performance in Agricultural science.

Research Questions

1. To what extent is presentation software packages in ICT made available and being used
2. in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State
3. To what extent is word processor in ICT made available and being usedin the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State
4. To what extent is Computer database software made available and being in used teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State
5. To what extent is computer Spreadsheet software made available and being in used to solve real-world Agricultural problems in teaching and learning process

Conceptual framework

A model depicting the connectivity between ICT, School administrators, Teachers, Students and the Society concerning the use of ICT in teaching and learning of Agricultural Science in public Senior Secondary School is explained diagrammatically below:

A model of teaching and learning of Agricultural science using ICT approaches in public senior secondary school setting

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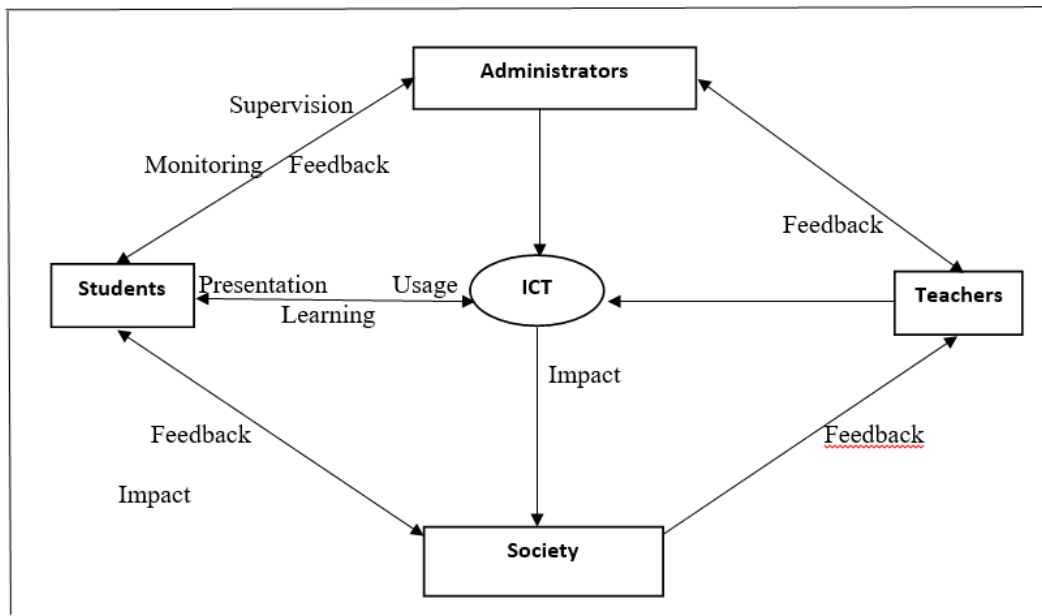
SCHOOL SYSTEM

- The administrators supply the ICT facilities in a school system and supervise the teachers and monitor students
- The teachers acquire the ICT training through the ICT workshops sponsored by the administrators, interact with the ICT system for literacy, feed administrators on computer update and teach Agricultural science lesson using ICT facilities
- The students acquire knowledge from the teachers as a result of the use of ICT in the teaching of agricultural science, interact directly with ICT facilities, boost image of the school/administrators as a result of student's competence in the use of ICT facilities and impact the ICT skills on the society

The Society hosts the school system, receives ICT impartation from the students and supplies needed ICT compliant Agricultural science teachers.

Literature review
The common tools are word processors, graphic and desktop publishing, presentation software, database and spreadsheets. We shall discuss each of them for you to understand.

Word Processors

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Teachers and Students can use word processor to do the following:

- write papers, stories, poems and other in-class work. Major emphasis is on writing. It helps students to practice creating a draft, editing the work and predicting a new draft.
- write letters – teachers can encourage their students to write letters to their friends and this reinforces their writing skills.
- do writing related activities – take notes, record experiments, or record project's progress.
- do language exercise – type spelling words, science vocabulary word and practice language skills.
- Type handwritten notes as a way of study: typing handwritten notes one word-processor can reinforce learning or study for examination.

Graphic and Desktop Publishing Tools

Computer graphic tools provide students with capability to work on images of all types, e.g., photographs, clip art, charts, graphs and desktop publishing software give them control over the layout of text and graphics on printed pages to produce professional looking printed materials. The following can be learnt using the tools.

- Create drawing – cutting and drawing programme can produce original work.
- Illustration of work – using printing and drawing or clip art to illustrate written stories, reports or hyper media projects.

Presentation Software

Designed for display of computer text and images usually for presentation to a group. While they are seen as tools for the teachers to enhance lectures, students can use them as well. Students can use them to do the following:

- Make in-class presentation or reports – Presentation packages make it easy for students to create professional-looking reports with complete multimedia elements.
- Store and display electronic portfolios – Student can use them to assemble portfolio of work including text, graphics, and even digital audio and video.
- Transfer of work to other media. Many presentation packages provide single mechanism for converting electronic shades to print, photographs or web page.

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Presentation software has multimedia capability and thus share usage characteristics with graphics software as well as hypermedia authoring.

Database

Computer database software provides the capability of creating, editing and manipulating organized collection of information. Student can use database management software to do the following:

- Create information in databases – Use database software to fill information, e.g., locate book in the School electronic Library.
- Develop problem-solving and higher-order thinking skill – Using database, student can develop problem-solving and higher order skills. For example, students might want to look at budget allocation for education and the rate
- of growth in the country's education. They could ask the question: Is there any relationship between budgeting and growth in education?
- Develop original data bases – Student can learn about research, information, and a particular content area by developing their database. For example, impact of ICT in a tertiary institution. Teachers should help students learn the structure of and organization of the database, and guide them through the process of using it.

Spreadsheets – These include enhancement of database elements and and the capability to graphically depict data. Student can use these tools to do the following:

- Track financial information – spreadsheet first became a popular tools for helping businessmen track finances. Students can use them tracking financial information.
- Keep records – Though primarily calculating tools, thy can be used to keep simple record and maintain information list.
- Create charts and graphs – Students can use it to keep record of investment.
- Perform complex calculations – can quickly produce results involving complex calculations.
- Perform "what-if" simulation or hypotheses-testing activities. The rapid recalculation of spreadsheet can enhance students' investigating how

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changes in one factor impact other factors – "What will happen if I change…….." Students in demography and statistics class could explore the rate of marriage and education of a girl-child in a community. Spreadsheet allows students to concentrate on real-world problems without becoming bugged down in the calculation. An incorrect formula or bad data can lead to erroneous results. This is relevant to the expression in computer world: "garbage in, garbage out."

METHODOLOGY

Study Area

Jalingo Local Government Area (L.G.A) is the state capital of Taraba State and her location lies roughly between 6° $30^'$ and 9° $36^'$ North of the Equator and longitude 9° $10^'$ east of the Greenwich Meridian. It is bounded by Yorro LGA in the North-East and Lau LGA in the North. It is further bounded to the South by Ardokola LGA. There are twenty-six (26) public senior secondary schools in Jalingo LGA, seven hundred and seventy-six (776) teachers and ten thousand three hundred and seventy-nine (10,379) students. The numbers of Agricultural Science teachers and school administrators are about thirty and one hundred respectively.

Research Design

The study adopted descriptive survey research design. The population of the study covered twenty-six public senior secondary schools in Jalingo LGA, thirty agricultural science teachers and ten thousand three hundred and seventy-nine (10,379) students. The sampling techniques adopted was stratified sampling techniques. Jalingo LGA was divided into three (3) compartments, naming Eastern Region, Central Region and Western Region and a senior secondary school was purposefully selected from each region based on predetermined condition such as population of teachers and students, popularity of schools and availability of ICT facilities. The selected schools are as follows: Eastern Region: Government Day Secondary School,Kofai, Central Region: Government Science Secondary School, Jalingo, Western Region: Government Day Secondary School, Howai, Mile 6, Jalingo

The data for the study was sought from thirty (30) Agricultural Science teachers and two hundred (200) Agricultural Science senior secondary school students which were randomly drawn from public senior secondary schools selected in Jalingo Local Government Area of Taraba state, Nigeria. The instrument used for

data collection was a well-structured questionnaire. The questionnaire was divided into two (2) sections. Section A sought for information pertaining to the demographic data of the respondents. Section B was structured directly on the study and it consisted of thirty (30) questions, which were sub-divided into four sub-sections based on the research questions. Four points Likert-type scale was used for easy classification and data analysis. The four Likert Scale was assigned as follows: Very Frequent (VF) attracts four points (4); Frequent (F) attracts three points (3); Occasional (O) attracts two points (2); Never (N) attracts one point (1). In order to ensure that the instruments measures what it was intended to measure in the main study, three specialists in the field of Education from faculty of education, Taraba State University validated the instrument. All the items were reviewed using the following criteria: Appropriateness of the contents; Accuracy level, Structure of statement and Meaningfulness of expression. The research instrument was administered by the research assistants who were teachers in public senior secondary schools in Jalingo Local Government Area of Taraba State and retrieved back. The purpose of the study was explained to the respondents as copies of the questionnaires were being administered to them. The researcher made fantastic effort to ensure that the completed questionnaires were collected from the respondents within three days of distribution**.** The data collected from the exercise, was collated and used to measure the use of ICT on teaching and learning of Agricultural Science in public senior secondary schools in Jalingo Local Government Area of Taraba State.

Method of Data Analysis

The Data collected from the respondents was used to assess the use of ICT on teaching and learning of Agricultural Science in public senior secondary schools in Jalingo Local Government Area of Taraba State. Responses to the research instrument were scored and coded by the researcher using the ranking pattern of Likert Scale type from one(1) to four(4)as follows: Very Frequent (VF) attracts four points (4); Frequent (F) attracts three points (3); Occasional (O) attracts two points (2); Never (N) attracts one point (1). The data collected on the use of ICT on teaching and learning of Agricultural Science in public senior secondary schools in Jalingo Local Government Area of Taraba State was analyzed using Decision Rule, Mean and Standard Deviation.

RESULT AND DISCUSSION

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TABLE 1: FREQUENCY DISTIBUTION RESPONDENTS

Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Teacher	30	13.0	13.0	13.0
	student	200	87.0	87.0	100.0
	Total	230	100.0	100.0	

Research Questions 1: To what extent is presentation software packages in ICT made available and being used in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State.

Discussions on finding

The table 2 provides answers to research question one. It is obvious from table 2 that both students and teachers agreed that presentation software was not made available for use in in-class presentation or report but agreed that it was being made available to store and display electronic portfolios. The teachers consented contrarily to the students' opinion, that it was available but not used for transferring agricultural science work to other media.

It was also a general view that presentation software package was neither made available nor used for displaying postharvest process in teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State. It was only a mere assumption that it was made available to keep teaching and learning digital, check animal feed pattern, life cycle but not for checking the balance of Eco system

Table 2:Available and Utilization of Presentation software packages in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State.

Variable	Status	N	Mean x	Std. Deviation	Decision Rule Availability: x>2, Accept. x<2, Reject	Decision Rule Utilization: x>2.5, Accept. x<2.5, Reject
P1	Teacher	30	1.7333	0.98027	Reject	Reject
	Student	200	1.9800	1.19866	Reject	Reject
P2	Teacher	30	2.1000	1.06188	Accept	Reject
	student	200	1.8350	1.06463	Accept	Reject
P3	Teacher	30	2.0333	1.15917	Accept	Reject
	Student	200	1.7050	1.02137	Reject	Reject
P4	Teacher	30	1.7333	1.14269	Reject	Reject
	Student	200	1.7850	1.12029	Reject	Reject
P5	Teacher	30	2.3333	1.39786	Accept	Reject
	Student	200	2.2350	1.25605	Accept	Reject
	Teacher	30	2.0000	0.98261	Accept	Reject

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P6	Student	200	2.0050	1.17554	Accept	Reject
P7	Teacher	30	2.0333	1.24522	Accept	Reject
	Student	200	2.0750	1.16454	Accept	Reject
P8	Teacher	30	1.9667	0.88992	Reject	Reject
	Student	200	1.9100	1.15262	Reject	Reject

Research Question 2: To what extent is word processor in ICT made available and being used in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State

The table 3 provides answers to research question two. Word processor was made available only to students but not the teachers to write papers and other in-class work, though the students complained of not using it. It was only available to teacher for writing letters to agricultural partners for field trip, but they seldomly use it.

The teachers and the students both consented that word processing software was made available for recording experiments, project report, do language exercises (typing of scientific words) but not utilize in the teaching and learning of agricultural science. Although it was available only the teachers for lesson note formation and both parties (Teachers and students) for setting and answering questions respectively, it was not put to use by both parties.

Likewise word processing software was made available by the school administrators for both teacher and students to correct spelling of Agricultural registered words but only the teachers used it. The students also acknowledges that it was available paging their note but was never put to use

Table 3: Available and Utilization of word processor in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State.

Variable	Status	N	Mean x	Std. Deviation	Decision Rule Availability $x>2$, Accept. $x<2$, Reject	Decision Rule Utilization: $x>2.5$, Accept. $x<2.5$, Reject
W1	Teacher	30	1.9333	1.01483	Reject	Reject
	Student	200	2.3150	1.32459	Accept	Reject
W2	Teacher	30	2.0667	1.25762	Accept	Reject
	Student	200	1.8750	1.08409	Reject	Reject
W3	Teacher	30	2.4000	1.10172	Accept	Reject
	Student	200	2.0150	1.20083	Accept	Reject
W4	Teacher	30	2.0000	1.20344	Accept	Reject
	Student	200	2.1650	1.18099	Accept	Reject
W5	Teacher	30	2.3333	1.24106	Accept	Reject
	Student	200	1.9950	1.18405	Reject	Reject

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W6	Teacher	30	2.4667	0.97320	Accept	Reject
	Student	200	2.2900	1.20547	Accept	Reject
W7	Teacher	30	2.6000	1.10172	Accept	Accept
	Student	200	2.2000	1.22782	Accept	Reject
W8	Teacher	30	1.9000	1.29588	Reject	Reject
	Student	200	2.0300	1.21923	Accept	Reject

Research Question 3: To what extent is Computer database software made available and being in used teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State

The table 4 provides answers to research question three. The teachers confirmed that Data base software were made available to locate agricultural science books in electronics library, develop problem-solving and high-order thinking skill and to know the growth of the country's Agricultural science education but it was never put to use. It is obvious that both teachers and students consented that Data Base Software is available in the school systems to know the relationship between budgeting for Agriculture and growth of Agricultural education, learn about research and information on Agricultural sciences but it was not put to use. Despite only the teachers noted that Data base software was made available to learn about particular content area, both agreed that it was merely available for manipulating and organizing Agricultural science information and not for teaching process

Table 4:Available and Utilization of Computer database software in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State

Variable	Status	N	Mean x	Std. Deviation	Decision Rule Availability: $x>2$, Accept. $x<2$, Reject	Decision Rule Utilization: $x>2.5$, Accept. $x<2.5$, Reject
D1	Teacher	30	2.1667	1.17688	Accept	Reject
	Student	200	1.7600	1.17443	Reject	Reject
D2	Teacher	30	2.2333	1.16511	Accept	Reject
	Student	200	1.7950	1.09038	Reject	Reject
D3	Teacher	30	2.4333	1.07265	Accept	Reject
	Student	200	1.9750	1.14056	Reject	Reject
D4	Teacher	30	2.4000	1.19193	Accept	Reject
	Student	200	2.0600	1.15893	Accept	Reject

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D5	Teacher	30	2.2000	1.21485	Accept	Reject
	Student	200	2.1300	1.24533	Accept	Reject
D6	Teacher	30	2.3000	1.23596	Accept	Reject
	Student	200	2.0450	1.14873	Accept	Reject
D7	Teacher	30	2.1667	1.17688	Accept	Reject
	Student	200	1.9600	1.19395	Reject	Reject
D8	Teacher	30	2.0000	1.08278	Accept	Reject
	Student	200	2.0700	1.23398	Accept	Reject

Research Question 4: To what extent is computer Spreadsheet software made available and being in used to solve real-world Agricultural problems in teaching and learning process

The table 5 provides answers to research question four. The teachers and the students both agreed that spreadsheet software is merely available to resolve financial complexity in Agricultural economics but not for use in teaching and learning process. Similarly, both accepted that it was available for keeping agricultural records in form of lesson notes but the teachers consented that it was used in teaching and learning process in Agricultural science lessons.

The teachers accepted that it was available for creating charts, graphs, perform complex calculations and the calculations are carried out in teaching and learning process. Although, both teachers and students denied the use of Spreadsheet software in testing hypothesis and performing farm bio-metric analysis, the teachers accepted that the software was available for hypothesis testing.

Table 5:Available and Utilization of computer Spreadsheet software in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State.

Variable	Status	N	Mean x	Std. Deviation	Decision Rule Availability: x>2, Accept. x<2, Reject	Decision Rule Utilization: x>2.5, Accept. x<2.5, Reject
S1	Teacher	30	2.4333	1.33089	Accept	Reject
	Student	200	2.0250	1.23775	Accept	Reject
S2	Teacher	30	2.5000	1.27982	Accept	Accept
	Student	200	2.1100	1.17679	Accept	Reject
S3	Teacher	30	2.4333	1.35655	Accept	Reject
	Student	200	1.8800	1.11887	Reject	Reject
S4	Teacher	30	2.5667	1.27802	Accept	Accept
	Student	200	1.9500	1.12420	Reject	Reject

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S5	Teacher	30	2.3667	1.09807	Accept	Reject
	Student	200	1.8150	1.05658	Reject	Reject
S6	Teacher	30	1.8000	1.03057	Reject	Reject
	Student	200	1.8200	1.20201	Reject	Reject

Summary of Major Findings

This study was aimed at assessing the use of ICT on teaching and learning of Agricultural science in public senior secondary schools in Jalingo Local Government Area of Taraba State.

Specifically, the purpose of the study is to determine how presentation software packages in ICT is made available and used in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State, determine how word processor in ICT is made available and used in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State, determine how Computer Data Base is made available and used in teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State and to determine how computer Spreadsheet software is made available and used to solve real-world Agricultural problems in teaching and learning process.

Four research questions were asked to guild the study and one hypothesis, they are: To what extent is presentation software packages in ICT made available and being used in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State, what extent is word processor in ICT made available and being used in the teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State, To what extent is Computer database software made available and being in used teaching and learning of Agricultural science in public senior secondary schools in Jalingo LGA of Taraba State and what extent is computer Spreadsheet software made available and being in used to solve real-world Agricultural problems in teaching and learning process.

1. That presentation software packages were scarcely available, that is, it was not readily available for student but teacher in in-class presentations, displaying of electronic portfolios, transfer of Agricultural science work to other media like photograph, displaying post-harvest processes, keep teaching and learning digital, checking animal feeding pattern and Life cycle

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2. That Word processing software was averagely available to both teachers and students for writing papers and other in-class work, letters to Agricultural science Partners, recording experiments, or project's progress, doing language exercise – type spelling words, botanical names/science vocabulary, typing handwritten notes as a way of study, setting and answering exam questions but occasionally it is put to use for teaching and learning agricultural science in public senior secondary school in Jalingo LGA, Taraba State

3. That the Data Base software was only available for locating Agricultural Science books in the School electronic Library, developing problem-solving and higher-order thinking skill, knowing the Growth in the country's Agricultural science education and many more but not for teaching and learning agricultural science in public senior secondary school in Jalingo LGA, Taraba State

4. That Spreadsheet software was available but not for teaching and learning agricultural science in public senior secondary school in Jalingo LGA, Taraba State

5. That there is no significant difference in the mean scores between the teachers' and students' perception on use of ICT on teaching and learning of Agricultural science in public senior secondary schools in Jalingo Local Government Area of Taraba State

Conclusion

It is evident from the findings of this study that the use of ICT in teaching and learning of Agricultural Science in public senior secondary school in Jalingo LGA, Taraba State could provide a good way for student to learn actively in Agricultural Science.

The study concludes that ICT facilities and packages are scarcely available in public senior secondary schools and that the available ICT facilities and packages in public senior secondary schools in Jalingo Local Government Area of Taraba State are not utilized in the teaching and learning of Agricultural science in the public senior secondary schools.

Recommendation

The study, therefore recommend that Jalingo Local government authorities in Taraba State should establish Teachers' Resource Centre for the development and testing of instructional ICT facilities and packages so as to key into the sustainable development goal, that Teacher education curriculum should be reviewed to emphasize knowledge and skills related to the use of ICT in teaching and learning

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of Agricultural science, that public senior secondary school in Jalingo LGA should be provided with adequate ICT resources to facilitate teaching and learning of Agricultural science, that a computer laboratory for general use may help if it is not possible to make ICT facilities/packages available to all Agricultural science teachers, that regular ICT literacy program for Teachers should be organized, that public senior secondary schools in Jalingo LGA should be connected to the internet(vii) The State Government should provide digital libraries, the State government can also help by subsiding or reducing the tariffs on importation of ICT facilities so that schools and others can afford the purchase of these ICT facilities and accessories since the price will come down.

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