Perception and Use of Web 2.0 Applications by Medical Students of Ambrose Alli University Ekpoma

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ABSTRACT

This study examined the perception and use of web 2.0 applications for academic purposes by medical students of Ambrose Alli University, Ekpoma. The objective was to investigate the medical students' perceptions of web 2.0 applications, web 2.0 tools use, extent of use, perception and purpose for using web 2.0 applications. Descriptive survey method was used for this study. The total population of this study was 3670 and the sample size was 367 representing 10% of the study. The purposive sampling technique was adopted, and the instrument used for this study was questionnaire, a total of 367 copies were administered and 321 were found useful for the study. Percentage means and standard deviation on table and chart were used to analyze the data collected using Statistical Package for the Social Sciences (SPSS) software. Findings showed that the perception of web 2.0 applications of medical students AAU was positive and few of web 2.0 applications were used for academic purposes. It was recommended in the study that medical students should be provided with the facilities in a format more familiar to them and used by most of them and institutions need to equip the learning process with the needed facilities which will be of utmost benefit even for future purposes.

1. Introduction

Web 2.0 is the second stage of development of the internet, characterized especially by the change from static web page to dynamic user-generated content and the growth of social media. Fuller (2011) describe web 2.0 "as the changing face of people's activities on the web, from a mere place to access and read information towards a much cooler place to create/write/share/collaborate/network with their intellectual involvement". He continued by saying web 2.0 is changing all aspects of academic life including practice and training of medicine. Web 2.0 was created by O'Reilley

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media during a conference brainstorming session 2004. In more concrete, Web 2.0 is a term used to refer to groups of web-based applications that are more communicative in nature then. The whole idea surrounding web 2.0 development and upgrade of existing web like web 1.0 in order to create room not only for the web designer to make the whole comment and sharing of it but rather as well give the users/people the same privilege to create, share, collaborate and interact with web-based applications like Facebook, wiki's etc.

Web 2.0 has the potential to create more interactive and powerful leading environment in which learners become knowledge creators, producers, editors, and evaluators (Richardson, 2009). Since the students of this generation are termed digital natives, educators have suggested that web 2.0 tools should be integrated into high education. The deployment of web 2.0 technologies to support the academic purpose cannot be over emphasized because it has provided enabling environment and offered opportunities for learners (students and lecturers) to communicate and aggravate knowledge. There is no doubting the fact that the academic environments in Nigeria are becoming transformed with the use of web 2.0 and other emerging new technologies. The changes in the web via web 2.0 applications have been brought to all areas of academic life. It has been viewed by some researchers that the current generation of students entering universities and colleges use web 2.0 applications like Wikis, blogs, RSS, podcasting, and social networking in their daily lives. Some were on the ground that the perceptions of students towards web 2.0 applications/technologies have superseded that of their professors because the students of this generation are referred to as "mobile students".

Perception is defined as recognition and interpretation of sensory information. It can be said that perception is a process where we take in sensory information from our environment and use that information in order to interact with our environment. That is, it allows us to take sensory information in and make it into something meaningful. Perception of web 2.0 simply means the recognition and interpretation of web 2.0 applications. It is the conscious understanding of web 2.0 applications. Alsaady (2007) noted that the rapidly growing technology infrastructure at institutions of higher education to meet the instructional and research needs of faculty, staff, and students is making faculty development with the use of technology becoming mandatory requirement. Individual perception of web 2.0 determines the utilization of its applications. For instance, an individual who sees Facebook as a platform for meeting and chatting with friends/customers, exhibiting and marketing of products and other individuals who sees it as platform for meeting and charting with friends only will not have the same utilization value. Though they both realize it's a platform, but their perception defer as such the utilization will defer as well. According to Franklin (2008), the use of social software and Web 2.0 tools for knowledge sharing across the sector could reduce the costs and risks involved in decision making and implementation of T&L software, gadgetry and hardware.

The use of web 2.0 applications denotes the exploiting/employing web 2.0 applications for service or taking advantage of web 2.0 applications for service. The new wave in the internet has broken new grounds for Finding and retrieving information and as such end-user has become in-formation-independent. Maloney (2007) opines that with the use of Web 2.0, people no longer access the web only for specific actions, such as accessing the content; instead they access and

create collective knowledge through social interactions. Educators suggest that Web 2.0 tools should be integrated into higher education on the note that "Digital natives" expect to learn with new technologies and as such prepare them for the workplace of the future. It must be stated that web 2.0 promotes student-centered learning and users have been observed to have an enhanced capacity to self-organization. It was also claimed by Haigh (2010) that Nurse Lecturers are becoming more aware of the opportunities that Web 2.0 offers and are slowly moving into the World of cyber-teaching. It is very clear that Web 2.0 is changing the style of academic life including practice and training of Medical practitioners. Academic Institutions, Hospitals, Libraries, Publishers, E-Learning Vendors, Search Engines, Media, literarily all walks of life are implementing Web 2.0 technologies to serve the needs of "digital natives" and "digital immigrants". It has also affected the medical practitioners and students in such a way that they can't stay without its application.

Medical students are individuals who practice becoming physicians. They are those individuals who are in the field of examining and accessing a person physical health or fitness. Nowadays, using the internet is not only limited to information searching. Medical students have also seen that web 2.0 technologies/applications have provided a new way of using the internet for collaborating and interacting with others in their discipline. Researchers have revealed that the use of web 2.0 applications in education has not been maximized due to some setting challenges. The way information is shared with the web 2.0 applications, has improve the ubiquitous availability of timely information to support learning and facilitate research even in the medical field. It is clear that web 2.0 tools are facilitating tools that enable medical students to carry out their academic endeavours towards scholarship. But most of the institutions have not perceived the importance of this web 2.0 in an academic world. To this end, the study will find out the perception and use of web 2.0 by medical students in Ambrose Alli University (AAU).

1.1 Statement of problem

The evolving emergence of technologies alongside collaborative and interactive web currently referred to web 2.0 has transformed the way information is being shared, utilized and harnessed. Every sphere of human endeavor has adopted and employed this interactive tools and studies confirm that 90 percent of the student population are in one social media or the other. This feat has affected their management of time, because an average student spent bulk of his/her time surfing the web. However, what is yet to be inferred conclusively is if this web 2.0 is used by students in their academic endeavors. Medical students ought to learn and work in web-based instructional environments and cover the content at their own pace and explore content in greater depth for knowledge advancement. This is because their profession concerns exclusively health and life and needs relevant and timely information in relation to their field from experts in their field in order to make them proficient and relevant to the public as well as equip them to meet their academic demands. On the other hand, the web is enticing, manipulative and highly deceptive with contents that excite and proffer pleasure, entertainment, and recreation.

There have been studies on the proficiency of web 2.0 as well as its relevance to the academic environment. However, there is little research work carried out on the perception and use of web

2.0 by medical students, but none has been carried out on perception and use of web 2.0 by medical students of Ambrose Alli University, Ekpoma. Most of other medical students in other institutions use web 2.0 applications to demonstrate creative thinking, creating knowledge, receive lectures, deliver presentations or seminars, render tutorials, develop innovative product using web 2.0 technologies to interact with other colleagues in various institutions on the current happenings in the medical field and even medical practitioners. It is in this trending light, that this study seeks to investigate the perception and use of web 2.0 for academic by medical students in Ambrose Alli University, Ekpoma.

1.2 Objectives of Study

The overall objective of this study is to find out medical students' perception and use of web 2.0 tools by medical students. The specific objectives are to;

1. Identify web 2.0 applications used by medical students in AAU.
2. Find out the extent of use of web 2.0 tools by medical students of AAU.
3. Find out the purpose why medical students of AAU use web 2.0 applications.
4. Find out medical students' perception of web 2.0 applications in AAU.

2. Literature Review

2.1 Introduction

The literature review of the study will be discus under the following subheading;

i. Concept of web 2.0
ii. Web 2.0 applications/tools
iii. The purpose for using web 2.0 tools among students
iv. Perception of student on web 2.0 applications

2.2 Concept of web 2.0

Richardson (2006) described Web 2.0 as the read/write Web, where users can add to the content besides accessing it. In the same vein, Anderson (2007), states that web 2.0 is concerned with many different things at the same time: ideas, technologies, behavioral patterns, ideals, goals and cultures. He identified that Web 2.0 has also been called the "read / write web" and the "social web" which encompass the main ideas associated with Web 2.0.

On the part of the researchers, the concept of web 2.0 is used to mean that well received platform which is to receive missives (read) and send missives immediately (write) in form of social media.

2.3 Web 2.0 Applications/tools

To a very large extent, web 2.0 is well described by types or examples than a precise definition. Web 2.0 has become an indispensable tool to all workers in the 21st century irrespective of cadre. Many Web 2.0 applications can be accessed and used by librarians and students as described below.

2.3.1 Blogs

Conceptually, blog means a website that is owned and run by an individual, group of individuals or an organization where information is regularly updated in a more conversational and chatty way. Chua and Goh (2010) opined that blogs are hierarchy of text, images and media objects arranged chronologically, also Aharony (2009) opines that Blogs can be used in libraries as a form of publication, or as tools for marketing the library resources, events, policy manuals and training resources.

2.3.2 Wiki

To us, wikis are simply websites or databases that are deliberately created to allow people read through messages posted by others and post their missives if they so wish. According to (wikipedia.org), Wikis are collection of web pages which allows users to add and edit content collectively. Most users publish their articles to share. Some articles allow other users to edit the content. Libraries use wikis to facilitate personal learning and reflection, support group-level knowledge sharing and help users locate knowledge. Meanwhile, libraries can subscribe to others in order to meet target. A wiki, a Webpage or set of Webpages, refers to collaborative Websites that allow users to interact by adding, removing, or editing site content. Wikipedia is the most well-known wiki implementation. Weyant and Gardner (2010) posited that Faculties are infusing wikis into their course curricula for variety of purposes, including collaborative writing, posting of class notes, project brainstorming, and as a course management system. He also said Wikis support collaborative learning models by engaging students in the learning process.

2.3.3 Real simple syndication (RSS)

According to Stephens (2006), Kim and Abbas (2010), Rich Site Summary (RSS), also known as “Really Simple Syndication,” is designed to enable subscribed users to receive regularly web-content of news-like sites, news-oriented community sites and even personal weblogs at a central point without requiring users to visit multiple sites to receive updates. In academic libraries, users can subscribe to a library website that offers RSS feed for library information and activities such as new issues of journals, new books and special occasions. In support of this, Geoghegan and Klass (2005) opined that Real Simple Syndication (RSS) is lightweight XML format which is used for publishing frequently updated content such as blog entries, news headlines, and podcasts in a standardized format.

2.3.4 Social networking

Social networking sites such as Facebook, MySpace and Frapper build online social networks among users who share personal interests and activities. In the same opinion, Geoghegan and Klass (2005) opined that social networking sites are web-based services such as Facebook, Twitter, MySpace, Skype, etc. with hundreds of millions of users which allow subscribers to create web spaces where they can share their thoughts, music, videos and pictures.

2.3.5 Facebook

Fuller (2011) opined that Facebook initially created for college student synergy, is an online network that allows people to have personal page and grants them the ability to stay in touch with other people. In support of this, McCarthy (2010) posited that the personal page includes personal information, photos, videos, text, and a 'wall' for friends to post information on. As a user, you can add friends, create groups and events (that you can invite friends to), create network link that connect the user to professional and higher education Facebook sites.

2.3.6 Twitter

Fuller (2011) opined that twitter is being utilized by colleges and universities as a chat service with current and potential students and also to improve awareness of campus events. Also, Wankel (2009) opined that twitter can also be utilized to allow network of users to add to an unstructured collaboration of ideas, links and resources. However, Wankel (2009) stated that "In a large class section of perhaps hundreds of learners, tweeting enables an immense amount of interactivity, ideally enriching the session in which it occurs". He as well said that Professors at Marquette University in Wisconsin utilize Twitter to promote the development of listening and classroom community environment, information gathering, multi-tasking, writing skills, and attention skills and have reported an increase in communication with students with the use of Twitter.

2.3.7 YouTube

Lee (2010) opined that YouTube is the standard for video streaming on the Internet and instructors can use this as a tool for students to upload the videos as homework assignments. Video streaming is also available via Facebook, and both can easily be done with today's smart phones. In the same line, Fuller (2011) opined that YouTube provides colleges and universities a free mechanism for sharing and recruiting videos.

2.3.8 Instant messaging (IM)

Instant messaging, or online chat, is one of the most popular forms of computer communication. Gibbons (2007) stated that Instant Messaging is a synchronous communication technology that allows

users to send real-time messages. Libraries can use instant messaging to provide chat-reference services so that users can ask questions and receive responses directly from librarians during specified times. In the same vein, Desai (2003) stated that Instant messaging reference has the same advantages as live chat. It provides an instant connection to a librarian and allows users to get personalized or anonymous help, without coming to the library. Most instant messaging reference software allows users to send URLs, push users' browsers, and co-browse.

2.3.9 Social bookmarking

According to Barsky and Purdon (2006), social bookmarking is the practice of classifying resources by the use of informally assigned, user-defined-keywords or tags. In essence, users can connect their favorite-resources in an online, open environment that other users are free to read. Libraries can use social bookmarking services sites such as "del.icio.us" to enable users share web resources. Social bookmarking sites provide a way for users to store, describe, and share numerous Web addresses with others. Users can locate bookmark collections of others by subscribing to their bookmark pages, and they are encouraged to tag them with keywords, of their choosing, to facilitate their describing or cataloguing and help others find them easily. Collectively, such tags are referred to as folksonomies. In the same vein, Kennedy et al., (2007) opined that social book-marking services provide users with the ability to subscribe to feeds linked to particular tags and/or users, in much the same way users subscribe to blogs. Del.icio.us, reddit, and Dig are popular social bookmarking sites. However, Alexander (2006) expressed that students could use social bookmarking sites to collaborate on group projects using bookmarking sites, sharing links, and uploading resources discovered, while educators could follow their students bookmarking pages to gain insight on their research process and progress.

2.3.10 Avatar

Lee (2010) posited that *avatar* "is a three-dimensional cartoon character that interacts with other objects and avatars in Second Life". An avatar is a virtual representation of the person creating it. Virtual 3D games allow users to create a virtual world. The virtual environment allows players to respond to multiple users simultaneously over the network, including the creation of their own identity through so-called "Avatars." The most popular virtual 3D game for libraries is Second Life. Second Life is an immersive 3D environment that can be used for entertainment and educational purposes. Due to increasing interest in digital services, some libraries have established virtual services on Second Life where users can interact with services in practical way such as walking around a virtual library, attending library training and requesting reference services.

2.4 The purpose for using web 2.0 tools among students

Maloney (2007) opined that with the use of Web 2.0, people no longer access the web only for specific actions, such as accessing the content; instead they access and create collective knowledge

through social interactions. Agreeing with, Ferdig (2007) opined that now, the use of Web 2.0 technologies enables people to connect different pieces of information and create new information that could be shared with others. Web 2.0 applications are expected to provide several benefits given their ability to enable active participation of students, promote opportunities and environments for student participation and reflection, and foster a collaborative and active community of learners. According to Shengli, Yong, and Yuanyuan (2011), the significant impact of facilitating conditions on actual usage suggests that more people will use web-based information resources if given access to the internet and computers. In the same point, Franklin (2008) opined that the use of social software and Web 2.0 tools for knowledge sharing across the sector could reduce the costs and risks involved in decision making and implementation of T&L software, gadgetry and hardware.

Chua, Goh, and Lee (2008) expressed that with aggregated features found in other Web 2.0 applications such as messaging, blogging, video streaming and social tagging, librarians are able to connect with users, raise awareness about library services and broaden their contact base. In support of this, Ajise and Fagboola (2013) and Celik, Yurt, and Sahin (2015) stated that social networking tools such as Facebook and Twitter are very important. However, Safran, Helic, and Gütl (2007) identified that Gras University of Technology Austria did a survey among their Students and faculty to find out the usage of Web 2.0 and how it affects University's learning environment. They found that Most of Web 2.0 applications are scarcely used in courses and in self-Organized learning activities. Only weblogs and wikis are frequently used Web 2.0 applications in learning processes. Another study of first year students from University of Melbourne in 2006 (Kennedy et al., 2006, Kennedy et al., 2008) shows that 76% of them Use Internet for searching study related information and significant portion of them use Web 2.0 applications. Also, Poellhuber and Anderson (2012) in a study among four Canadian distant learning schools revealed that students were becoming more interested in using social media tools such as video sharing, social networking, web conferencing, blogging, photo-sharing, podcasting, wikis, electronic portfolios, virtual world, tweeting and social bookmarking for academic purpose. Agreeing, Vijayakumar (2010) opined that Web 2.0 is changing all aspects of academic life including practice and training of Doctors. Academic institutions, hospitals, libraries, publishers, E-learning Vendors, search engines, media, literarily all walks of life are implementing Web 2.0 technologies to serve the need of "digital natives" and "digital immigrants".

According to Narayan and Baglow (2010), Web 2.0 technologies provide an enabling environment and offer opportunities for students and lecturers to network, communicate, collaborate, co-create and aggregate knowledge. In agreement with this, Goodyear and Ellis in Voigt (2008) stated that web 2.0 promotes student-centered learning and users have been observed to have an enhanced capacity to self-organization. Similarly, Wiid, Cant, and Nell (2013) opined that web 2.0 technologies have also made inter-group communication and real-time learning possible for distance learners, and have also motivated them to learn. Moreover, Awodele et al. (2009) opined that web 2.0 technologies are potential pedagogical tools that can facilitate student-centered learning. These technologies provide an enabling environment for good interaction between the instructor, the learner and the information. Blogs allow users to give their opinions on information posted on the blog. Academics use blogs as an easy way to create dynamic learning settings while students use them

as a substitute digital portfolio.

Guo et al. (2009) opined that this portfolio is used as an electronic store for keeping TAL materials. Blogs have also been found useful in education, especially as support for collaborative work and knowledge sharing. Mohammad (2011) in a study in Kuwait identified ten different Web 2.0 technologies used in education. These included MySpace, YouTube, Flickr, Delicious, Skype (a software application used for making voice calls over the Internet), Microsoft Network (MSN) Messenger, Blog, Facebook, Twitter, and Wikipedia. In the same line, Singh and Gill (2015) in a study among students and research scholars of the universities of North India observed that Facebook and YouTube were used for academic activities. Also, Kumar (2009) in a study in Florida mentioned that students found some Web 2.0 technologies such as online forums or blogs, class-capture in the form of video casts, audio podcasts or Smart Board capture, Google Documents, Facebook or wikis as useful learning tools because they enabled a form of communication that qualified as online forums.

2.5 Web 2.0 for Educational Purposes

Sandars and Schroter (2007); Ellaway and Masters (2008) published "AMEE guide e-learning in Medical education" In two parts covering a wide range of topics and detailed outlines of technical, social and content issues. They give prominent importance to Web 2.0 tools, both in content and technology parts of learning management Systems (LMS) and Course Management Systems (CMS). They predict that Social learning networks, mobile learning via podcasts, Web 3.0 based Semantic content will have immediate call for integration to present e-Learning systems.

Sandars et al. (2010) find out that over 90 percent medical students highly using instant messaging and social networking sites and suggest that Social software should be integrated into existing curricula and Virtual Learning Environments. In line with this, Cain, Scott and Akers, (2009) stated that there is high social media usage among pharmacy students and many do not fully comprehend the issues that arise from being overly transparent in online settings. Also, Patasi et al. (2009) report that 92% of them found podcasts 'very helpful for self-Paced learning', 89% of them deemed the podcasts as an excellent resource for studying anatomy, and 79% embraced the use of the podcasts in Examination preparation.

Lemley and Burnham (2009) conducted survey among US medical and nursing educators and the found that Web 2.0 tools are slowly being introduced into the curricula of medical and nursing schools for a variety of uses. However, Ducut and Fontelo (2008) advised medical educators and learning institutions to equip for the future, where health students and professionals will be in mobile computing in world, by adopting Web 2.0 tools with the appropriate technology and allow their students to achieve their maximum potential.

2.6 Perception of students on web 2.0 applications

Anwarul Islam (2007) stated that Internet has broken new grounds for finding and retrieving information and with it the end-user has found a way to become more information-independent. With technology continuing to expand at a rapid rate and being ever changing, Gottwald (2005)

identified that "In some schools, the Internet and other technologies are being integrated at the institutional level; with a student's complete academic experience — from application through registration and tuition payment, to final examination and course grade-occurring on-line". Also, Alsaady (2007) noted that the rapidly growing technology infrastructure at institutions of higher education to meet the instructional and research needs of faculty, staff, and students is making faculty develop with the use of technology as requirement. In support of this, Yates (2009) finds out that between 2002 and 2006, online learning increased by 21.5% while the entire higher education student body only increased by 1.5%. According to Li and Pitts (2009), the ability to transform the way in which professors and students are able to communicate and interact with one another is one key area where Web-based technologies are predicted to have a significant impact. Rich (2008) stated that "members of the millennial generation are acquiring the sort of adult information navigation skills in an environment where folksonomies are widely used, and this potentially raises challenges for educators in universities as to how to promote information literacy".

The role of the professor has gone from that of a broadcaster to a collaborative facilitator, and the learning delivery has gone from linear to student directed. The needs of the student population in institutions of higher education are rapidly evolving into the most technological advanced generation and if institutions and faculty members want to remain competitive, they must infuse technology in their curricula and continuously improve the technological offerings. It is often the case that institutions of higher education are incorporating state of the art technology into every teaching and learning facility on campus and online, but it may also be the case that the faculty members are not fully integrating the technology into their curricula. From the students' perspective, the millennial generation grew up with technology. In this view, Lee (2010) opined that technology has had the most dramatic influence on the youngest members of society, also known as the millennial generation (p. 3). However, Barrett (2008) posited that "higher education in particular is hence playing catch-up, as those it seeks to educate increasingly arrive with the content sharing and service skills that those teaching them are now faced with double barreled gun".

3. Methods

Survey research design was adopted for this study. Leedy and Omrod (2010) posited that survey research involves acquiring information about one or more groups of people. It is done by asking them questions and tabulating their answers. The ultimate goal is to learn about a large population by surveying a sample of that population. The reason why this study adopted survey method is because it involves systematic and comprehensive way of collecting and documenting existing community conditions, characteristics of a population, and community opinions. The method of data analysis adopted for this study was the mean, standard deviation and frequency counts all represented with charts and tables. The reason of this was to help the researcher see the similarities and relationship of the data and compare results. The study population of this research comprises medical students in college of medicine at Ambrose Alli University Ekpoma such as Faculty of Basic Medical Sciences-FBM (Department of Anatomy- ANA, Department of Medical Laboratory Science -MLS, Department

of Nursing Sciences-NSG, and Department of Physiology-PYS) and Faculty of Clinical Sciences-FCS (Department of Medicine- MED). Purposive sampling was adopted for this study. This is because the researcher intends to study a group of interest that are of typical which will provide the best answers to the research questions.

A total of three hundred and sixty-seven (367) copies of questionnaire were distributed for this study but three hundred and twenty-one 321(87.5%) were retrieved. Out of the 321 collected, some of the items were not responded to by the respondents and as such considered missing by the softer ware used. Statistical package for the social sciences (SPSS) software version 19 was used to analyze the data collected into frequency count, percentages.

4. Results

4.1 Personal Information of the Respondents

Table 1. Analysis of distributed, retrieved and unturned questionnaires

Questionnaire	Response	Percentage (%)
Distributed Questionnaire	367	100%
Retrieved Questionnaire	321	87.5%
Unturned Questionnaire	46	12.5%

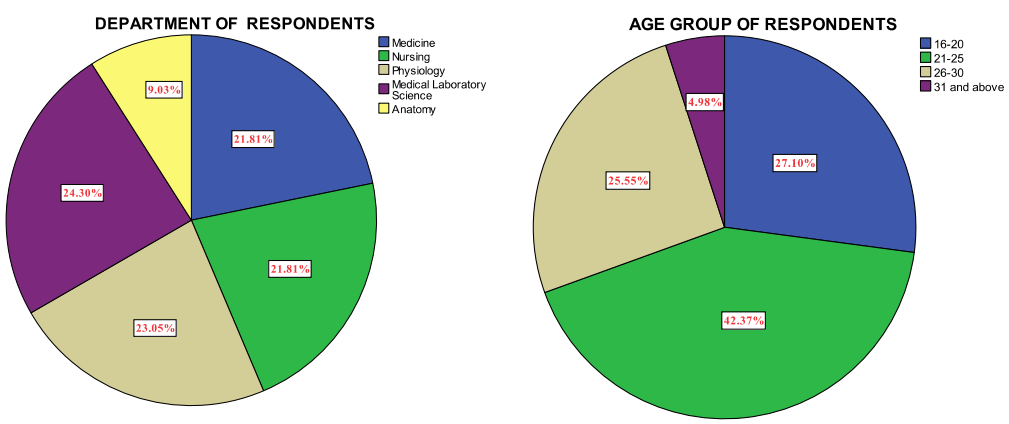

Fig. 1. Results of Demographic Data - Department & Age

As seen from the fig. 1, the majority of participants from the total of 321 came from the department of Medical Laboratory Science with 78(24.3%), Physiology with 74(23.1%), Medicine with 70(21.8%), Nursing with 70(21.8%) while the lowest percent of participants came from Anatomy department with 29(9.0%).

The age range or group of the participant as seen in the fig. 1, indicate that the majority of the respondents belong to the age group of 21-25 with 136 (42.4%), 16-20 with 87 (27.1%), 26-30 with 82(25.5%) while the lowest of the respondents belong to the age group of 31-above with 16(5.0%).

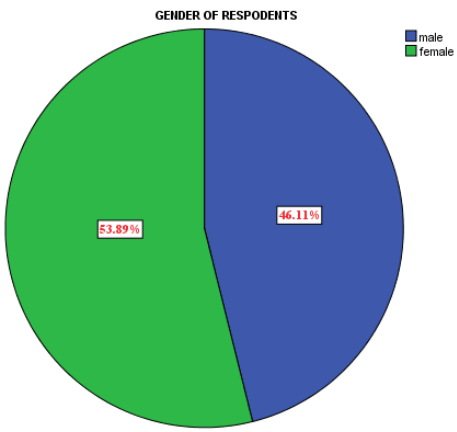

Fig. 2. Results of Demographic Data - Gender

The fig. 2 showed that 173(53.9%) respondents were female, while 148 (46.1%) were male. This result revealed that majority of participants came from female respondents.

4.2 Answers to Research Questions

4.2.1 Research Question one: What kind of web 2.0 application do you use?

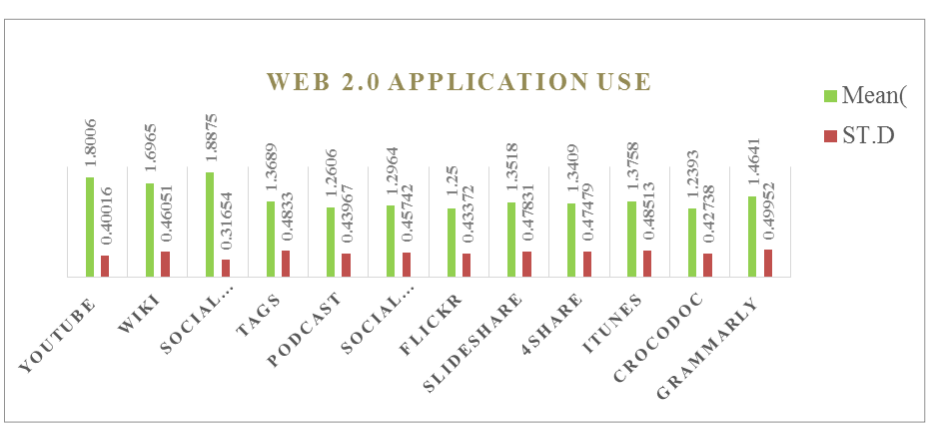

Fig. 3. Web 2.0 Application Use

Fig. 3 showed that item 1, 2, and 3 with the mean score ($\overline{X}$=1.8006, 1.6965, and1.8875) respectively

are Adequately Used by medical students of AAU base on the fact that mean score is above the average mean of 1.50, while item 4-12 are Not Adequately Used by medical students of AAU as their mean scores is below the average mean of 1.50. This analysis revealed that majority of the respondents don't use web 2.0 applications adequately.

4.2.2 Research question two: To what extent do you use the web 2.0 applications/tools?

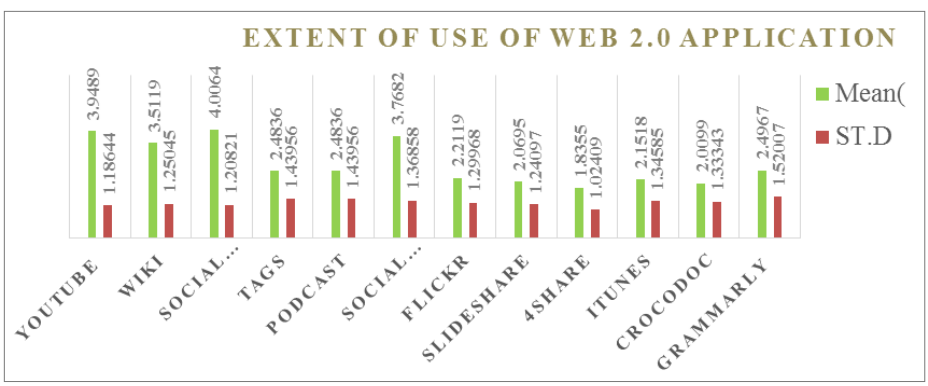

Fig. 4. Extent of use of web 2.0 applications

Fig. 4 showed that item 3 with mean score ($\overline{X}$=4.0064) is used at a very high extent, because the mean score is above the range mean of 3.99. Item 1, 2, and 6 with the mean score ($\overline{X}$=3.9489, 3.5119, and3.7682) respectively are used at high extent by medical students of AAU base on the fact that mean range is above the range mean of 3.09, item 4,5,7,8,10,11, and 12 with the mean score ($\overline{X}$=2.4836,2.4836, 2.2119,2.0695, 2.1518, 2.0099, 2.4967) are used at low extent considering the range mean that is below 3.00, while item 9 with the mean score ($\overline{X}$=1.8355) is used at a very high extent by medical students of AAU as their mean scores is below range mean 2.00. This analysis revealed that majority of the respondents indicated that they use web applications like Tag, podcast Flickr, slideshare, iTunes, crocodoc, grammarly 4share at low extent.

4.2.3 Research question three: Why do you use web 2.0 applications/tools?

Criterion mean:
Strongly Agree =4
Agree =3
Disagree =2
Strongly Disagree =1
Average mean (4+3+2+1=10 / 4 = **2.50**)

Mean score 2.50 above was accepted while 2.49 and below was rejected. Mean values of ranging from 1.00 - 1.49 indicated strongly disagree, the mean value of 1.50 -2.49 indicated disagree, 2.50

- 3.49 indicated agree, while 3.50 - 4.00 indicated strongly agree.

Table 2. Reason for Use web 2.0 applications/tools

S/N	Items	SA	A	D	SD	N	Mean($\overline{X}$)	STD	Decision
1	Solve Assignment	225(71.4%)	71(22.5%)	13(4.1%)	6(1.9%)	315	3.6349	.65573	**SA**
2	Receive Lecture	39(12.5%)	32(10.3%)	123(39.4%)	118(37.8%)	312	1.9551	.96126	**D**
3	Share information/ knowledge	142(45.5%)	148(47.4%)	15(4.8%)	7(2.1%)	312	3.3622	.68063	**A**
4	Read/ Write	104(33.2%)	183(58.7%)	20(6.4%)	6(1.9%)	313	3.2300	.64906	**A**
5	Access online journals/article	147(47.0%)	116(37.1%)	50(16.0%)	0(0.0%)	313	3.3962	.74866	**A**
6	Interact with other medical students outside AAU	136(43.7%)	149(47.9%)	25(8.0%)	1(0.3%)	313	3.3419	.64654	**A**
7	Social activities (fun, games etc.)	166(53.0%)	106(33.9%)	35(11.18%)	6(1.91%)	313	3.3802	.75904	**A**
8	Flexible access to wide range of instructional materials	131(41.9%)	102(32.6%)	69(22.0%)	11(3.5%)	313	3.1278	.87502	**A**
9	Grammar checking	116(37.4%)	129(41.6%)	54(17.4%)	11(4.5%)	310	3.1290	.82210	**A**
10	Research work	137(43.8%)	109(34.8%)	43(13.7%)	24(7.7%)	313	3.1470	.92895	**A**

Table 2 revealed that item 1 with the mean score ($\overline{X}$=3.6349) was strongly agreed to by the respondents base on the fact the mean score is above the range mean of 3.49. Item 3-10 with mean score ($\overline{X}$=3.3622, 3.2300, 3.3962, 3.3419, 3.3802, 3.1278, 3.1290, 3.1470) respectively was agreed to by the respondents base on the fact that the mean scores were above the range mean of 2.49, while item 2 with the mean score ($\overline{X}$=1.9551) was disagreed to as the mean score is below the range mean of 2.50. This finding revealed that majority of the respondents agreed to the purpose for use enumerated in the above table.

4.3 Research question four: What are your perceptions on web 2.0 applications/tools?

Criterion mean:
Strongly Agree =4
Agree =3
Disagree =2
Strongly Disagree =1
Average mean (4+3+2+1=10 / 4 = **2.50**)

Mean score 2.50 above was accepted while 2.49 and below was rejected. Mean values of ranging from 1.00 - 1.49 indicated strongly disagree, the mean value of 1.50 -2.49 indicated disagree, 2.50 - 3.49 indicated agree, while 3.50 - 4.00 indicated strongly agree.

Table 3. perceptions on web 2.0 applications/tools

S/N	Items	SA	A	D	SD	N	Mean($\overline{X}$)	STD	Decision
1	Web 2.0 application keeps me updated about class.	188(60.3%)	90(28.8%)	20(6.4%)	14(4.48%)	313	3.4377	.82632	**A**
2	Web 20 tools allows me to interact with other medical students	118(38.06%)	163(52.6%)	18(5.8%)	11(3.5%)	313	3.2204	.78403	**A**
3	Web 2.0 tools enables me to create and edit medical content	120(38.8%)	119(38.5%)	59(19.1%)	11(3.6%)	313	3.0863	.90701	**A**
4	Web 2.0 tools present me with the opportunity to develop online learning environment as medical students	114(36.5%)	159(51.1%)	29(9.2%)	9(2.9%)	313	3.1917	.77728	**A**
5	I feel that web 2.0 application should not be integrated into medical field because is a form of distraction	33(10.6%)	32(10.3%)	108(34.6%)	139(44.6%)	313	1.8626	.98236	**D**
6	I feel that all medical students need web 2.0 technologies to enhance their academic activities/ purposes	100(31.9%)	148(47.3%)	50(16.0%)	15(1.6%)	313	3.0639	.81791	**A**
7	Web 2.0 keep me abreast of current findings and happenings in my field	138(44.2%)	144(46.2%)	25(8.0%)	5(1.6%)	313	3.3195	.71623	**A**
8	Web 2.0 helps me to collaborate with other medical students from other institutions Bookmarking	95(30.6%)	154(49.7%)	48(15.5%)	13(4.2%)	313	3.0383	.84265	**A**
9	Web 2.0 allows me access to medical articles	100(31.9%)	140(44.7%)	62(19.8%)	11(3.5%)	313	3.0511	.81095	**A**
10	Web 2.0 tools allows me to contribute my quota of knowledge to medical content by commenting	80(25.7%)	126(40.5%)	86(27.7%)	19(6.1%)	311	2.8585	.87210	**A**

Table 3 revealed that item 1,2,3,4,6,7,8,9, and 10 with mean score ($\overline{X}$=3.4377, 3.2204, 3.0863, 3.1917, 3.0639, 3.3195, 3.0383, 3.0511, 2.8585) respectively agreed to by the respondents base on the fact that the mean scores were above the range mean of 2.49, while item 5 with the mean score ($\overline{X}$=1.8626) was disagreed to as the mean score is below the range mean of 2.50. This analysis revealed majority of the respondents agreed to the perceptions outlined in table 4.7.

5. Summary of Findings

Arising from this study, the findings are as follows:

i. The demographic data of the respondents, findings show that majority of female responded to the study, more of respondents fall in between the age of 21-25 years, also majority of the respondents are from the department of Medical Laboratory Science.
ii. The web 2.0 applications use, findings from the analysis show that medical students use more of web 2.0 application like social network (Facebook, WhatsApp, twitter etc), YouTube, wiki. While Podcast, Tag, Social bookmarking, Flicker, Slideshare, 4share, Itunes, Crocodoc, and Grammarly are less used.
iii. The extent of use of web 2.0 applications, finding revealed that medical students use of social network (Facebook, WhatsApp, twitter etc), YouTube, and wiki are at high extent. While podcast, RSS, flickr at low extent.
iv. It has been discovered that medical students use web 2.0 tools for the purpose of solving assignment, sharing information/ knowledge, Reading/ Writing, accessing online journals/article, interacting with other medical students outside AAU, social activities (fun, games etc), flexible access to wide range of instructional materials, grammar checking, and Research work.
v. It was discovered that medical students perceived web 2.0 applications as applications that keep them updated about class, allows them to interact with other medical students, enable them to create and edit medical content, present them with the opportunity to develop online learning environment as medical students, abreast them of current findings, allows them access to medical articles and contribute their quota of knowledge to medical content by commenting, and it should be integrated into medical field to enhance their academic activities/ purposes.

6. Conclusion

The literature survey has given an insight into the research carried out in the current field of study. The study showed that the use of the web 2.0 has helped to solve many problems in the 21st century. However, it is clear that students in Nigerian universities especially medical students of Ambrose Alli University, Ekpoma are not utilizing web 2.0 applications at high extent, some are not even aware, nor use many of the applications for academic purposes like the students in the developed countries where previous studies found that medical students are familiar and are utilizing web 2.0 tools in their academic pursuit. However, medical students perceived that web 2.0 applications will be of help to them in their discipline and as such that web 2.0 application should be fully integrated into academic activities.

7. Recommendations

Arising from the findings and conclusion are the following recommendations:

i. Medical Students should be provided with the facilities in a format more familiar to them and used by most of them
ii. Educators and faculties need to understand that web 2.0 tools will add value to their teaching and learning process.
iii. Faculties also should be trained with a new emphasis as learners in a rapidly changing environment.
iv. Learning with web 2.0, institutions needs to equip their learning environment with the needed facilities which will be of utmost benefit even for future purposes.

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