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FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION

4TH International CONFERENCE

Conference Proceedings

THEME

21ST CENTURY GLOBAL CHANGES IN EDUCATION: IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT

DATE: Tuesday, 4th - Friday, 7th October, 2016
VENUE: CPES COMPLEX, BOSSO CAMPUS, MINNA

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TWENTY FIRST CENTURY GLOBAL CHANGES IN EDUCATION: IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT

DATE 4TH – 7TH OCTOBER, 2016

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

4TH INTERNATIONAL CONFERENCE OF SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION (SSTE)

Held at CPES Complex, Bosso Campus, Minna

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Held at CPES Complex, Bosso Campus, Minna

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ACKNOWLEDGMENTS

The Local Organizing Committee (LOC) of the 4th International Conference of School of Science and Technology Education, Federal University of Technology, Minna thank the management of the University for the Unalloyed Support given to them which led to the success of this conference. We also wish to express our profound gratitude for the assistance rendered by the University management especially in disseminating information relating to this conference using the University website, bulletin and FUT Search FM. We thank the Dean, School of Science and Technology Education for sustaining this conference till the end of her tenure despite the economic recession. Her encouragement, advice, moral support gave the Local Organizing Committee the strength to complete this task and make sure the conference is successful. We sincerely thank academic staff for their financial contributions and other essential roles played which led to the success of this conference.

We thank non-teaching staff for the role played which contributed to the success of this conference. We thank the University community for participating in the opening ceremony and plenary section.

The efforts of Editorial Board is commendable for making sure that the books of proceeding were ready before the arrival of participants. We appreciate the efforts of the keynote presenter and lead paper presenter for attending this conference despite their tight schedule.

We also thank the students for sparing their time to witness the opening ceremony. Finally, we thank God almighty for the strength given to LOC members to discharge this erroneous task.

PREFACE

Sustainable development is widely recognized as a global issue. Changes in climate, global recession, changes in science and technology has been witnessed by all. All these issues need urgent attention from researchers, policy makers and educationists. The existing literature on global changes in education and implications for sustainable development is limited.

Hence, there is a need for conference of this nature where experts can brainstorm so that international communities can learn from one another and respond to contemporary global changes in education which can in turn bring about sustainable development in our society. It is worthy to note that sustainable development is dependent on education.

The theme and sub-theme of this conference "21st Century Global Changes in Education: Implications for Sustainable Development" is based on the prevailing situation. I am sure this conference has provided avenue for researchers and educationists to share ideas on the ways 21stCentury Global Changes in Education can bring about Sustainable Development in our communities. In essence, sustainable development is expected to meet the needs and aspiration of individual without compromising the future of the younger ones. I hope the theme and sub-themes meet the needs of the stakeholders in science and technology education.

The sub-themes are;

1. Primary Education and global changes
2. Secondary Education for sustainable development
3. Higher Education and sustainability
4. Science and Technology Education for sustainable development
5. Changes in Engineering Education for sustainable development
6. Changes in Agricultural Science towards sustainable development
7. Changes in Education and Future Generation
8. Education and Entrepreneurship Development
9. Vocational, Industrial and Technical Education for Sustainable Development
10. Communication Education and Sustainable Development
11. Youths and Global Changes in Education
12. Global Trends in Information and Communication Technology for Sustainable Development.

The Local Organizing Committee thank the participants for their contributions to the above sub-themes.

Robert Ogbanje Okwori PhD, MNATT, FRHD
(Associate Professor)
LOC Chairman/Editor-in-Chief

BRIEF HISTORY OF SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION

Education provides learners with 21st century skills to live in this modern society. It enables them to be healthy and productive. Sustainable development hinges on education which helps in the production of manpower. These experts (manpower) can be used to harness natural resources for sustainable development. Hence, education plays a vital role in sustainable development. Therefore, the 21st century global changes in education and its implications for sustainable development is a global issue. It needs to be discussed so that individuals can learn from one another by sharing ideas so that the contemporary challenges such as global recession, climate change and changes in education can be addressed towards shaping the society.

The Federal University of Technology, Minna was established on 1st February, 1983. It has undergone tremendous progressive transformation and is recognized nationally as a trail blazer in science and technology education. It started with three Schools. They include: School of Agriculture and Agricultural Technology; School of Engineering and Engineering Technology and School of Environmental Technology. It now has seven Schools and many Directorates. The Schools are academic segments of the University that help to advance the course of the University.

In 2012, School of Technology Education was created out of School of Science and Science Education. The School of Technology Education is one of the Schools of Federal University of Technology, Minna, Niger State. It is situated in Bosso Campus. It was officially approved at the 366th Senate meeting of Federal University of Technology, Minna on Tuesday, 17th October, 2012. It started with three Departments: Industrial Technology Education (ITE) has five (5) programmes namely: Automobile, Building, Electrical Metal – Work and Wood work Technology.

Department of Science Education has five (5) programmes, namely: Biology Education, Chemistry Education, Geography Education, Mathematics Education and Physics Education. The Department will also house the proposed Agricultural Science Education and Computer Science Education after/on approval of the programmes.

Department of Library and Information Technology (LIT) offers courses in library and information technology.

LIT department moved to School of Information and Communication Technology in 2016/2017 academic session.

Educational Technology Department was created in 2015/2016 academic session.

The School is focused towards the development of critical knowledge, pedagogical and ICT based skills to move the nation forward. It is a School where teaching, learning and research are actively pursued.

The pioneer Dean, Prof. V. I. Ezenwa was appointed in October, 2012 and she is still the Dean of the School. Prof. E. J. Ohize and Dr. G. U. Oyedum were the deputy Dean and Sub-Dean from 2012 to 2014, Dr. R. O. Okwori was the Deputy Dean from 2014 to 2015, while Prof. B. N. Atsumbe became the Deputy Dean in 2015 to date. The School Secretary and School Examination officer were Mallam M. D. Nakaka and Ahmed Abdulganiyu respectively. Currently, Garba Abdullahi and Dr. C. Tukura are the School Secretary and Examination officer

respectively. The name of the School was changed to School of Science and Technology Education in 2015 .

Philosophy

The Philosophy of the School of Science and Technology Education is based on the general philosophy of the University as contained in the Universities Academic brief and the Philosophy of Education embedded in the National Policy On Education (4th Edition). The School of Science and Technology Education focuses on the education of teachers and is committed to producing high quality and professionally competent graduate teachers trained with adequate skills, new orientation, technology and knowledge to meet global best practices in education.

Vision

The School of Science and Technology Education strives to be known (recognized) for excellence in teacher education that harnesses the capabilities and capacities of student teachers through new orientation on pedagogy, service, productivity, and self reliance (entrepreneurship) for effective utilization in School setting and the larger society.

Mission

The School of Science and Technology Education as a specialized School shall provide an enabling environment for quality training, skills and innovative information technology development in a variety of relevant education activities for self, state and national development.

Mandate

The mandate of the School of Science and Technology Education is in the areas of teaching, research, pre and in-service training, and consultancy in all related teacher education fields.

WELCOME ADDRESS BY THE DEAN, PROFESSOR VICTORIA I. EZENWA, SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

Protocol

First and foremost, I thank the Almighty God for bringing us safely to this occasion of the School of Science and Technology Education (SSTE) Fourth International Conference.
I warmly welcome you all on behalf of the School of Science and Technology Education (SSTE), Federal University of Technology, Minna to the Fourth International Conference.

I wish to express our profound gratitude to the Governor of Niger State, **Alhaji (Dr.) Abubakar Sani Bello** for honouring our invitation in spite of compelling demands of his office.

I warmly welcome the **Honourable Commissioner, Niger State Ministry of Education, Science and Technology.** I say, thank you for your esteemed presence at this conference.

I would like to use this opportunity to express my appreciation to our able, indefatigable, visionary, calm, progressive and fatherly leader, the Vice-Chancellor of this great institution, **Professor Musbau Adewumi Akanji and his Management family team** for their unalloyed support and encouragement to the School. Sir, your desire to regenerate Federal University of Technology, Minna for a new age is overwhelming. We commend your efforts. I assure you that the School will continue to work towards the actualization of the vision of this great institution.

I am very pleased to welcome the Vice-Chancellor, Ibrahim Badamasi Babangida University (IBBU), **Prof. Nasir Mohammed Maiturare** to this occasion.

On behalf of the School, I congratulate the **Registrar, National Examinations Council (NECO), Professor Charles B. U. Uwake** for his appointment and heartily welcome him to this Conference.

Mr. Chairman, Distinguished Ladies and Gentlemen, the Keynote speaker is a friend of the School, an erudite scholar and stimulating speaker, in person of **Professor Reynolds Okai** from University of Education, Winneba, Kumasi, Ghana. We are very proud to have him as a conference partner. We want to further the partnership by collaborating with your institution. Sir, you are very welcome to Nigeria and to our great institution.

I also specially welcome one of our own, a seasoned academic and researcher, an international acclaimed speaker and the Lead Paper presenter at this Conference, **Professor Simon Yalams**, from Abubakar Tafawa Balewa University, Bauchi, Bauchi State, Nigeria. You are highly welcome.

I particularly appreciate the presence of **Deans and Directors, Professors, Heads of Department and other Colleagues** who have graciously honoured our invitation. I say thank you for being part of this occasion.

The School is especially happy to welcome the participants. I thank you all for attending this Conference. I am certain that this conference will provide the environment for sharing insights, knowledge as well as the intellectual discourse and presentations on research findings. I wish all of you enlightening and stimulating sessions ahead.

Our School has a commitment to pursue excellence in teaching, learning and research. With widening globalization and rapid growth in knowledge, the School is committed to staying at the forefront of developments in education and to share knowledge and expertise in ways which will most effectively prepare our students for the future. The School's International Conference is growing in stature each year and is an excellent opportunity to share the latest expertise in transnational education and to take new ideas to our various institutions.

The conference theme "21st Century Global Changes in Education: Implications for Sustainable Development" has been aptly chosen and it resonates closely with the challenging era in Higher Education and crucial issues in the continuing globalization of Education. This is because educational institutions need to be positively aligned to compete in the global market through continuous deliberations, discussions and exchange of views through pertinent avenues such as this. Hence, in this rapidly changing world, new and emerging trends and application of technological advancement in life-long teaching and learning have to be embraced and comprehended quickly for the benefit of the learning community. All these will have important impact in shaping the future trends in Education. Moreover, all educational institutions globally live in challenging and exciting times. Globalization and enhanced technologies pose both profitable opportunities and threats which have to be addressed to make our research and teaching to remain educationally relevant.

This Conference, therefore, is a great platform for educators and academics from various institutions in Nigeria and overseas to meet and promote collaborations, discussions, sharing of knowledge, experience and expertise on various areas of global changes in education for sustainable development.

Chairman, Ladies and Gentlemen, I am convinced that with these stimulating speakers and discussants, this Conference will meet everyone's expectation. I believe that this year's event will be another great success.

To all the presenters, I extend my gratitude and appreciation to you all.
I offer my warmest congratulations and best wishes to the Organizing Committee for a successful and meaningful gathering of great minds.

I congratulate the staff and students of the School of Science and Technology Education and others who contributed to the success of 2016 International Conference.

During this Conference, we will honour some very eminent personalities who have contributed significantly to the progress of this University and to education in general. Let me also state here that this is my last address as Dean at the School's International Conference as my last tenure ends in December, 2016. I give Almighty God the glory for the opportunity to serve and for a successful tenure.
Chairman, Ladies and Gentlemen, let me once more express my very heartfelt gratitude to the Governor of Niger State, Commissioner of Education, the Keynote Speaker and the Lead Paper Presenter for finding time amidst their tight schedules to honour our invitation. I appreciate our Vice-Chancellor and his Management family team, Vice-Chancellor, IBBU, Lapai as well as the Registrar, NECO for their good will. Also to all of you, our guests, I say thank you for your presence.

We look forward to your being part of the 2017 International Conference. I wish you fruitful deliberations and safe journey to your various destinations.
Please enjoy our serene environment.

GOD BLESS US ALL (AMEN).

Professor Victoria I. Ezenwa
Dean, SSTE.

AN ADDRESS PRESENTED BY THE VICE-CHANCELLOR, PROFESSOR MUSBAU ADEWUMI AKANJI, FNSBMB, FAS, AT THE OPENING CEREMONY OF THE FOURTH INTERNATIONAL CONFERENCE OF THE SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA ON 5TH OCTOBER, 2016.

Protocol

It is with great pleasure that I, on behalf of the Governing Council, Management, Staff and Students of this great institution welcome you all to the 4th International Conference of the School of Science and Technology Education, Federal University of Technology, Minna. The conference has become a platform for robust academic discourse based on well researched, properly articulated and documented research efforts of individuals, groups and corporate bodies. The conference has become an annual forum where the international community in education and research institutions gather to share their learning, teaching, research findings and best practices. The forum stimulates ideas for further research efforts on enhancing learning, teaching and research in the 21st century. The theme of this conference " 21st Century Global Changes in Education: Implications for Sustainable Development" is most appropriate and timely considering the diverse changes in learning, teaching and research practices brought about by global innovative technological advancement.

The 21st century is marked by dynamic changes in education brought about by rapid global advancement in Science and Technology. There is currently an unprecedented demand for, and a great diversification in education as well as an increased awareness of the importance of education in socio-cultural and economic development. Diversification in education is important for building the future where the younger generations will be equipped with new skills, knowledge and ideas. In developed countries, there is a rapid breakthrough in new information and communication technologies which have changed the way knowledge is developed, acquired and delivered. However, it should be borne in mind that information technology does not reduce the need for teachers but change their roles in relation to the teaching and learning process.

The 21st century global changes in education calls for an educational system that engages learners, teachers, researchers as well as institutions in networking, technology transfer, capacity building, developing instructional materials and sharing experiences in their application in teaching, training and research. It also involves making knowledge accessible to all by creating new learning environments, ranging from distance education facilities to complete virtual higher education institutions and systems capable of bridging distances and developing high quality systems of education. Despite the benefits accruing from the 21st century changes in education, there are also unpredictable effects arising from the interplay between the environment and the new educational training materials and instructional gadgets which have the possibility of hindering sustainable development.

The emphasis of this conference which is on 21st century global changes in education is informed by the paramount role played by education in achieving sustainable development in any nation. In order to achieve sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs, educational institutions need to adopt sustainable approach to learning, teaching and research so that the individuals graduating from such institutions can adopt sustainable life styles. This is because millions of choices are made by individuals, businesses, and governments every day; all of which influence society and have impact on the planet. These choices connect and differentiate individuals evolving within a global society. Unsustainable collective choices have led to major environmental crises, from climate change to resource scarcity and have failed to improve people's well-being. Sustainable lifestyles enabled by changes in education, efficient infrastructure and individual actions play key roles in maximizing the use of natural resources, minimizing emissions, wastes and pollution while supporting equitable

socio economic development and progress for all. This requires rethinking ways of living, purchasing, consuming, altering the organization of daily life, socialization, exchange, education, and the building of identities.

Equally important is understanding the interlinks between the three pillars of sustainable development namely economic growth, social development and environmental protection. It is also critical to understand the ways in which these three pillars of sustainable development are dependent upon education. In our knowledge-based world, economic development and poverty reduction depend on educated and skilled workforce. For instance, in developing countries, one additional year of education adds about 10% to a person's earnings. However, it is the cognitive or learning skills of people, and not simply the number of years in school that is correlated to individual earning and economic growth. Social development is also dependent on education to empower learners and to maximize their capacities, resources and opportunities to fully participate in the society. Education is critical to environmental protection through teaching and learning environmental stewardship. This includes environmental and climate change education which promotes new attitudes and skills for environmental protection, diversity and also helps people, change consumption and production patterns. Access to quality education that empowers all is necessary foundation for sustainable development.

Attainment of the goal of sustainability requires fundamental changes in human attitudes, behaviour and educational practices. Progress in this direction is critically dependent on education and public awareness. In order to preserve the natural world, economic, social and environmental factors must be jointly considered and harmonized. Formal and informal learning through raising awareness and influencing behaviour has a pivotal function if sustainable development is to be achieved. This role is especially pronounced in the realm of higher education because at this level, students are prepared to emerge and enter the labour market with skills to support green economies and ideas to support sustainable practices.

Progressively, universities and other higher education institutions in developed countries have been incorporating sustainable development values and practices into core activities of teaching, learning, research, institutional management and operational systems. This is because the children in schools today will play vital roles in shaping the world in the 21st century. Our responsibility as teachers and researchers is to help them become knowledgeable about their planet and about the issues we face for survival and for international harmony. We must prepare our children to deal with the ever-shifting economic and political realities of our shrinking planet. To actually build citizens for the 21st century, we must continuously strive to offer instructions that would help students learn to see "through the eyes, minds and hearts of others". If we succeed in infusing a global educational perspective into their school experiences; if we can give them an appreciation for cultural diversity; if we can help them understand the principles of conflict resolution and alternative future as well as opportunities for survival and sustainance in our inter-connected world, then we will have fulfilled the most important challenging task in education in the 21st century.

This important fourth conference of the School of Science and Technology Education is indeed very commendable. The School has set the pace for other Schools in the University who are gradually following the trend. I sincerely appreciate the untiring effort of the Dean and the Conference Organizing Committee. Please accept my best wishes for another very successful School of Science and Technology Education International Conference.

Finally, to our distinguished invited guests, resource persons and participants, you are all welcome to this great institution and to the city of Minna. Please do have a pleasant experience as you take time out of your busy schedule to visit places of interest in the University and Minna city.

THANK YOU AND GOD BLESS YOU.

Professor Musbau A. Akanji, FNSBMB, FAS
Vice-Chancellor
Federal University of Technology, Minna, Niger State, Nigeria.

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Web 2.0 Technology Skills and Academic Staff Productivity in Nigerian Universities.

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Abstract
This study examined the level of web 2.0 Technology Skills and academic productivity possessed by staff of Nigerian Universities. Survey research design was adopted for the study. A population of 720 academic staff from twelve (12) universities was involved as sample for the study. The sample was composed through a multi-stage sampling technique. Two universities each were sampled from each of the six geo-political zones, which gave a total of twelve universities. This sample was purposively determined by the use of web 2.0 presence in the universities. To arrive at this choice the university must have web page or Google that must yield result upon search A proportional random sampling of 10% based on faculties was used to draw the sample from each of the twelve universities. Questionnaire was used as instrument for data collection, while the data collected was analysed with the use of descriptive statistics. The results show that the largest percentage 44.0% of the universities possess very low level of web 2.0 technology skills, while there is low level of productivity among the academic staff as indicated by (47.1%) of the respondents. The study recommends that the university authorities should provide necessary ICT facilities for teaching and learning. This will enhance the level of web 2.0 technology skills and make for more international visibility and research output.

Keywords: Web 2.0, Technology skill, Academic staff Productivity

Introduction

Web 2.0 technologies in the world today are playing critical role in the contemporary information environment where individuals are faced with diverse abundant information choices in personallives, in work places, and in their academic studies. These changes also affect the way the lecturers and students interact in learning and teaching process.

The uncertainty with the rapidly changing nature of these technologies coupled with the expanding quantity of information pose large challenge for the users in particular and the society in general. The mere presence of these technologies will not in itself create skilled users without complementary clusters of abilities necessary to use them effectively.

According to webopaedia (2016) webs 2.0 is the term given to describe a second generation of the world wide web (www) that is focused on the ability for people to collaborate and share information on line. Essentially web 2.0 is about revolutionary new ways of creating, collaborating, editing and showing user generated content online.

According to Maness (2006), the use of web 2.0 technologies and its application to library services will no doubt constitute a meaningful and substantive change in the history of the academics. This change will make exchange of information more interactive and fully accessible to users.

The history of web 2.0 as we know it today was popularized by Tim O'Reilly and Dale Doughrty at the O'Reilly media web 2.0 conference. However, this term web 2.0 was first mentioned in 1999 by Darcy Di. Nucci. Since then this term has attracted attention in the areas of information use and exchange. It has basically changed the faces of the ways information users interact. This magical technologies allow users to create, search, interact, collaborate and allow for communication of contents ranging from music, bookmaking, social networking e.t.c.

With these benefits that accrue from the use of web 2.0 especially in information services provision in libraries and information centres,it is necessary to determine the skills necessary for their use especially in effective teaching and research. The competencies or skills neede for the use of Web 2.0 tecnologieshave been explained in details by the University of Tennessee (2016) which include:

Basic Knowledge of Computers

- Understand basic computer hardware components and terminology
- Understand the concepts and basic functions of a common computer operating system
- Start up, log on, and shut down a computer system properly
- Use a mouse pointing device and keyboard
- Use help and know how to troubleshoot routing problems

Proficiency in Using Productivity Software

- Create documents of various types and save in a desired location.
- Retrieve an existing document from the saved location
- Print a document
- Name, rename, copy and delete files
- Understand and know how to use the following types of software programmes:
  - Word processing (example: MS Word, Google Doc, Writer)
  - Presentation (example: PowerPoint, Impress)
  - Spreadsheet (example: Excel, Cale)
  - PDF reader (example: Acrobat Reader, Preview)
  - Compression software (example: WinZip, Stuffit, 7-Zip)

Electronic Communication Skills

- E-mail, using a common e-mail program (example: MS Outlook, Apple Mail)
- Compose, Send, Reply, Forward messages
- Add attachments to a message
- Retrieve attachment from an e-mail message.
- Copy, paste and print message content
- Organize email folder

Internet Skills

- Set up an internet connection and connect to the internet
- Have a working knowledge of the World Wide Web and its functions, including basic site navigation, searching, installing and upgrading a web browser.
- Use search engines and directories to find information on the web
- Download files and images from a web page

Moving Files

- Understand the purpose of Secure File Tranfer Protocol (SFTP) and Secure Copy Protocol (SCP)
- Log in and connect to a distant server using Secure Shell client (SSII)
- Transfer files by uploading or downloading
- View and change folder/ document security settings
- Copy files from hard disk to storage devices and vice versa

The above competencies/ skills have been summarized by the Open University of England (2016) as the ability to start up and shut down a computer, use mouse and keyboard to move around a computer screen, use the internet to find and navigate around websites and use e-mail to read andsend messages.

This study is predicated on a theoretical framework called Technology Acceptance Model (TAM). According to David (1999) this is an information system theory that describes how users come to accept or reject the use of a technology. The theory argues that users have a choice in the acceptance or rejection of technology depending on how the technology is influenced by two critical factors. The first factor is perceived usefulness (PU) of the technology, this is the degree to which the user believes that using an online database or a technology would enhance his or her academic task or the belief that web application would provide them with access to useful information as well as social interaction.

The second factor that influences users decision to use a technology is what David (2006) called perceived ease of use. The second factor is seen by users as the degree to which the use of technology cannot be cumbersome but with minimal effort. Technologies that require the acquisition of complicated skills may noteasily attract users. He concluded that both factors, perceived usefulness and perceived ease of use, effect peoples' decision to use new technologies therefore contribute to either acceptance or rejection.

In the present study, this theory will explain both the usefulness with respect to the skills possessed by the academics in Nigerian universities and their productivity.

The National Universities Commission has set standards based on some criteria for works published in Nigeria. In all, visibility and impact on the international scholarly scene are very important. These are lacking in Nigerian academics. For instance in the latest University Web ranking, out of the first 100 universities in Africa, only two Nigerian universities were mentioned despite the fact that Nigeria has the highest number of universities in Africa.

Omolewa (2008) lamented that many of the professors in Africa are only local professors who are hardly known outside their institutions and are not recognized for the quality of their knowledge or scholarship. To be acknowledged as an international scholar, an academic must publish internationally. For this to be possible, the academic must have access to wide range of information resources, must be current and know what is going on in his field. Hence the relevance of Web 2.0 technology to academic productivity cannot be overemphasized. In view of the above therefore, this research seeks to find out the level of Web 2.0 technology skills and academic productivity in Nigeria Universities.

Literature Review

Conceptually, Manes (2006) defined web 2.0 as the application of interactive, collaborative and multi-media web based technologies to web-based library services and information resources, P4. In his definition of Web 2.0, O'Reilly cited in Tiemo and Edewor (2011) argued that Web 2.0 is the network as platform, spanning all connected devices. Web 2.0 applications are those that make the most of the intrinsic advantages of that platform. These definitions have been variously used in most of the empirical studies.

In a study by Akporhonor and Endouware (2006), titled challenges of using web 2.0 tools among university Librarians in Niger Delta region of Nigeria. The study used total enumeration and questionnaire for the collection of data. The research questions were answered using descriptive statistics. The findings revealed that inadequate time, number of library policy and its use were the major challenges facing librarians in the use of web 2.0 tools.

Tripathic and Kumar (2010) studied "use of web 2.0 tools by libraries, a reconnaissance of the international landscape". This study revealed an increase in the use of web 2.0 in the libraries, with the use of tools such as blog, RSS ranking highest while others like wikis e.t.c are coming up.

In another study by Obasola and Mamudu (2015) titled "Adoption of Web 2.0 by academic libraries in Nigeria, the authors attempted to ascertain the extent to which academic libraries in Nigeria have adopted web 2.0 for library services. The libraries were categorized into three groups and the adoption of web 2.0

was tested across the groups using analysis of variance. The findings revealed that the adoption of web 2.0 for library services was at its infant stage. Only a few of the libraries have a proper structure for the co-ordination and integration of the tools used in the delivery of information services.

Other studies included those of Raman and Shafique (2011) who argued that the most important problem in the use of web 2.0 is the absence of people learning and training environment and the implementation of the tools in libraries while Hosseini and Hashempour (2012) in their study argued that lack of knowledge, lack of familiarity with the service, lack of institutional support, lack of appreciation of the values of the tools e.t.c are some of the problems militating against the use of web 2.0 tools.

The summary of these empirical studies brings to the fore the fact that the use of web 2.0 in the world and in Nigeria in particular is still at its infant stage.

Objective of the Study

The broad objective of this study is to examine the level of web 2.0 Technology Skills and academic productivity possessed by staff of Nigerian Universities understudy.

Specifically the study will

1. Determine the level web 2.0 technology skills possessed by academic skill in Nigeria universities understudy
2. Ascertain the level of academic productivity possessed by academic skill in Nigeria universities

Research questions:

This study will be guided by the following research questions:

1. What is the level of web 2.0 technology skills possessed by academic staff in Nigerian universities understudy.
2. What is the level of academic productivity possessed by academic staff in Nigerian universities understudy

Methodology

1. The research method adopted for this study is survey design. The population composed of 720 academic staff from twelve universities involved as sample for this study. The universities were grouped into strata based on six geographical zones . Two universities were then chosen from each geographical zone. This gave a total of twelve universities. This sample was purposively determined by the use of web 2.0 presence in the universities. To arrive at this choice the university must have web page or Google that must yield result upon search Thirdly a proportional random sampling of 10% based on faculties was used to draw the sample for each of the twelve universities. Franken and Wallen (1993) have argued that between 10-15% is appropriate for a research of this data.

Alreck and Settle (1995) have postulated that the use of stratification dramatically increase the reliability and the confidence obtain from survey data Questionnaire was used a retracement for data collection. The instrument elicited what constitute web 2.0 technology skills and academic productively skills. These were then score cumulatively over 100%. The respondent were then grouped based on their performance of very high (VH), high (h), low (l), and very low (VL). A score of below 40% is low, 41-60% is low 61-80 is high while 81 and above is very high. The data collected were analysed with the use of descriptive statistic (frequency count, means and percentage).

S/N	University	Frequency	Percentage
1.	Covenant University	32	4.4
2.	University of Ibadan	96	13.2
3.	Federal University of Petroleum	28	38.0
4.	University of Port-Harcourt	56	77.0
5.	Bayera University	76	10.4
6.	Umaru Musa Yar'adu University	44	6.0
7.	University of Nigerian, LibrayNsikka	88	12.1
8.	Federal University of Technology Owerrri	52	7.16
9.	University Of Maidiguri	32	4.2
10.	Usman Dan Fodio University Sokoto	48	6.6
11.	Benue State University Makudi	48	6.6
12.	Salem University Lokoja	24	3.4
	Total	**726**	**100%**

Table 1 Frequency Distribution of respondents by University
Source: Field survey 2014.

Responds rate of respondents:
A total of 720 questionnaires were distributed and 420 copies representing a response rate of 57.% were returned. This response rate of 57.0% is considered adequate for this researchbecause of the wide spread of respondents.

Results and Discussion
Research question I (very high, high very low and low) skills possessed by the academic staff of the Universities understudy

Table 2 Frequency and Percentage level of Academic staff Web 2.0 Technology Skills

	Level	Frequency(f)	Percentage
0-40	(very low)	185	44.0%
41-60	(Low)	121	28.8%
60-80	(High)	65	15.4%
81-100	(Very high)	49	11.6%
	Total	**420**	**100%**

Table 2 shows the frequency and percentage of the web 2.0 technology skills possessed by the academic staff of the universities from the table 185 stall corresponding to 44.0% possess very low web 2.0 technology skills; 121 staff corresponding to 28.8% possess low level of web 2.0 technology skills; 65 staff corresponding to 15.4% possess high level of web 2.0 technology skills; and 49 stall corresponding to 11.6% possess very high web 2.0 technology skills from this result, it can be concluded that majority of the staff 185 (44.0%) possess very low level of web 2.0 technology skills. The reason for this result is not unconnected with the necessary to the technology.

Research Question 11
What is the level very low, low, high and high of academic staff productivity in Nigerian universities
Table 3: Frequency and percentage level of Academic staff Productivity in Nigerian Universities

Level	Frequency(f)	Percentage%
Below 40 (very low)	141	33.5%
41-60 (low)	198	47.1%
61-80 (high)	60	14.2%
81-above (very high)	21	5.0%
Total	**420**	**100%**

Table 3 shows the frequency and percentage of the level of academic productivity possessed by staff in Nigerian universities understudy. From table 3, 141 staff representing 33.5% have very low productivity level; 198 staff representing 47.1% have low productivity level; 60 staff representing 14.2% have high productivity level; and 21 stall representing 5.0% have very high productivity. Therefore from the result, majority of the staff have low productivity level. The finding of the study is corroborated by the low ranking of universities in the web. The reason for this result would be attributed to lack of visibility of Nigerian publications on the international scholarly score.

Conclusion

The study set out to determine the level of web 2.0 technology skills and academic productivity of staff in Nigerian universities understudy. The universities involved were selected by multi-stage sampling technology which chose two universities from each some making a total of 2 university while web presence was used to choose the universities from each zone involved in the sample.

Questionnaire which elicited information on what constitute web 2.0 technology skills and academic productivity was used as instrument for the study. The data collected was analyzed with the use of descriptive statistics.

The results show that the largest percentage of academic staff of the universities understudy possess very low level of web 2.0 technology skills. On the academic staff productivity, there is low level of productivity among the academic staffas indicated by (47.1%) of the respondents.

Recommendations

1 The study recommends that the University authorities should provide necessary ICT facilities for learning.

2 The Universities should influence politics and provide enabling environment for the teaching and learning of ICT skills

3 The academic stall should take advantage of the enabling environment to enhance their level of web 2.0 technology skills for more international visibility and research out put

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