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LECTURERS' LEVEL OF KNOWLEDGE AND USE OF GLOBAL ONLINE RESEARCH IN FACULTY OF AGRICULTURE (AGORA) DATABASE IN FEDERAL UNIVERSITIES IN SOUTH-SOUTH, NIGERIA

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ABSTRACT

The study examined the lecturers' level of knowledge and of global online research in Faculty of Agriculture (AGORA) Database in Federal Universities in South-south, Nigeria. Descriptive survey research design was adopted for the study. The population of the study comprised of 167 lecturers in the seven Federal Universities in South-south, Nigeria. Census sampling techniques was used which includes all the study population. The instrument reliability was established using Kudder-Richardson (K-R 21) and Cronbach Alpha. A reliability coefficient of 0.92 and 0.81 was obtained indicating high reliability. Data were analyzed with inferential statistics and t-test was used for testing the hypotheses. The findings of this study revealed among others that a greater percentage of the lecturers possessed knowledge of AGORA database. Their level of knowledge varies based on their gender and rank as well as male and female. The study concluded that the federal universities administrators in South-south Nigeria should create more awareness of the various database subscribed by the institution for wider accessibility by the lecturers.

Keywords: knowledge, Agriculture, AGORA Database.

Introduction

Internet services and online access to information resources have become useful tools that facilitate effective and efficient conduct of academic activities. Such academic activities include among others teaching, learning, research, publishing, collaboration, and communication among lecturers in today's post-modern world. In the phase of recent advancements in technology, specifically in Information and Communications Technology (ICT), information can be made accessible either through portable media or online access via the internet. Hence, online access to information resources has become an

invaluable tool for teaching, research, and other creative output among lecturers. Online access to information resources has become inevitable for lecturers in all fields of study.

Abubakar and Akor (2017) however noted that lecturers especially those in the field of agriculture appear to always need online access to information resources, owing to the diverse nature of information peculiar to the various areas of agriculture and the ever-growing needs for its products. Online access to Information Resources (OIRs) are information sources that are made available electronically, such as subject-specific research guides, online indexes, electronic books and texts, electronic journals and databases (Ternenge and Kashimana, 2019). Both print and online materials are being added to the library's collection for teaching, learning, and research. In addition, many institutions are working around the clock to ensure access to the millions of papers published online each year as a result of the exponential proliferation of knowledge and information (Ugwuany et al., 2013). However, university libraries are under a lot of pressure to give these materials to their faculty members due to lack of funding (Orsu and Ugwu, 2017). Online information resources refer to the collection of millions of information resources that are stored in an online database. The universities try as much possible to subscribe to research4life that contains various databases such as EBSCO Host, AJOL, JSTOR, HINARI, AGORA, OARE, DOAJ, DATAD, EBRARY and Web of Science, the lecturers in the faculty of Agricultural science use mostly the AGORA database to carry out their teaching and research in the field of Agricultural Science.

Agriculture as a discipline in the university includes the study of plants, soil, animals, and the practice of cultivating natural resources to sustain human life and provide economic gain. It encompasses crop and livestock production, aquaculture, fisheries, and forestry for food and non-food products. There are over 30 majors' disciplines within the field of agriculture as well as a number of different career opportunities. Agriculture plays a chiefly role in the economy of every nation and it is considered to be the backbone of the economic system for developing countries (Lawal, 2021). For decades, agriculture has been related with the production of vital food crops. The present era of farming contains dairy, fruit, forestry, poultry, beekeeping, and arbitrary among others. However, it could be referred to as the promotion, processing, marketing, and distribution of crops and livestock products. It also provided employment opportunities to a huge percentage of the inhabitants, literates and illiterates (Obiamalu, Ogungbeni and Obuezie (2021). Thus, agriculture as a field of discipline is considered an indispensable part of any nation's educational goals.

In recent times, the inevitability of the field of agriculture has become all the more glaring as it has become the backbone for the provision of raw materials. Raw materials are a core building block of the global economy. Without access to raw materials, manufacturers cannot make products. Non-agricultural raw materials include steel, minerals, and coal (Olorongbe and Ibrahim, 2017). However, many raw materials deriven

from agriculture such as lumber for construction materials to herbs for adding flavor to food. Corn, for example, is used to produce foods and serves as a foundation for ethanol, a type of fuel. Another example is resins: plant products used in various industrial applications, such as adhesives, coatings, and paints used in construction. Countries with agricultural productivity growth and robust agriculture infrastructure also have higher per capita incomes, since producers in these countries innovate through technology and farm management practices to boost agricultural productivity and profitability. There is also an ever-increasing demand from the field of agriculture in the areas of food production in Nigeria, given the high degree of population growth. The importance of agriculture leaves the lecturers in the field of agriculture especially in Nigeria with the fact that new knowledge is gained through research and academic innovations that facilitate a paradigm shift from the normal through various innovative works. To be effective, the lecturers in agriculture need a database that could serve as a bank of agricultural information on research4life. One such online database is the 'Access Global Online Research in Agriculture' (AGORA).

AGORA is one of the databases hosted on the online meta-database called Research4Life (Omumu, Chenube and Alordiah, 2022). Research4Life is a public-private alliance involving World Health Organization (WHO), Food and Agricultural Organization (FAO), United Nation Environmental Programme (UNEP), World Intellectual Property Organization (WIPO), International Labor Organization (ILO), Cornell and Yale Universities and up to 200 individual publishers. Research4Life is described by World Health Organization (WHO, 2023) as the collective name for the five programmes namely: HINARI, AGORA, OARE, ARDI and GOALI. Its goal is that researchers working in eligible institutions will be given free or low-cost access to academic and professional peer-reviewed research journals, books, and other resources.

Access to the Global Online Research in Agriculture (AGORA) programme, set up by the Food and Agriculture Organization of the United Nations (FAO) together with major publishers, enables developing countries to gain online access to an outstanding digital library collection in the fields of food, agriculture, environmental science, and related social sciences (Ugonna, 2022). AGORA provides a collection of more than 3000 journals to institutions in 106 countries and is designed to enhance the scholarship of the many thousands of students, Faculty, and researchers in agriculture and life sciences in the developing world (Oghenetega, 2022). It thus, provides developing countries with free or low-cost access to academic and professional peer-reviewed content online. It has also become one of the most online accessible databases in the world today (Omumu, Chenube, and Alordiah, 2022). Omumu, Cheube, and Alordiah asserted that nearly, all the target institutions, academic, government, agricultural research, and non-profit institutions in lower-income countries are subscribed to its services.

Most university Agricultural Science lecturers in Federal Universities in South-

South, Nigeria, notwithstanding the low-cost subscriptions to AGORA through their libraries, as they fall under category 'B' that is not granted free access; still do not widely use the database effectively for job performance. Nnatu, Aghauche, and Nwankwo (2021) assert that university instructors have difficulties related to internet connectivity and time constraints resulting from demanding academic responsibilities, as impediments to their use of the database.

Knowledge can be conceptualized as a state of consciousness or acquaintance (Hannon, 2021). The concept of understanding is frequently conceptualized as the acquisition of factual knowledge or the development of practical abilities, and it can also encompass a sense of familiarity with various objects or situations (Kern, 2017). Propositional knowledge, sometimes referred to as knowledge of facts, is frequently characterized as a real belief that is distinguished from mere opinion or speculation due to the presence of justification. Therefore, knowledge as Ichikawa and Steup (2018) put it, can be described as the state of being familiar with, aware of, or having an understanding of a person or thing, encompassing facts, information, descriptions, or abilities. The Knowledge of Access Global research in Agriculture could be difference in gender and rank. The knowledge of a thing drives its use.

Use is the process of putting something to use, in the sense of using its potential in a useful way (Ibrahim and Usman, 2023). Put it another way, the term use according to McAbee (2021), refers to the act of making use of something or the process of making use of it in an efficient manner. The actual application of an information system is what is meant by the term "use."Although, studies exploring the knowledge and use by lecturers of electronic databases abound in literature, little is known about lecturers in Agricultural Science as regards their coral knowledge and use of AGORA in Federal Universities in South-South Nigeria.

Research Questions

1. What level of knowledge of AGORA database is possessed by male and female lecturers in the Faculty of Agriculture in Federal Universities in South-South, Nigeria?
2. What level of knowledge of AGORA database is possessed by lecturers in the Faculty of Agriculture in Federal Universities in South-South, Nigeria base on their rank?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance

1. There is no significant difference in the mean achievement scores of male and female lecturers on their level of knowledge of AGORA in Federal Universities in South-South Nigeria.
2. There is no significant difference in the mean achievement scores of senior and junior lecturers on their level of knowledge of AGORA in Federal Universities in South-South Nigeria

Literature REVIEW

Knowledge

Universally recognized and easily understandable definition of knowledge presents significant difficulties in attempting

to understand, regulate, and quantify it (Ajuwon and Olorunsaye 2013). Despite the consensus among scholars about these overarching attributes of knowledge, there remains a contentious debate surrounding its precise delineation. The debates according to Fumerton (2022) pertain to the objectives and methodologies employed in the realm of epistemology and other related disciplines. These concerns also encompass debates over the criteria for knowledge that individuals aim to uphold, such as the level of certainty required. One viable strategy involves directing attention towards the most prominent characteristics of knowledge, with the aim of formulating a definition that is pragmatically valuable.

Knowledge can be conceptualized as a state of consciousness or acquaintance (Hannon, 2021). The concept of understanding is conceptualized as the acquisition of factual knowledge or the development of practical abilities, and it can also encompass a sense of familiarity with various objects or situations. Propositional knowledge, sometimes referred to as knowledge of facts, is frequently characterized as a real belief that is distinguished from mere opinion or speculation due to the presence of justification Nnatu, Aghauche and Nwankwo (2021). Therefore, knowledge as Ichikawa and Steup (2018) put it, can be described as the state of being familiar with, aware of, or having an understanding of a person or thing, encompassing facts, information, description or abilities.

This acquisition of knowledge occurs through the process of perceiving, discovering, or learning, either through personal experience or formal schooling (Kern, 2017). The process of acquiring knowledge encompasses intricate cognitive mechanisms such as perception, communication, and reasoning. Additionally, knowledge is often associated with the human capacity for acknowledgment. In the context of this study, knowledge is defined as the integration of information with experiential, contextual, interpretive, and reflective elements, which collectively encompass both the understanding of what is known and the ability to effectively utilize that information.

When it comes to databases, utilization refers to taking a methodological approach to the process and making use of the available database resources (Calson, 2022). Use of different forms of media is a methodological approach to making use of various educational resources. The designer of databases often prepare for the use of media based on the information that was acquired during the analysis and design phase as well as the decision that was made regarding the selection of database. The term use is therefore understood in this study to mean the act and process of using AGORA database.

A database refers to a systematically arranged compilation of structured data, which is usually saved in an electronic format within a computer system (Langseth, 2014). A database is typically governed by a database management system (DBMS). According to Dietrich and Urban (2015), the combination of database management system (DBMS), and associated applications is commonly known as a database system, typically abbreviated as a database. File

systems are commonly used to store small databases; however, computer clusters or cloud storage are typically employed for hosting large databases. The field of database design encompasses both theoretical methodologies and practical considerations, encompassing various aspects such as data modeling, effective data representation and storage strategies, query languages, security and privacy measures for sensitive data, and challenges related to distributed computing, including facilitating concurrent access and ensuring fault tolerance Silberschatz, Korth and Sudarhan (2016).

Database refers to a structured collection of data that is designed to facilitate efficient access, organization, and modification (Silberschatz, Korth and Sudarhan, 2016). Computer databases as Langseth (2014) noted are commonly store collections of data records or files that encompass several types of information, including sales transactions, customer data, financials, and product information. Databases serve the purpose of storing, managing, and retrieving many types of data. They gather data pertaining to individuals, locations, or objects. The data is consolidated in a single location to facilitate observation and analysis. Databases can be conceptualized as a systematically structured compilation of data.

Database software is utilized for the purpose of generating, modifying, and managing database files and records, hence facilitating the process of file and record generation, data input, data modification, updating, and reporting. In addition to its primary functions, the software also encompasses data storage, backup and reporting capabilities, multi-access control mechanisms, and security features (Dietrich and Urban, 2015). In the contemporary landscape, the significance of robust database security is heightened due to the rising prevalence of data breaches. Database software is commonly known as a "database management system" (DBMS). In the context of this study, a database refers to a systematically arranged compilation of data, sometimes referred to as a data store, which is electronically stored and retrieved by means of a database management system.

Online access to research in Agriculture (AGORA)

AGORA is one of the databases hosted on the online meta-database called Research4Life (Omumu, Chenube and Alordiah, 2022). Research4Life is a public-private alliance involving World Health Organisation (WHO), Food and Agricultural Organization (FAO), United Nation Environmental Programme (UNEP), World Intellectual Property Organization (WIPO), International Labor Organization (ILO), Cornell and Yale Universities and up to 200 individual publishers. Its goal is that researchers working in eligible institutions will be given free or low-cost access to academic and professional peer-reviewed research journals, books, and other resources. Additionally, they will receive assistance in developing the skills necessary to play an equal role in the research communication ecosystem. The overall objective according to Velmurugan (2016) is to narrow the gap in scientific knowledge that exists between low-income and middle-income countries. Access to AGORA for instance is offered completely

free of charge to institutions located in nations that are on the United Nations' list of Least Developed Countries (LDCs), as well as in those nations. Institutions in the majority of the nations that do not satisfy at least one of the aforementioned criteria are required to pay a nominal fee.

Access to Global Online Research in Agriculture (AGORA) was established in 2003 and is currently handled by the Food and Agriculture Organisation (FAO), in collaboration with Cornell University and anywhere between 50 and 60 different publishers. AGORA gives users access to the thousands of journals, e-books, and other information resources that are housed in public institutions all over the world. These resources cover the fields of agriculture, fisheries, food, nutrition, veterinary science, and other related areas of the biological, environmental, and social sciences.

Research Method

The descriptive survey research design was adopted for the study. The study was carried out in Federal Universities in South-South geopolitical zone of Federal Republic of Nigeria. It comprises six states which are Akwa-Ibom, Bayelsa, Cross River, Delta, Edo, and Rivers. The zone stretches along the Atlantic seaboard from the Bight of Benin coast in the west to the Bight of Bonny coast in the east. It encloses much of the Niger Delta, which is instrumental in the environment and economic development of the region. There are multiple different tribes in this area such as Ika, itshekiri Ukwuani Aniocha, Ijaw, Urhobo, Isoko, Ozanogogo, and Abavo. The area was chosen for the study because of the economic values through their agricultural practice and the higher institution established in the zone and contributes significantly to Nigeria's economy. It is thought that improvement in quality of agricultural research by the level of consultation to AGORA database would help the zone diversify economy in the area and contribute more through agricultural advancement. The population of the study comprised167 lecturers which includes all the lecturers in the Faculty of Agriculture in the seven Federal Universities in South-South under study. Census sampling techniques was adopted for the study which involved using the whole population size which was small but adequate and manageable for the research. Two validated instrument "test on the lecturers knowledge" and structured questionnaire were used for data collection. The instrument reliability was established using Kudder-Richardson (K-R 21) and Cronbach Alpha. Reliability coefficients of 0.92 and 0.81 indicating high reliability were obtained. Descriptive and inferential statistics were used to answer research questions and test hypotheses.

Presentation and Discussion of Results

Research Question 1: What level of knowledge of AGORA database is possessed by male and female lecturers in the Faculty of Agriculture in Federal Universities in South-South, Nigeria?

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Table 1: Lecturers' Response to Test on their knowledge of AGORA based on gender

Items	Male (N = 79)	%	Decision	Female (N = 88)	%	Decision
1 What is the full meaning of Agora	78	98.7	H.K	86	97.7	H.K
2 Agora is one of the five program that made up research4life	79	100	H.K	88	100	H.K
3 One of the following is institutions that are eligible to register for AGORA	73	92.4	H.K	87	98.9	H.K
4 AGORA database is mainly used by researchers in which faculty	77	97.5	H.K	87	98.9	H.K
5 What do you think AGORA database is used for	29	36.7	Poor	36	40.9	Poor
6 What is required to have access to AGORA resources	73	92.4	Highly	86	97.7	Highly
7 One of the following is a partner who support AGORA	78	98.7	Highly	86	97.7	Highly
8 Which Nation leads the Food and Agricultural Organisation (AGORA) since 2003	70	90	Highly	88	100	Highly
9 AGORA provides a collection of up to 15,500 key journals and up to 48,000 books in more than …. Countries	75	94.9	Highly	87	98.9	Highly
10 Which of the following is not a twitter handle for AGORA	79	100	Highly	86	97.7	Highly
11 Which of these is not required to have access to online material	79	100	Highly	88	100	Highly
12 Agora database is mainly used by researcher in which faculty	79	100	Highly	88	100	Highly
13 What do you think agroa database is used for	78	98.7	Highly	88	100	Highly
14 Which of these step do you take in sequence when looking for resources in agora	79	100	Highly	88	100	Highly
15 When is the most usual time Agroa proves very useful to lecturers	79	100	Highly	87	100	Highly
Grand mean		**93.3**			**95.0**	

Table 1 shows the scores of the male and female lecturers based on the responds to the 15 achievement test questions in which they were tested to find out their knowledge of AGORA database. The female lecturers possessed more knowledge AGORA database with (95.0%) than their male counterpart with (93.3%); but both male and female lecturers possess similar knowledge of the AGORA database (100%)

Ho 1: There is no significant difference in the mean achievement scores of male and female lecturers on their level of knowledge of AGORA in Federal Universities in South-South Nigeria.

Table 2: Summary of t-test Analysis significance of difference in the Mean Achievement Scores of Male and Female Lecturers on Knowledge of AGORA

Gender	N	Mean	SD	Df	T	P-value	Decision
Male	79	85.29	6.49	165	0.283	0.778	Not. Sig.
Female	88	85.02	5.77				

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In Ho table 2, the t-calculated value is 0.283 while the P-value is 0.778. At 0.05 level of significant and 165 degree of freedom, the P-value is greater than 0.05 and therefore the null hypotheses was not rejected. This implies that there is no significant difference in the mean achievement scores of male and female lecturers on their level of knowledge of AGORA in Federal Universities in South-South Nigeria.

Research Question 2: What level of knowledge of AGORA database is possessed by lecturers in the Faculty of Agriculture in Federal Universities in South-South, Nigeria base on their rank?

Table 3: Lecturers Response to Test on their Knowledge of AGORA based on rank

Items	Junior (N = 59)	%	Decision	Senior (N = 108)	%	Decision
1. What is the full meaning of Agora	59	100	Highly	105	97.2	Highly
2. Agora is one of the five program that made up research4life	59	100	Highly	108	100	Highly
3. One of the following is institutions that are eligible to register for AGORA	58	98.3	Highly	102	94.4	Highly
4. AGORA database is mainly used by researchers in which faculty	59	100	Highly	105	97.2	Highly
5. What do you think AGORA database is used for	44	74.6	Low	21	19.4	Low Knowledge
6. What is required to have access to AGORA resources	59	100	Highly	100	92.6	Highly
7 .One of the following is a partner who support AGORA	59	100	Highly	107	99.1	Highly
8. Which Nation leads the Food and Agricultural Organisation (AGORA) since 2003	59	100	Highly	108	100	Highly
9. AGORA provides a collection of up to 15,500 key journals and up to 48,000 books in more than …. Countries	56	94.9	Highly	106	98.1	Highly
10. Which of the following is not a twitter handle for AGORA	57	96.6	Highly	108	100	Highly
11. Which of these is not required to have access to online material	59	100	Highly	108	100	Highly
12. Agora database is mainly used by researcher in which faculty	59	100	Highly	108	100	Highly
13. What do you think agroa database is used for	59	100	Highly	107	99.1	Highly
14. Which of these step do you take in sequence when looking for resources in agora	59	100	Highly	107	99.1	Highly
15. When is the most usual time Agroa proves very useful to lecturers	59	100	Highly	107	99.1	Highly
Grand mean			**97.6**			**93.02**

Table 3 shows the scores of the Junior and Senior lecturers based on the responds to the 15 achievement test questions in which they were tested to find out their knowledge of AGORA database. The senior lecturers possessed more knowledge of AGORA

database with (97.6%) than their junior counterpart (93. %); but both junior and senior lecturers possess similar knowledge of the AGORA database

Ho table 2: There is no significant difference in the mean achievement scores of senior and junior lecturers on their level of knowledge of AGORA in Federal Universities in South-South Nigeria

Table 4: Summary of t-test Analysis significance of difference in the Mean Achievement Scores of Senior and Junior Lecturers on Knowledge of AGORA

Gender	N	Mean	SD	Df	T	P-value	Decision
Senior	59	85.02	2.27	165	0.207	0.836	Not. Sig.
Junior	108	85.22	7.42				

The t-calculated value is 0.207 while the P-value is 0.836. At 0.05 level of significant and 165 degrees of freedom, the P-value is greater than 0.05 and therefore the null hypotheses was not rejected. This implies that there is no significance difference in the mean achievement scores of senior and junior lecturers on their level of knowledge of AGORA in Federal Universities in South-South Nigeria.

Discussion of Results

The results of the study showed that lecturers in Agriculture are knowledgeable about AGORA. The lectures as the study revealed understood the meaning and use of AGORA, institutions, individual and organizations that are eligible to register and have access to it as well as how to effectively use AGORA. The knowledge and use of AGORA could be attributed to the fact that AGORA database is important for lecturers in the field of Agriculture. These importance arises from the fact that, as a database, AGORA is a store of new information, and through its interface, lecturers can sort the information into whichever order they like and search through millions of records to find one specific match. Although, it is expected that academics like lecturers in Agriculture should be knowledgeable about AGORA, the findings of Nwokedi (2011) who reported that majority of the lecturers (79%) do not have any idea of electronic databases and only 21% of the respondents claimed to be aware of the existence of electronic databases in their institution through a seminar, the study of Nwokedi is in disagreement with the findings of this study. The findings of the study however, support the findings of Azubuike, Ekere and Orsu (2021) who revealed that Faculty of education lecturers are aware of the electronic databases highlighted in the study and electronic databases listed are utilized by Faculty of education lecturers for scholarly research

The lecturers as the study revealed are knowledgeable about which institutions are eligible and could have access to AGORA database, whether as a public or private institutions. The knowledge about who is eligible and how to access electronic database like that of AGORA is important as it affects its usability. Thus, lecturers in

Agriculture having been knowledgeable about AGORA's meaning and use, must have made effort to understand how to access it useful store of information. The finding of the present study is in line with the findings of Nnatu, Aghauche and Nwankwo (2021) which states that lecturers are knowledgeable about the use of OARE and the requirements of OARE. The accessibility of AGORA is important and could have been made easy owing to its friendly user-interface. Thus, more Agriculture lecturers are knowledgeable about how to access and navigate the AGORA database.

The findings of the study further revealed that no significant differences were observed as regards the knowledge of male and female, senior and junior Agriculture lecturers of AGORA. Since AGORA database includes professional, peer-reviewed journal articles organized in a systematic way that are searchable, it is important for lecturers in Agriculture irrespective of gender or rank to have knowledge about the database. The findings of the study contradict the findings of Nnatu, Aghauche and Nwankwo (2021) that the junior environmental science lecturers were more knowledgeable of OARE, as they understood more, the meaning of OARE than their senior counterpart. The study disagreed with Nnatu's findings that there is also a significant difference in the mean achievement scores of senior and junior lecturers on their level of knowledge of OARE in Federal Universities in South East Nigeria.

Conclusion

The study has shown that lecturers in the Faculty of Agriculture in South-South Nigeria are knowledgeable about AGORA database. The lecturers have good knowledge of AGORA database meaning of the database as well as how to use the database. It can be concluded that lecturers possessed good level of knowledge of AGORA database owing to its benefit to their academic endeavor. This is why no significant difference was observed in the level of knowledge possessed by male and female, senior and junior lecturers of AGORA database.

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