

Analysis of Student Attitudes towards E-Learning: Case of Computer Science Students' in Nigeria

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ABSTRACT

The approach of students' to new innovations (technologies) signifies the basic aspect that will accustom their stance in respect to e-learning & alertness in utilizing them. Usage of personal computer, network and portable devices (mobile) has captivated the enthusiasm between different students that benefit from it as an educational tool.

According to (UNESCO, 2006); the rise in numerous developing countries concerning e-learning where it can conceivably take care of a rising demand for learning and tackle the deterioration of experienced instructors. Moreover, it has been discovered that students' attitude and belief towards e-learning is viewed as achievement determinant of imminent e-learning activities. As reported by (El-Gamal & El-Aziz, 2011); by College students in developing countries have differing perspective in connection to e-learning, yet generally their dispositions are sure.

Therefore, the research will explicitly analyze the overall attitude of students towards e-learning in Nigeria, in which as a researcher I have highlighted above. In this research, mixed approach is going to be used and as a methodology the researcher will collect and examine data through qualitative and quantitative method; then utilize Statistical Package for the Social Science (SPSS). Moreover, semi-structured interviews with the students on voluntary basis will be used. Conclusion and suggestions will be presented at the end of the research as a contribution to this field.

Keywords: e-learning, innovations, computer science students, student attitude.

ÖZ

Öğrencilerin gelişen teknolojiye karşı olan tutumları, onların uzaktan öğretime karşı olan farkındalıklarının göstergesidir. Bilgisayar, laptop ve taşınabilir diğer cihazlarında öğrencilerin hayatında eğitsel bir araç olarak büyük bir etkisi olmuştur. (UNESCO, 2006) da yapmış olduğu bir araştırmada bu oranın gittikçe arttığı görülmüştür.

Bu bağlamda, bu araştırmanın amacı Nijeryada ki öğrencilerin uzaktan eğitime karşı olan tutumlarını genel bir çerçevede incelemektir. Araştırmada hem nitel hem de nicel metodoloji kullanılarak data toplanılmıştır. Nicel kısım için bir uzman eşliğinde veriler analiz edilirken, nitel de ise araştırmacı içerik analizi kullanarak data analiz edilmiştir. Sonuç ve tartışma kısmında bulgular verilmiştir. Bunun yanında gelecekteki çalışmalara ne gibi katkılarda bulunabilir şeklinde araştırmacı tarafından önerilerde bulunulmuştur.

Anahtar kelimeler: elektronik öğrenme, buluslar, öğrencilerin tutumları, beceriler.

DEDICATION

I dedicate my dissertation work to my family and friends. Special thanks to my loving father, Mr. A. A Ogunnowo whose words of encouragement and push for tenacity ring in my ears. My sister Temitope, and my brother Adetola have never left my side and are very special. I also dedicate this dissertation to my friends and church family who have supported me throughout the process. I will always appreciate all they have done.

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LIST OF ABBREVIATIONS

HOD	Head of Department
ICT	Information Communication and Technology
NUC	National Universities Commission
SPSS	Statistical Package for Social Science
UNESCO	United Nations Educational, Scientific and Cultural Organization

Chapter 1

INTRODUCTION

1.1 Presentation

General Field of this thesis is basically to emphasize the perspective of students' in relation to e-learning. The inception of the word e-learning is not sure, despite the fact that it is proposed that the word probably began amid the 1980's, within the comparative period of different delivery method of online learning. This part will define the research background, aim, scope, and the methodology to be utilized for data collection will be stated. As the researcher, main assumptions and constraints shall be declared.

1.2 Background of the Research

Distance learning is backed with e-learning & ICT, that have a tendency to develop into a basic part of elementary schools but additionally for colleges and institutions (private owned or public establishments). Consequently, analyst and partners perceive the way of accessing the field just through an innovative point of view does not ensure effective information exchange. Additionally, inside such a far off learning environment, the scholars ought to have complete control of where, when and how the important information can be gotten.

According to (Mayes, 2004); who contends non-availability of standard speculations only intended in respect to online training, however just "computerized" improvements of it all. Besides it was obvious in spite of the fact that instructors and

scholars are creative with respect to information communication and technology literacy. Numerous endeavor have not been broadly acknowledged because unsatisfactory configuration and application results.

One ought not to disregard the fact stipulated by (Dewey, 2008), genuine learning ought to be predicated on skills and keeping in mind the end goal to increase new information, non-stop testing and evaluation is vital. From this perspective, conventional learning speculations are inescapable and ought not to be overlooked regardless of how concentrated the technological advancement is.

According to (Schank and Cleary 1995); the primary test of e-learning is to facilitate courses improvement as indicated by affirmed human learning methods. Additionally, it is broadly confirmed that the impact of latest trend of innovations on training was enhanced when it is accordingly coordinated in education proceedings. The advantages originating from information communication and technology engage the conventional methods for course plan requesting coordinated efforts among scholars and requiring their cooperation in creating an output at the completion of the course taken.

Despite what might be expected, conventional classroom based displays strategies close with a synopsis from the instructor overlooking the information communication and technology potential that encourages scholars to communicate through pictures, sound, video and contextual analysis that might convey a comprehensive response to the inquiries asked in class.

Whilst addressing different problems encountered by scholars group in indirect learning, according to (Larsen 2002); realized networked scholars will find it difficult in taking decisions predicated on scholastic demands, interest, and more didactic characteristics in training. According to (Katz-stone, 2000); it was also detected that a well composed staff emotionally supportive network makes a valuable learning setting in which there is collaboration and transfer of knowledge. Furthermore, according to (Mangan & Rosenbaum, 2001); some instructive specialist noticed that web-courses are in addition intuitive in essence than the conventional courses.

1.3 Aim of the Research

It gives detailed analysis of scholar's disposition towards e-learning in Babcock University Ogun State, Nigeria. In order to accomplish this task, questionnaires will be given to scholars (Second year, Third year and Fourth year) to amass data. After which semi-structured examination will be completed arbitrarily with the members in the review. The benefit of e-learning to scholars will be the significant center of the research.

The research questions are specified below:

- How to ascertain if university students' attitude towards using e-learning will have a positive impact on their learning style?
- How do students' appraise the quality of e-learning?
- What are the benefits of e-learning compared to conventional method of learning?
- What will be the effect of e-learning in the educational sector in the future?

1.4 Scope of the Research

The research concentrates on analysis of computer science students in Babcock University towards e-learning. Predicated on the findings of the research, the analysis of the students' attitude towards e-learning will be presented.

1.5 Methodology

A case study method will be utilized in the research. A well-organized questionnaire was intended to gather important information from scholars. A sum of 120 questionnaires was conducted with second year, third year and fourth year scholars. Ten copies of the questionnaires were distributed to various classes respectively for piloting right at the beginning of the research. Additionally, semi-structured examination will be haphazardly connected to accumulate data from scholars in this research.

1.6 Significance of the Research

Colleges as of now grasp the potential of e-learning to convey learning content to scholars throughout the universe. During the period in which colleges are under extremely pressure to convey training, consolidating innovations with instruction is essential to invent a lasting product that will permit training institution, set it separated, and permit it to develop its scholars' base around the world.

Knowledge acquisition is the thing that we experience when we need to be prepared for non-particular and unforeseen circumstances and the two are not totally related. Preferably, an e-learning environment will use both the learning and preparing standards all through it educational modules. This permit educator to provide their scholars with the device to handle current issues, create long-lasting aptitudes, enhance their critical thinking abilities and use assets to the best of their capacity.

This research concentrates on the essentials of “analysis of computer science students’ attitude towards e-learning” in Nigeria accentuating the utilization and advantages of e-learning. Results from this examination will recommend the kind of quick-fix that will be set forth by the researcher for the development of Babcock University in Nigeria.

1.7 Assumptions

The accompanying presumptions are thought about in this research;

- The questionnaires presented are expected to enumerate the current and pertinence of e-learning with college scholars.
- The members (scholars) to be examined are thought to be plain with their assessments amid the information gathering duration and semi-structured cross-examination.

1.8 Limitations

The aggregate of 120 scholars reacted to the research questionnaire. The total population of students in Babcock University is over 10,000; variably the number of students in department of Computer Science is 1,500. Furthermore, it was just connected with one department in the school of Computing & Engineering Sciences, in addition, first year students were not included in the research because they were seen to be new to style of education in the university whereas there are other departments in the university in which this could likewise be connected. Therefore, the outcome from this research cannot be able to justify the other departments in the school of Computing & Engineering Sciences and in other universities in Nigeria. The research is limited to Babcock University (Computer Science Department) Ogun State, Nigeria.

Chapter 2

LITERATURE REVIEW

2.1 Presentation

Predicated on different speculations about e-learning in the last few decades and this present moment, proper research should be carried out that would yield successful results. This chapter will mainly focus on reviews predicated on the analysis of student's attitude towards e-learning.

2.2 Definition and Concept of Electronic-Learning

According to (Hazemi & Hailes, 2002); ICT is progressively turning out to be all the more far reaching all through college training around the world. In accordance with respect to UNESCO's; approach paper for revolution plus advancement in higher training institution to make more noteworthy utilization of the favourable circumstances offered by the progression of correspondence innovation to enhance the procurement and nature of their instruction.

Numerous colleges around the globe are swinging to the utilization of ICT, now popularly known as e-learning, as a supplement to instructor led educational cost in school. In addition e-learning in its extensive experience can be described as trainings introduced through a digital media such as the internet, intranet, extranet, satellite-tv for pc broadcast etc. furthermore, as reported by (Challis; Lidgley, & Robertson, 2003); view e-learning as utilizing ICT in coaching and mastering.

(Rossi, 2009); stated that e-learning as an idea covers a scope of utilizations, learning techniques and procedures. E-learning implies the utilization of data and correspondence advances to empower the entrance to online-study/training materials. As reported by (Abbad, 2009); characterized e-learning to be defined as any discovery which is empowered in real time. Further to explain the statement; that training that is engaged by the utilization of computerized devices. According to (La Rose et al, 1998; Keller & Cernerud, 2002) further explained the definition as any training that is web-empowered or electronic.

Nevertheless, as reported by (Liaw, 2007); e-learning in scholastic that is portrayed as utilization of interactive media builds, formed the procedure of training more dynamic, fascinating, and also pleasant. As reported by (Borstorff & lowe, 2007); obviously e-learning will engage scholars at superior training stratum to gain their tutelage and in-meantime scrutinize their own objectives and additionally keeping up their own particular vocations with no compelling reason to go to or be subjected to fixed time table. According to (Kartha, 2006); the quantity of course online has distinctively expanded as an after-effect of the achieved advantages for both scholars and colleges.

2.3 Categories of E-learning

As reported by (Connolly & Stansfield, 2007); e-learning has experienced different specific eras. Aboriginal step, the clarification, occurred between 1994 - 1999 and was set apart with a latent utilization of the web, in whereby conventional equipment's were essentially laid-out in order with an online agreement.

The subsequent era occurred between 2000 - 2013 and was set apart by the upgrade to higher data transfer capacities, easy streaming of audio and visuals materials, expanded assets and the approach to make virtual training setting that consolidated entry to course equipment, conversation and scholar services. The next era is as of now in progress and is set apart by the merge of more noteworthy coordinated effort, program-based, socialization, intelligent practices. Furthermore, the third era is progressively being affected by the proposition in portable computing.

There are different methods of examining the sorts of online training. According to (Algahtani, 2011); few characterizations have been predicated on their need in training. Additionally, e-learning was partitioned into two essential sorts, comprising of personal computer-based and the web-based training. Most dialog of e-learning concentrates on instructive courses. Instructive courses requirement are generally changed and included with different diverse media and are transferred to an arrange domain for accessibility.

Presently, there are many famous training administration frameworks which are regularly utilized by training institutions. Information learning can be regarded as a standout amongst the most dynamic and versatile components of adapting, yet in any case it is slightly perceived. Our requirement for data (& how we plan to utilize it) drives our pursuit.

Unified learning gives a changeover starting with lecture hall training to online study. Unified study the one in question likewise alluded to as mixed training; is a blend of face-to-face and web learning. Moreover, the aforementioned support instructive and data analysis away from the lecture-room walls. According to

(Kaplan-Leirson, E. 2006); stated that blended learning fuse many distinctive conveyance techniques. For example; joint effort programming, internet-based programs, and personal computer correspondence practice with face-to-face guideline.

Besides, globalization is centered on e-learning since e-learning innovations can possibly convey enhanced learning chances to a bigger gathering of people than has ever beforehand been conceivable. As reported by (Bayne, S. & Cook, J. 2006); that a country's course to turning into fruitful information economy is its capacity to additionally turn into a learning community.

2.4 Benefits of E-learning

E-learning is regarded as one of the best among techniques of instruction. According to (Marc 2002); e-learning systems for conveying information in computerized age, noticed that the benefits of electronic learning in training, simply; is attention based on requirement of different scholar as a critical component during the time spent training as opposed to on the teachers or instructive institution needs. A percentage of the focal points that selection of e-learning in training, got from the literature review include:

- According to (Smedley, 2010); “appropriation of electronic training gives impressive establishments and in addition their scholars the adaptability of time and location of conveyance as indicated by learning data.”
- E-learning improves the viability of learning and capabilities by means of straightforward entry to an enormous measure of information.

- It can give chances to relations between scholars by utilization of conversation forums. Via this, e-learning dispenses with boundaries that have the capability of impeding cooperation including the apprehension of conversing with different scholar. Electronic training inspires scholars to converse with different scholars, and also trade and regard diverse purpose of perspective. Additionally, e-learning facilitate correspondence furthermore enhances the connection that manages learning.

According to (Wagner, 2008); remember that e-learning makes accessible supplementary prospect for communication between the learner and instructor amid content conveyance. As reported by (Holmes & Gardner 2006); the aforementioned focal points of e-learning has been computed by taking note of the capacity of e-learning to appraise scholars as they undergo learning procedures and in mean time, expanding their encounters in instruction by method of communication suitable group training, social differences and globalization, annihilating limit of location and time.

Over the previous decades the arrangement of higher instructive institution has changed, somewhat because of the presentation of technological activities. According to (Scott, 2000); underpins this sentiment and battles so, as electronic training is presently encouraging, a supplementary of adaptable learning techniques, new organized framework are less strong than in earlier centuries.

As reported by (Shabha, 2000); that innovations in general view has not just enhanced information saving strategies and learning methods yet has additionally gone about as an impetus to tackle the obstruction of rigid hierarchical structures.

This perspective proposes that completely encounter the advantages of innovative headways in advanced education. For instance; e-learning in colleges must have adaptable authoritative structures.

According to (Fry, 2001); offers that colleges are compelled to e-learning as a promoting strategy to captivate part-time scholars, to keep up business sector position and the ascent of unions with different associations is unavoidable, because of social request for information and the absence of public and government financing in advance education. In agreement with (Serwatka, 2002); contends that scholar achievement can be accomplished essentially by limiting scholar withdrawals from e-learning programs.

The training techniques utilized by instructor as part of conventional courses might likewise be inspected and adjusted, as they don't generally demonstrate essentially transferable during e-learning session. Furthermore, as reported by (Volery, 2000); instructors in organized learning situations alter the courses as they come, which means the more drawn out of a course is taught in a specific manner, the more viable it is.

Future conveyance of training is imagined through e-learning innovation, furnishing instructors with prevalent educating devices. According to (Volery, 2000); contends that online routines encourage more viable training and offer noteworthy points of interest over conventional educating techniques. It can be through constrained innovation based situations for example virtual training.

Furthermore, as stated by (Hartley, 2000); the imperative of ordinary college training practices as to collaborative work are evacuated in e-learning situations as scholars can take an interest in team work without really being arranged in the same area.

The idea that instruction completes when somebody enters the working environment or attain a particular age is dissipated by the presentation of strategies utilized in e-learning and the procurement of a chance to get training and study materials remotely. According to (Zhang, 2006); emphasizes that electronic training allows the investigation of much adaptable training courses with abundantly lessened requirement to attend classes.

Furthermore, as reported by (Brown et al, 2008 & Judahil et al 2007); gives educators few methods for associating with scholars and to give them immediate response.

2.5 Disadvantages of E-learning

According to (Dowling, 2003); contend because making training materials accessible, real-time outcomes in enhanced training comes about just for particular types of aggregate appraisal. Likewise as reported by (Mayes, 2002); posed an inquiry of, if e-learning is just a bolster gadget for existing techniques of training or otherwise. Additionally, (Young, 1997; & Burdman, 1998); stated detectable judgement of electronic training is the outright non-appearance of important individual collaborations, aside from scholars and educators but as well as associate learners.

- The contentions against web learning are revolved to a great extent around the attractiveness towards the loss of customary study hall, eye to eye association and the probable sentiment of disconnection this can conceive. According to (Wang & Newlin, 2001); recommends that the lion's share of online trainings still embrace an asynchronous method of learning; asynchronous training constrains, the sum and profundity of association amongst both scholars and instructors. While a synchronous method to web learning would give scholars and instructors a more intelligent environment.
- Change in interpersonal abilities of scholars; electronic training as a strategy may have a discouraging impact. Scholars however may possess great information in scholastics; they may not have the required abilities to convey their obtained knowledge to others.

2.6 Perception of Students towards E-learning in Universities

Additionally, reported by (Love & Fry, 2006); schools, colleges and different organization of higher training race to progress online training capacity in an expediently creating digital training market. E-learning has become more vital in institution of advanced learning. As reported by (Dublin, 2003); the presentation and development of a scope of e-learning devices has been starting modification in advance education establishment, especially with regards to their instructive conveyance and bolster forms.

According to (Kandies & Stern, 1999); affirmed that web-upgraded trainings enhances tutoring and subject administration that suggest various didactic advantages for scholars. Clarification shows that scholars in electronic-empowered training

environment turn out to be more dynamic and self-coordinated, that are open to upgraded training tools.

Course websites have turned out to be a powerful method for conveying learning equipment with scholars reacting firmly to the quality assets they make accessible. As reported by (Wernet, Olliges, & Delicath, 2000); who studied scholars who utilized web as a part of community service program, observed that majority of the participant treated the electronic training course equipment gainful to their general study knowledge.

Furthermore, as stated by (Derouza & Fleming, 2003); contrasted scholars who finished test electronically with scholars who took conventional cardboard-based test. They discovered that the imprints uncovered another scholar which engage in the test online altogether exceeds the scholars who took the conventional method test.

Nevertheless, as reported by (Jackson et al, 2001); the means that scholars from various gathering have been presented to innovation instructions and innovation encouraged training has been appeared to differ immensely, with minority scholar from lower financial foundation probably presented with training and practice tasks. While foreign scholars from better financial foundations will probably profit by advancements that construct, and require the utilization of, higher level thinking aptitudes.

Chapter 3

RESEARCH METHODOLOGY

3.1 Presentation

The research can be communicated as an experimental and efficient quest for germane data on a particular point. This part uncovers researcher's philosophical view, method, design, data collection tools, sample group, and data analysis.

3.2 Research Philosophical View

Extensive changes have happened throughout the most recent couple of decades in the ways that scientist have tried to seek after conceivable and target clarification of issues. Those ways are appropriately allured to as approach that is, the specific systems. The perspective in simple term reflects the way in which particular research topic are addressed. The perspectives are part of the tradition of educational and social sciences research from which much of it is descended and indeed from the wider traditions of scientific research.

According to (Hitchcock & Hughes 1995:21); who propose that ontological presumptions offer ascent to epistemological suppositions; these, hence offer ascent to methodological deliberations; and these, thus, offer ascent to controversy of instrumentation and information gathering.

This perspective drive us past seeing exploration techniques as essentially a specialized activity; it perceives analysis involved next to accepting person's

environment, and therefore abreast by what method we see our domain(s), the manner we perceive comprehension marked and whatever reason of how we see comprehension.

Researchers by complexity, build their speculation precisely and efficiently. Whatever theories they define must be tried observationally so that their clarifications have a strong premise actually. Instructive exploration has in the meantime retained two contending perspectives of the sociologies; the built-up customary perspective and a later interpretive perspective. Nonetheless, distributing the meticulousness of innate science and similarly involved with conventional sociology to depict and clarify human conduct, accentuate how individual vary from soulless normal wonders and from one another.

These opposing perspective, and comparable idea in instructive exploration; stem in the primary example from various originations of communal authenticity and of personal and community conduct. We can maybe productively come up to originations of social world by analysing the; unequivocal, also understood suspicions supporting them. According to (Burrell & Morgan 1979); that distinguished four arrangements of such suspicions. To begin with, there are suspicions of an ontological form; a supposition which is involved with the very nature or substance of social wonders being explored. The second arrangement of suppositions distinguished is of an epistemological form.

This is involved with the basis of information; its tendency and structures, how it can be gained and how imparted to other individuals. The writer of the theory ask whether “it is conceivable to distinguish and impart the way of learning as being

tough, genuine and fit for being transferred in substantial structure or whether information is of a delicate, more subjective, profound or even supernatural kind, in view of experience and understanding of a one of a kind and basically individual nature”.

The third arrangement of suppositions involved with human instinct and specifically, the relationship between people and their surroundings. Subsequently, the person involved is; its subject and phenomenon, the result of sociology of suspicions of this kind are without a doubt extensive. As reported by (Kirk & Miller 1986:14); the forth presumption is the methodological suspicion that was resounded. In its accentuation on the specific and individual, this way to deal with comprehension singular conduct might be termed idiographic.

However, as reported by (Duncan, 1968); the term positivism is utilized by thinkers and social researchers, a leftover significance is constantly present and this gets from an acknowledgement of normal science as the worldview of human information. Basically fits into positivist paradigm because in this research, students’ attitude towards e-learning in a university in Nigeria, which is often referred to as the “Giant of Africa” due to its large population and economy, are going to be looked in depth as a case-study.

In Nigeria, there are inadequate deployment of latest trend in information communication and technology equipment in its arrangement of training, keeping in mind the end goal to help and contend with different colleges around the globe. Consequently, the researcher will attempt to sum the discoveries of the study with a specific end goal to add to the advancement of ICT facilities at the colleges in

general. According to (Robson, 1993); expressed that, positivist worldview gives the adaptability to the analyst with respect to; the uncompromising control of variables and discoveries are generalizable; that is, the discoveries from the respondents under study can be connected to a more extensive populace.

Positivist approach expands on gathering of exact information, realities that have been inferred by a perception or test. The striking component of an experiment is that the scientist tries to control however many variables as could be allowed while just modifying the free variables.

Hence, this worldview holds that objectivity as in scientist don't permit individual predispositions to impact the outcome, is the standard to make progress in research. In this way the scientist stay impartial to keep values or predispositions from following so as to affect the work approved procedures thoroughly.

As stressed above regarding the positivist paradigm, in this research the result will contribute to the National Universities Commission (NUC) in solving the educational challenges most universities are facing currently in Nigeria.

3.3 Research Methods

In instructive exploration, it is normally conceivable (and absolutely well-known) to describe an examination study's methodology as subjective (qualitative); quantitative; or as including both subjective and quantitative techniques, in which case it is commonly alluded to as mixed-strategies. Fundamentally, the exploration utilized both subjective and quantitative techniques (successively) to gather essential information. The purpose behind doing as such was to get in-depth comprehension of

the reactions from the quantitative strategy with the subjective consultations (via near however not precisely arbitrary tests) and also triangulation of reactions.

According to (Hiatt, 1986); subjective examination techniques concentrate on discovering and comprehension of the experience, viewpoints, and considerations of participants- that is, the subjective exploration investigates significance, reason, or reality. Questionnaires is defined as one of the instrument to be utilized as part of this exploration can be characterized as an arrangement of inquiries for collecting information from people (students). It can be managed via mail, phone, and eye-to-eye meeting, as hand-outs or by email.

Questionnaire can be utilized for assessment when resources needed are constrained and more information are required from numerous individuals. It is likewise useful in collecting data that is distinct to people, for example; belief or proficiency. Moreover, questionnaires are useful in protecting respondent privacy, in particular when delicate information are been retrieved.

The types of inquiries are either “open” or “closed”; close inquiries are commonly utilized, not minimum since they are less demanding to code for ensuing examination. Close inquiries is communicated in a way that allows a few number of alternatives for respondent to choose. While an open inquiry, allows the respondent to reply in as much detail as he/she wishes with no limitation.

A close type of inquiries is connected in this research study. The analyst likewise guarantees that the testing of the questionnaire is done before it will be regulated to respondents. It will help to recognize if the member comprehends the inquiries, if the

inquiries mean the same to all respondents, if it gives the information required and to what extent it takes to finish the exercise. A small group will be used to test the questionnaire that is similar to the intended participants.

According to (Gomm; Hammersley; & Foster, 2000); case-study alludes to research that explores a couple of cases in impressive profundity. Case studies appear with great frequency throughout popular works. It can be interpreted that the research will utilize a case-study that focuses explicitly on analysis of students' attitude towards e-learning in Nigeria. The arrangement was to discover scholars' attitude in respect to e-learning on account of Computer Science students' in Babcock University Nigeria. E-learning in this case is the "object" while Babcock University as the case studied institution.

3.4 Research Design

Proof acquired gives the chance to answer the basic question as unambiguously as could be expected under the circumstance. According to (Yin, 1989:29); research "manages a coherent issue and not a logistical issue". Inability to recognize outline and techniques prompts poor assessment of design.

Fundamentally, there are four sorts of research designs that have comparative strategies for information accumulation.

They are; experiment, case study, longitudinal design and cross-sectional design. The technique for information accumulation for the exploration outlines are as per the following; questionnaire, observation, analysis of archives, and unobtrusive strategies.

A “case” is usually a limited element (people, association, behavioral condition, occasion or other social marvels), yet the hindrance between the case and its subordinate conditions-in both spatial and fleeting measurements might be obscured. The case serves as the principle unit of examination for a case study.

Case study designs are divided into two various types; comprehensive and fixed outlines. Comprehensive case (single-case outline) ponders look at the case as one unit. They may, for instance, concentrate on expansive issues of authoritative society or methodology. The methodology guarantees a high perspective of the case. Fixed outlines distinguish various sub-units, each of which is investigated independently; comes about because of these units are attracted together to yield a general picture.

The greatest test with fixed outline lies in accomplishing a comprehensive perspective from investigation of sub-units. In this research, the comprehensive study (single-case outline) is connected, which concentrates on an expansive issue (analysis of students’ attitudes towards e-learning).

3.5 Data Collection Instrument

Compilation of information is a vital part of any research study. Basically, a meaning of information compilation is a deliberate way to deal with group of data from an assortment of sources to get a complete and exact result of an area of interest. Information gathering technique impacted greatly on this thesis, predicated on the quantitative and qualitative method of data collection.

Four conceivable models of coordinating these systems into exploration; (a) the initial attempt, subjective (qualitative) techniques add to the improvement of

quantitative instruments, (b) the next model comprises of a principally quantitative study that uses subjective results to decipher or clarify the quantitative discoveries. (c) In this part, quantitative results translate prevalently subjective discoveries, as when target group are requested to complete the research questionnaire at the session. (d) In the final model, the two procedures are utilized just as, and as a part of parallel to cross-check and analyse each other's outcomes.

The interview is another means of collecting data. The interview can be described as an open procedure through which the specialist retrieves necessary information from individual. The retrieved data will be firmly affected by the respondent, who act and translates his surroundings on the premise of his past encounter. The semi-structured interview session gives a conspicuous arrangement of instructions for respondent and can give decisive, commensurate subjective information.

The research study adopted the use of questionnaire, and semi-structured interview. Information was gathered from computer science students at Babcock University on the analysis of students' attitude towards e-learning.

3.6 Sample Group

The research was carried out in fall semester 2015-2016; the sample groups used were university students' "*Computer Science Department*" at Babcock University with total number of 120 students. The table below shows student's profile.

Table 1: Sample Group (profile of students)

Total no. of student in class	Course	Level of study	Name of Institution
180	Computer Science	200 (2 nd Year)	Babcock University
152	Computer Science	300 (3 rd Year)	Babcock University
129	Computer Science	400 (4 th Year)	Babcock University

In this case, a stratified random sample was used in order to separate the scholars into fundamentally unrelated set or strata and after that to draw arbitrary specimen from every stratum.

3.7 Data Collection Period

Information was gathered within the interval of eight weeks in which questionnaire was sent to the organization for piloting in the meantime. The information has been recorded and saved concurrently as reactions are gotten. The researcher guaranteed that the semi-structured meetings were masterminded between the respondent and the analyst within the interval for information accumulation.

Total sum of ten scholars were picked indiscriminately from every class in computer science department, Babcock University. The reason is that, the meeting can be shaped by the interviewee's own particular understandings and also the researcher's interest.

The semi-structured meeting was loaded with an inquiry intended to be replied by the members (Computer Science students in: 200; 300; and 400 level) with time-frame of five minutes for every stage. The length of time for every meeting went on for twenty-five minutes. An endorsement to lead the interview was maintained by the researcher from the head of department (H.O.D) Computer Science Department Babcock University, Nigeria.

3.8 Data Analysis

Data analysis should be possible in assorted routines as predicted to the necessities and prerequisites of various domains such as science, business, sociology paper and so forth. Furthermore, data analysis helps in organizing the discoveries from various sources of information accumulation like study inquiry. The information assembled from the research will be investigated with the utilization of Statistical Package for the Social Sciences (SPSS); with support of an expert.

Moreover, a content examination will be utilized as a part of breaking down the outcomes acquired after the semi-structured question and answer session.

Chapter 4

DATA ANALYSIS AND FINDINGS

4.1 Presentation

The eventual outcomes of the information examination are presented in this part. The data was gathered and afterwards handled in the light of the questions presented in the questionnaire and chapter one of this thesis. Two fundamental goals drove the collection of the data and ensuing data examination.

Those targets were to add to a base of findings out about the investigation of scholars' attitude towards e-learning. These points were proficient. The quantitative part of the exploration shall be examined with the assistance of an expert through the SPSS program.

4.2 Students' responses on Computer Experience and Attitudes towards E-learning Derived from the Quantitative Research Result

Table 2: Value codes

VALUE	ANSWERS
N	Neutral
SA	Strongly Agree
A	Agree
D	Disagree
SD	Strongly Disagree

Table 3: List of participants

CLASS	SAMPLE SIZE
Computer Science (200 level)	40
Computer Science (300 level)	40
Computer Science (400 level)	40
TOTAL	120

4.3 Interpretation of Findings

Quantitative data below in table 4; reveals the types of questions available for computer experience afterwards counts how many cases (students) picked each one. The frequencies are shown as raw frequencies (F) (out of 120 participants in this case), as percentages (%) of 100 and the mean value are represented in the table below.

Table 4: Overall responses of students' on Computer Experience

Questions	SD		D		A		SA		N		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Q.1	6	5.0	22	18.3	56	46.7	28	23.3	8	6.7	120	100
Q.2	4	3.3	6	5.0	49	40.8	56	46.7	5	4.2	120	100
Q.3	6	5.0	8	6.7	56	46.7	38	31.7	12	10.0	120	100
Q.4	8	6.7	18	15.0	46	38.3	32	26.7	16	13.3	120	100

According to questions 1, 2, 3 from the questionnaire; 46.7% of participants (table 4) say operating on different platform of operating system makes e-learning easier and effective. This can be interpreted as a positive feedback.

Table 5: Mean derived based on computer experience

Question	SD = 1			D = 2			N = 3			A = 4			SA = 5			Total	Mean
	W	F	F*W	W	F	F*W	W	F	F*W	W	F	F*W	W	F	F*W		
Q.1	1	6	6	2	22	44	3	8	24	4	56	224	5	28	140	438	3.65
Q.2	1	4	4	2	6	12	3	5	15	4	49	196	5	56	280	507	4.23
Q.3	1	6	6	2	8	16	3	12	36	4	56	224	5	38	190	472	3.93
Q.4	1	8	8	2	18	36	3	16	48	4	46	184	5	32	160	436	3.63

According to question 4 from the questionnaire; 38.3% of participants (table 4, p.26) said the essential capacities required as a result of a scholar getting to an electronic training program allude with utilization of composing programming language, use of the web, and email correspondence. 15% of the participants disagree to the notion.

Regarding the questions 1, 3, and 4; the mean value of the participant is 3.93 (table 5, p.27) which reveals their perception to be neutral. Meanwhile, question 2; pose that their familiarity with internet makes them feel more confident using e-learning systems as the mean value (4.23) reveals they agree. This shows the significant difference among the participants computer experience.

In conclusion, 85% (total sum) of the positive response given by the participant, shows that the students have the necessary computer experience to enroll into any e-learning activity. Furthermore they are aware of the most fundamental computer aptitudes required to learn online.

Table 6 shows the types of questions in attitudes towards e-learning and counts how many cases (students) picked each one. The frequencies are shown as raw frequencies (F) (out of 120 participants in this case), as percentage (%) of 100 and the mean value are represented in the table below.

Table 6: Overall responses of students' on attitudes towards e-learning

Questions	SD		D		A		SA		N		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Q.1	5	4.2	11	9.2	55	45.8	35	29.2	14	11.7	120	100
Q.2	23	19.2	55	45.8	26	21.7	7	5.8	9	7.5	120	100
Q.3	11	9.2	24	20.0	47	39.2	22	18.3	16	13.3	120	100
Q.4	6	5.0	14	11.7	54	45.0	29	24.2	17	14.2	120	100
Q.5	7	5.8	28	23.3	42	35.0	25	20.8	18	15.0	120	100
Q.6	7	5.8	29	24.2	53	44.2	22	18.3	9	7.5	120	100
Q.7	5	4.2	2	1.7	54	45.0	52	43.3	7	5.8	120	100
Q.8	4	3.3	12	10.0	43	35.8	45	37.5	16	13.3	120	100
Q.9	5	4.2	4	3.3	60	50.0	42	35.0	9	7.5	120	100
Q.10	2	1.7	12	10.0	53	44.2	44	36.7	9	7.5	120	100
Q.11	5	4.2	16	13.3	48	40.0	33	27.5	18	15.0	120	100
Q.12	5	4.2	22	18.3	40	33.3	41	34.2	12	10.0	120	100
Q.13	2	1.7	6	5.0	58	48.3	44	36.7	10	8.3	120	100
Q.14	3	2.5	2	1.7	53	44.2	46	38.3	16	13.3	120	100
Q.15	2	1.7	12	10.0	51	42.5	32	26.7	23	19.2	120	100
Q.16	5	4.2	13	10.8	50	41.7	32	26.7	20	16.7	120	100
Q.17	3	2.5	11	9.2	55	45.8	36	30.0	15	12.5	120	100
Q.18	2	1.7	9	7.5	51	42.5	40	33.3	18	15.0	120	100
Q.19	4	3.3	11	9.2	56	46.7	34	28.3	15	12.5	120	100
Q.20	3	2.5	5	4.2	55	45.8	45	37.5	12	10.0	120	100

According to question 1, 2, 17 and 20 from the questionnaire; (table 6, p.28) 45.8% of the participants said e-learning offers the likelihood to productively manage their time. The participants said they disagree with the saying that e-learning is not productive as educating strategy. The participant reported that they like the educator's assistance and proposals in the e-learning environment. Participants also disclosed that they can read online directions effectively. As stated, it is interpreted that students of computers science department values the efficiency of e-learning as a teaching method. In respect to the mean value derived (table 7, p.32) which shows the significance differences amongst student attitude towards e-learning, participants are neutral to question 1 & 17, disagree to the notion posed in question 2 and agreed to the notion in question 20. It can be interpreted as a positive feedback.

According to question 3 from the questionnaire; (table 6, p.28) 39.2% of the participants said e-learning is a training domain that requires propelled specialized information a personal computer use. 9.2% of the participant disagrees with the notion. In addition, the mean value (table 7, p.32) that shows the significant difference amongst participants basically, it can be interpreted that students in computer science department have the basic technical knowledge a pc use.

According to question 4 and 7 from the questionnaire; (table 6, p.28) 45% of the participants agree that e-learning assures schedule flexibility; in regard to this, the mean value is 3.72 which signify they are neutral to the question posed also e-learning can possibly be regarded as a teaching tool. The mean value as shows (table 7, p.32) they agree. This is interpreted as a positive feedback.

According to question 5 from the questionnaire; (table 6, p.28) 35% of the participants said the e-learning reduces student's educational cost. 5.8% of the participants opposed the notion. The mean value represented in (table 7, p.32) shows responses of the participants to be neutral.

According to question 6, 10 and 14 from the questionnaire; (table 6, p.28) 44.2% of the participants said students need to be trained before they undergo any e-learning activity. Reported the use of online learning methods makes learning easier to students. Furthermore, revealed that they can discover data effectively in the e-learning environment. The mean value represented in (table 7, p.32) reveals that responses from participants regarding question 6 is neutral while questions 10 & 14, participants agreed to the notion. Simply this can be interpreted that student of computer science department requires a training session to enable them undergo any e-learning activity.

According to question 8 from the questionnaire; (table 6, p.28) 37.5% of the participants said students who use e-learning materials needs to be updated with the latest trends in technology.3.3% of the participants opposed the notion. The mean value (table 7, p.32) proves that participant's stance is neutral. This can be interpreted as a positive feedback.

According to question 9 from the questionnaire; (table 6, p.28) 50% of the participants said e-learning could be regarded as an assisted learning tool. 4.2% of the participant opposed the notion. The mean value (table 7, p.32) proves that the participant stance signify they agree with the notion. This can be interpreted that student of computer science view e-learning as an assisted learning tool.

According to question 11 from the questionnaire; (table 6, p.28) 40% of the participants said there is viable correspondence between the educator and the scholar with the help of e-learning. The mean value (table 7, p.32) proves that the participant view on the notion is neutral.

According to question 12 from the questionnaire; (table 6, p.28) 34.2% of the participants reported that the advantages of e-learning increases students' creativity. 4.2% of the participants averse the notion. The mean value (table 7, p.32) reveals that their stance is neutral.

According to question 13 from the questionnaire; (table 6, p.28) 48.3% of the participants disclose that electronic training is seen as self-paced training environment. 1.7% of the participants disagree with the notion. The mean value (table 7, p.32) proves that the participant agree to the notion.

According to question 15 and 18 from the questionnaire; (table 6, p.28) 42.5% of the participants mentioned that the e-learning environment upgrades their rational skills. Similarly, for Q. 16 41.7% of the participants convey that the e-learning environment improves my critical thinking aptitudes. Also there are more chances to make their own insight in the e-learning environment. In respect to the mean value derived (table 7, p.32) shows neutral to all the questions posed. This can be interpreted as a positive feedback.

According to question 19 from the questionnaire; (table 6, p.28) 46.7% of the participants stated that the hyper-text online guideline can improve their learning inspiration. 3.3% of the participants opposed the notion. The mean value (table 7, p.32) which shows the significance difference amongst participant is neutral. It can be interpreted as a positive feedback.

Table 7: Mean derived based on attitudes towards e-learning

Question	SD = 1			D = 2			N = 3			A = 4			SA = 5			Total	Mean
	W	F	F*W	W	F	F*W	W	F	F*W	W	F	F*W	W	F	F*W		
Q.1	1	5	5	2	11	22	3	14	42	4	55	220	5	35	175	464	3.87
Q.2	1	23	23	2	55	110	3	9	27	4	26	104	5	7	35	299	2.49
Q.3	1	11	11	2	24	48	3	16	48	4	47	188	5	22	110	405	3.38
Q.4	1	6	6	2	14	28	3	17	51	4	54	216	5	29	145	446	3.72
Q.5	1	7	7	2	28	56	3	18	54	4	42	168	5	25	125	410	3.42
Q.6	1	7	7	2	29	58	3	9	27	4	55	212	5	22	110	414	3.45
Q.7	1	5	5	2	2	4	3	7	21	4	54	216	5	52	260	506	4.22
Q.8	1	4	4	2	12	24	3	16	48	4	43	172	5	45	225	473	3.94
Q.9	1	5	5	2	4	8	3	9	27	4	60	240	5	42	210	490	4.08
Q.10	1	2	2	2	12	24	3	9	27	4	53	212	5	44	220	485	4.04
Q.11	1	5	5	2	16	32	3	18	54	4	48	192	5	33	165	448	3.73
Q.12	1	5	5	2	22	44	3	12	36	4	40	160	5	41	205	450	3.75
Q.13	1	2	2	2	6	12	3	10	30	4	58	232	5	44	220	496	4.13
Q.14	1	3	3	2	2	4	3	16	48	4	53	212	5	46	230	497	4.14
Q.15	1	2	2	2	12	24	3	23	69	4	51	204	5	32	160	459	3.83
Q.16	1	5	5	2	13	26	3	20	60	4	50	200	5	32	160	451	3.76
Q.17	1	3	3	2	11	22	3	15	45	4	55	220	5	36	180	470	3.92
Q.18	1	2	2	2	9	18	3	18	54	4	51	204	5	40	200	478	3.98
Q.19	1	4	4	2	11	22	3	15	45	4	56	224	5	34	170	465	3.88
Q.20	1	3	3	2	5	10	3	12	36	4	55	220	5	45	225	494	4.12

In conclusion, predicated on the findings; it can be reported that the participants (students) in the survey are well informed of the quality of e-learning in respect to their learning styles. Furthermore, response from the student saying “*use of online learning methods makes learning easier*” can be supported by the view of (Vygotsky, 1978); that students can perform at higher intellectual levels in collaborative situations than when working individually. Owing to this, it can be reported that group differences could promote absolutely to the training process.

This is on account of students who are confronted with various understandings, clarifications or answers about what they are concentrating on and this constrains them to re-examine their own perspectives which is known as or can be called “self-reflection”.

4.4 Themes and Definitions Extracted from the Research Question

The table below shows the text questions extracted from the research questions. This basically represents the semi-structured interview questions the researcher (interviewer) asked the students (interviewee) that participated in the survey.

Table 8: Themes derived from the research questions

QUESTIONS	THEMES
1. Do you agree that e-learning will have a positive impact on your learning styles? Give reasons for your answer.	E-Learn Learn/Style;
2. Regarding the quality of e-learning do you agree it is better than the traditional method of learning?	E-Learn Adv;
3. What will be the resulting effect of e-learning in the educational sector in future? Give reasons for your answer.	E-Learn Ben.Future;
4. What are your perceptions regarding the quality of e-learning?	E-Learn Percep;

Table 9: Themes and definitions

THEMES	DEFINITIONS
E-Learn Learn/Style	An acronym that signifies “E-learning impacts on students’ learning styles”.
E-Learn Adv	An acronym that signifies “the Advantages of e-learning compared to traditional methods of learning”.
E-Learn Ben.Future	An acronym that represents “The effectiveness of e-learning in the educational sector in future”.
E-Learn Percep	An acronyms that signify “students’ perception regarding the quality of e-learning”.

4.5 Quotations Derived from Semi-Structured Interviews

Respectively, column one serves as the classes of the (students) interviewee, the second column; shows the numbers of students in each class selected randomly to respond to the semi-structured interview questions.

Table 10: Sample population for the semi-structured interview

CLASS	NUMBER OF STUDENTS
Computer Science (200 level)	3
Computer Science (300 level)	3
Computer Science (400 level)	3
TOTAL	9

Three Student’s from the Computer Science (200 level) were selected, Three Student’s from Computer Science (300 level) and three Student’s from Computer Science (400 level), a total sum of nine Student’s participated in the semi-structured interviews.

Furthermore, three questions were retained from the four research questions to discover the benefits and perception of students towards e-learning. The table in (Appendix C p.62) represents the analysis of feedbacks from the nine students

(Computer Science students) to the semi-structured interview questions. The tables are classified in respect to each participant (students') feedbacks.

Whole exercise (semi-structured question and answer sessions) with students, it was reported using percentages; 77.7% agreed to the notion that e-learning will positively affect their learning styles. Also, they know about the future benefits of e-learning in the educational sector. Furthermore, 55.5% shows their perception regarding the quality of e-learning. 22.2% are cognizant of the advantages of e-learning.

As shown in the report, most of the participants are comfortable with the conventional method of learning. This obviously shows that little or no online learning activities are being carried out by their instructors.

Usability is seen to be a useful medium whereby students actively construct their own knowledge with the available e-learning tools used in the e-learning environment. The response from Student 8 and 9 (Table 18 & 19, p. 64); shows that "with help of e-learning they can process information correctly and there is also constant quest for knowledge" from the perspective (Boot & Hodgson, 1987); electronic training can both make information present and play a part in students' self-construction of knowledge. The response from the semi-structured interviews with the participants (Computer Science Students) shows that they are aware of the benefits and how to access the quality of e-learning.

Furthermore, according to student 4; who mentioned that “there is swift transfer of knowledge when learning in an e-learning environment.” According to student 5 that stated; “it makes me learn faster, easier and I can also download my course content easily from the e-learning environment.” This signifies accessibility to learning materials.

The report revealed that despite the fact that e-learning is good, when introduced in the curriculum; there would be some gap that may hinder the accomplishments of electronic training at Babcock University. Predicated on the report from students, it can be interpreted that the school still needs to provide adequate measures to tackle individual differences among the learners.

From the perspective of (Salmon, 2000); understanding end-user behaviours is an important step toward effective learning. The consequences of making materials or learning opportunities available through e-learning should be carefully considered. Furthermore, some of the features of scholars using online conversation applications for the first time enable facilitators to better plan online communication activities and exercises.

This literally means their instructors should also undergo necessary training before e-learning can be fully deployed in the curriculum of the school. Electronic instructing and learning require a genuine re-examination of the performance (particularly in light of expanded interest for education, the opportunities for increased learners’ desire by new technologies) if coordinated with knowledge-based design sites. Well-thought instructional outline for any web-based course contributes in moving learners' desires from commitment to achievement while studying the course.

The graduates of Babcock University (computer science students) will be future job-seekers and that implies learning how to utilize not just the technology tools accessible today. Students must be made cognizant that advances and improvements in technology can and should be acknowledged as modern possibilities. One of these conceivable outcomes is utilizing ICT instruments (e-learning) as a way to successfully compose their work.

Chapter 5

RESULTS AND DISCUSSIONS

5.1 Presentation

The motivation behind this part is to outline the summary of the research. The principal area of the chapter will include summary of the research discussions, and results will be presented.

5.2 Discussions and Results

The purpose of this study was to examine the analysis of students' attitudes towards e-learning "the case of computer science students in Nigeria". The researcher used a case study methodology, qualitative (subjective) and quantitative data collection methods from the selected department (Computer Science) in Babcock University, Nigeria. Data collected from the research participants represented their perceptions regarding the quality, impact on their learning styles, future benefits and the advantages of e-learning within their learning environment.

Participants completed a research questionnaire which addresses their perceptions regarding the quality, impact on their learning styles, future benefits and the advantages of e-learning within their learning environment (see appendix a, p.57).

The sample in this research was disaggregated by the course of study (level) to address the fact that there is a wide variance in the number of students within each three levels identified by the researcher (see chapter 4, table 3 p.26). A description of

the sample identified by course of study is indicated in table 3. A coded stratified random sample of 120 students was utilized for this research.

At first a piloting exercise was carried out with total number of 30 participants (students); ten students were picked from each subgroups. This was to test if they understand the survey questionnaire, eventually a smart response was gotten from the participants. These selected participants were mailed questionnaires, accompanied by a cover letter (see appendix a p.57) they are requested to complete the questionnaire and to be returned to their instructor in charge as soon as possible.

Over an eight-week period, 120 surveys (100%) were returned and subsequently the result analysed with the Statistical Package for the Social Sciences (SPSS) by an expert.

According to the authors, (Jimoy-iannis & Komis, 2007; Papaioannou & Charalambous, 2011; Wen & Shih, 2008); Attributes used to assess the attitudes towards ICT of students, teachers and principals have been categorised in two groups: demographics (age and gender) and **computer experience** (training, years of using computer, ownership of computer, access to a computer, intensity of computer use). Computer experience was utilized to analyse the students' attitudes towards e-learning.

Researcher tried to look at various literatures review about the attitudes of students towards e-learning, its quality and benefits, also the perception of students. According to (Mahahusudhan, 2008; Nadiu, 2006); Many scholars define what E-learning is, but E-learning, referred to as web-based (or online learning), is currently

a fast growing educational paradigm in higher institutions in Nigeria. It involves all teaching and assessment approaches that use technology such as Wikis, Blogs, Podcasts and learning management systems such as computers, internet and web connectivity to enhance learning experience and research works.

According to the findings, the growth of e-learning is directly related to the increasing access to information and communications technology, whereby making learning easier and faster in order to support self-paced learning environment. The research revealed that awareness of the future benefits of e-learning in the selected university is not the problem, as 77.7% of the participants in the survey are aware of the great benefits e-learning and the impact on their learning styles have to offer to them, but unfortunately, e-learning has not yet been integrated fully into their curriculum.

This is because e-learning appears to be more flexible and more cost effective to both teachers and students due to the possibility of accessing unlimited information in all areas of learning. Learners at different places can access information individually and at their own pace by asynchronous learning or learn the same thing at the same time from different places by synchronous learning (Naidu, 2006).

For the second question in the semi-structured interview; 55.5% of the student stated their perception towards the quality of e-learning that; “Traditional method is better than E-learning, because most of our courses are delivered using the traditional method of learning”. According to (Salawudeen 2008); who also observed that some higher institutions in Nigeria have started building ICT centre’s but the remoteness

of these centres' and their non-connectivity to necessary internet facilities hinder access to e-learning.

This presents why the student view the traditional method of learning to be better than e-learning. Result also shows that only 22.2% are cognizant of the merits of electronic learning. This interpreted as a limiting factor to their academic performance, international and national employability opportunities. The implication of this finding is that although e- learning mode of service delivery offers much potential, it may not be employed for use in Babcock University Nigeria in the very near future as in other developed and developing countries. Implicitly, the probability of computer science students in Babcock University, Ogun State Nigeria to acquire knowledge through e-learning as in the globalized world of today seems bleak.

Chapter 6

CONCLUSION

6.1 Presentation

This part presents the conclusion and suggestion of the research carried out. The study was set out to explore the analysis of students' attitude towards e-learning; case of computer science students at Babcock University in Nigeria and has identified firstly, the impact of e-learning on students' learning styles, the quality of e-learning, and lastly the benefit of e-learning in the educational sector. The general theoretical literature on this subject and specifically in the context of e-learning is inconclusive on several vital questions within the students' attitude towards e-learning. The findings are as follows:

- Nearly all participants in the study feel that e-learning enhances their ability to use the computer in an effective manner and serve as a source to build their learning inspirations. Nevertheless, the need for providing necessary ICT facilities and training of instructors is still recurrent. Rajasingham (2009) inferred that instructive ideal models that test traditional method of teaching are turning out to be progressively conceivable with the assistance of the expanding advancement in IT. The current researcher perceives that scholars' fulfillment reported for this course radiate in no little measure from layout and usage approaches made conceivable by the change in IT.
- Reported in the findings (p.35), it gives them the opportunity to carry-out what is known as self-reflection.

- Moreover, students are less cognizant of the advantages of e-learning, mainly because; the conventional methods of learning are being utilized in the university as a delivery mode.
- There is effective time management in the e-learning environment.
- Hypertext online guidelines improve the learning inspiration of the students.
- Most of the participants (77.7%) are conversant with the conventional method of learning but they perceive e-learning to be effective to them in terms of information processing and quest for knowledge.
- It is very difficult to predict what will happen in future, but the majority of the participants (55.5%) highlighted the flexibility of e-learning as a suggestion.

The scale of the research is therefore extensive and multifaceted even at government owned universities. To generate achievable strategies and development targets with regards to e-learning, there is need for more case studies at government owned universities to allow further assessment of public dimension of the area under discussion. Exploring the following as further research strategies can facilitate the attainment of this goal.

As a direct consequence of this methodology, the study encountered limitations which need to be considered. In spite of what is often reported about the benefits of e-learning and attitudes of students towards it in theoretical view, the analysis of students' attitude towards e-learning has only offered some solutions to the prevailing and persistent educational revolution in Babcock University Ogun State, Nigeria.

To sum up, predicated on the results as a reflective researcher it can be mentioned that in Babcock University, Department of Computer Science students' perceptions on e-learning approaches are positive. Students support the notion that e-learning will have enormous means of improving their quality of learning, future benefits of e-learning in educational sector and how the e-learning can have impact on their learning styles. Moreover, it gives them the opportunity to carry out what is known as self-reflection.

As a researcher, having gone through this difficult journey, as a reflective practitioner I can also say that it was very fruitful. A lot of things which were unknown to me became clearer and more understandable and I also have the chance now to explore even further. Learning by doing is the philosophy as a reflective practitioner I always supported and in this research I had the chance to learn, to construct my knowledge by doing.

6.2 Recommendations and Future Trends

- Based on the result; since the Students have shown interest in e-learning; it can be integrated into the school curriculum.
- The university should provide avenues of training the faculty members and the instructors with the utilization of e-learning as a delivery mode to the students.
- The university may find it beneficial to create entire session that would be offered online only because it would give students who did not begin their studies at start of the traditional semester the opportunity to catch up with their peers.
- Subject matter experts should be hired.

- University should provide adequate ICT facilities that would enable the functionality of e-learning in the school (e.g. Internet).

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APPENDICES

Appendix A: Questionnaire Sent to Participants.

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QUESTIONNAIRE

Dear Student,

This questionnaire includes three major sections: (a) demographic information, (b) computer experience, and (c) attitudes toward e-learning. The purpose of this questionnaire is to gather information related to the perceptions of students' attitude towards e-learning in the case of Computer Science students in Nigeria.

The purposes of the research are listed below:

- The perception of students regarding the quality of e-learning.
- To raise the awareness of students' on the benefits of e-learning compared to traditional methods of learning.
- To ascertain if the university students attitude towards using e-learning will have a positive impact on their learning styles.
- To identify if e-learning as an educational tool will still be effective in the educational sector in the future.

The questionnaire will only take 15 minutes. As a researcher I would appreciate if the answers you will provide will be genuine. After the completion of the survey please kindly hand it over to your instructor and do not hesitate to contact me if you have any questions regarding any section of the questionnaire. The results obtained from the questionnaire will be highly confidential and will not be used for any other research.

I would appreciate your immeasurable contributions to my research.

Section A: Demographic Information

Name: _____

(Check the box below) (✓)

Age: (18 - 25) (26 - 33) (34 - 41)

Gender: Male Female

Computing Skills: Professional Very Good Good Average No Idea

Faculty: _____

Field of study: _____

Date: _____

Section B: Computer Experience

In the following questions, kindly mark your answers by putting a tick (✓) in the box that corresponds to the extent you agree or disagree with each proposal.

1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree 5= neutral

		Strongly disagree	disagree	Agree	Strongly agree	Neutral
1.	Operating on different platform of operating system makes e-learning easier and effective.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2.	Familiarity with internet makes learners feel confident using the e-learning systems.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3.	Retrieving information from an online library database is an exceptional way of using online learning contents.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

4.	The basic abilities needed by a student entering an e-learning program refer to use of writing software, internet browsing and email communication.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
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Section C: Attitudes towards E- Learning

In the following questions, kindly mark your answers by putting a tick (✓) in the box that corresponds to the extent you agree or disagree with each proposal.

1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree 5= neutral

		Strongly disagree	disagree	Agree	Strongly agree	Neutral
1.	E-learning offers the possibility to efficiently manage your time.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2.	E-learning is not efficient as teaching method.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3.	E-learning is a learning environment which needs advanced technical knowledge a pc use.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4.	E-learning assures schedule flexibility.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5.	E-learning reduces students' educational cost.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6.	Students need to be trained before they undergo any E-learning activity.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7.	E-learning can possibly be regarded as a teaching tool	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8.	Students who use E-learning materials need to be updated with the latest trends in technology.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

9.	E-learning is regarded as an assisted learning tool.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
10.	Use of online learning methods makes learning easier to students.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
11.	There is effective communication between the instructor and the students with the help of E-learning	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
12.	Use of E-learning increases students' creativity.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
13.	E-learning is seen as a self-paced learning environment	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
14.	I can find information actively in the e-learning environment	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
15.	The e-learning environment improves my thinking skills	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
16.	The e-learning environment enhances my problem-solving skills.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
17.	I like the instructor's help and suggestions in the e-learning environment	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
18.	There are more opportunities to create your own knowledge in the e-learning environment.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
19.	The hyper-text online instruction can enhance my learning motivation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
20.	I can read the online instruction actively	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Appendix B: Semi-Structured Interview Questions

QUESTIONS	THEMES
1. Do you agree that e-learning will have a positive impact on your learning styles? Give reasons for your answer.	E-Learn Learn/Style;
2. Regarding the quality of e-learning do you agree it is better than the traditional method of learning?	E-Learn Adv;
3. What will be the resulting effect of e-learning in the educational sector in future? Give reasons for your answer.	E-Learn Ben.Future;
4. What are your perceptions regarding the quality of e-learning?	E-Learn Percep;

THEMES	DEFINITIONS
E-Learn Learn/Style	An acronym that signifies “E-learning impacts on students’ learning styles”.
E-Learn Adv	An acronym that signifies “the Advantages of e-learning compared to traditional methods of learning”.
E-Learn Ben.Future	An acronym that represents “The effectiveness of e-learning in the educational sector in future”.
E-Learn Percep	An acronyms that signify “students’ perception regarding the quality of e-learning”.

Appendix C: Responses from Students (Semi-Structured Interview)

Table 11: Student 1 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
E-learning allows me to read, stream videos (educational content) and also I can review the content several times.	E-Learn Learn/Style;
I agree that e-learning is better than the traditional method of learning but it also depends on the course content whether learners can grasp easily.	E-Learn Percep;
There would be an improvement in the educational sector because the pace at which technology is moving, more resources to backup e-learning will be provided.	E-Learn Ben.Future;

Table 12: Student 2 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
E-learning will have positive impact on how I study in school.	E-Learn Learn/Style;
I will be conversant with online learning also be able to perform different task in an e-learning environment.	E-Learn Adv;
If the traditional method of learning is replaced with e-learning there would be an improvement.	E-Learn Ben.Future;

Table 13: Student 3 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
I can access my lecture notes anywhere, anytime without being present in class. It makes learning easy for me.	E-Learn Learn/Style;
E-learning is good but to an extent the traditional method is better, because sometimes we might encounter challenges with the network connection to internet.	E-Learn Percep;
In future learning would be made flexible with the help of e-learning. Students might decide to stay at home and learn.	E-Learn Ben.Future;

Table 14: Student 4 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
There is swift transfer of knowledge when learning in an e-learning environment.	E-Learn Adv;
I can learn from home with the help of e-learning.	E-Learn Learn/Style;
Before there can be an improvement, there are certain measures to be considered to make e-learning effective.	E-Learn Ben.Future;

Table 15: Student 5 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
It enables me learn faster, easier and I can also download my course content easily from the e-learning environment.	E-Learn Learn/Style;
Regarding its quality I feel traditional method is better because of direct contact with instructor.	E-Learn Percep;
In future it might bring about distractions to students in the e-learning environment.	E-Learn Ben.Future;

Table 16: Student 6 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
When using e-learning it save my time, possibly I read better.	E-Learn Learn/Style;
I do not think e-learning is better than the conventional method of learning, because I feel I cannot get better explanation of the course content compared with when I meet with the instructor face-to-face.	E-Learn Percep;
Coming generation might be faced with difficulties with learning; there would be lack of determination to attend a school to learn.	E-Learn Ben.Future;

Table 17: Student 7 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
I have more time to engage in other activities, it is also flexible.	E-Learn Adv;
E-learning requires more tasks to be carried-out. Also our instructors must be well equipped to disseminate accurate information.	E-Learn Percep;
There would be improvement in the educational sector because by then students would have gained more interpersonal skills (ability to work in a team).	E-Learn Ben.Future;

Table 18: Student 8 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
Being in an e-learning environment I always have the constant quest for knowledge.	E-Learn Learn/Style;
Traditional method is better than E-learning, because most of our courses are delivered using the traditional method of learning.	E-Learn Percep;
I believe e-learning will still be in existence in the educational sector. Because the technology still evolves.	E-Learn Ben.Future;

Table 19: Student 9 (Themes derived from semi-structured interview)

RESPONSES DERIVED FROM SEMI-STRUCTURED INTERVIEW	THEMES
I believe e-learning will help me in processing of information correctly.	E-Learn Learn/Style;
E-learning is better than the conventional method of training to an extent, because some students might find it difficult to learn effectively online.	E-Learn Percep;
E-learning will help the educational sector in future because if students should engage in e-learning activities, there is tendency that it will also increase their level of reasoning.	E-Learn Ben.Future;