

STUDENTS' PERCEPTION OF ONLINE LEARNING RESOURCES AND TEXTBOOK MATERIALS IN NASARAWA STATE UNIVERSITY, KEFFI

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Abstract

This study investigated the perception of students on online learning resources versus textbook materials in Nasarawa State University, Keffi (NSUK). The population of the study comprised 6000 Post Graduate (PG) students from which a sample of 361 representing about 60 percent of the entire population was taken. The descriptive survey design was adopted and the setting for the study was a mix of face to face and online. The instrument for data collection was an investigator designed questionnaire which was pilot tested with five participants. Four research questions guided the study, and the findings revealed that, online learning resource is better than textbook materials in terms of coverage of topics, access to lesson, provision of supplemented instruction, flexible reading styles, and provision of current and updated information. The study also found that, the students mostly access internet services in a café to enable them use online materials since the institution does not provide free or even internet services for the students. This to a large extent accounts for why many students still patronize textbook materials. In addition to this, the study found that, online learning resource is cost effective than textbook materials. The study recommends that, institutions of learning in Nigeria should do away with resistance in the shift towards online learning resources and adapt their curriculum to include digital resources. Secondly, there should be free internet service for students on campus in all universities in Nigeria.

Keywords: Online, Resources, Textbook, Materials, Conventional

INTRODUCTION

In this digital era, the use of online learning material is very dominant. No wonder Renandya (2002) predicted that, online materials will occupy a more central role in the classroom in the nearest future. Before the booming of technology integration in the classroom, most teachers usually rely only on textbooks to structure their teaching learning process but now, such trend has changed since the advent of digital era of free resource sharing and collaboration (Friedman, 2009). The place of conventional textbook materials in the classroom is then questioned, although its importance cannot be entirely ignored (Allen, 2015). Both online and conventional textbook materials are perceived to aid students in concretizing learning experience and making the process of learning more exciting, interesting and interactive. According to Lewis (2018), learning materials includes any collection of animate and inanimate objects, human and non-human resources that a teacher may use in teaching and learning situations to help achieve desired instructional objectives. Lewis further stated that, learning materials can be classified into print and non-print materials. He described the Print materials to include textbooks, pamphlets, handouts, study guides and manuals while the non-print materials includes audio, visual, audiovisual and electronic interactive resources. The non-print materials can be packaged in online or standalone fashion (Lewis, 2018). The non print materials allow students to easily perform searches on course material; navigate through interactive tables and figures; provide hyperlinks to related topics, case examples, and links to videos (Appleton, 2005 & Young, 2001). In terms of quick and flexible update of material, McFall (2005) noted that, online materials can easily be updated than conventional textbook materials and as such students are more likely to access course contents with the most current theory and application. He also added that, online material could offer increased portability hence; several materials can be carried on one laptop, and that, online materials can be used to promote active reading which in turn results in concrete learning of subject matter.

To further understand what online learning resource constitutes, Mcfall (2005) identified the following resources, tools and methods: Instructional Videos (Lensoo, ScreenCast-O-Matic + SnippingTool, ZoomIT, Geogebra); Interactive Worksheets (Wizer); Mind Maps (Mindmeister (Google Drive, GD)); Quizzes (Kahoot, Mentimeter), and Games (Learning Apps, Sheets (GD)). In the same direction, Thompson (2011), Console (2013), Goligoski (2012) and Bayne (2008), noted that in the last few years, learning methods have been influenced by educational technology developments such as virtual learning environments (VLE) like Blackboard, video-based self-directed learning like the Khan Academy; extra-curricular achievement recognition systems such as Mozilla OpenBadges and Massive Open Online Courses (MOOCs). This new era method of learning where students are exposed to digital or electronic or online contents on a subject matter have been described by Jones (2011) as having great potentials to boosting students' academic achievement. He further emphasized that using online learning material can transform teachers' role from information provider to facilitator and make students more independent learners. Moore (2011) also added that, many teachers nowadays are interested in using online learning materials than the conventional textbook materials because of the perceived benefits as captured by Jarvis and Szymczyk (2009) that, online learning materials are frequently available at no cost and can be ready anywhere and anytime. Brandl (2002) also opined that, online learning materials provide convenience in accessing and obtaining an endless supply of authentic information in target language.

On conventional textbook material, textbooks are traditional part of the educational experience for many students. According to Teachervision.com, textbooks are collection of

knowledge, concepts, and principles for a selected topic or course usually written by one or more teachers, professors, or educational experts who are authorities in specific subject area. Most textbooks are accompanied by teacher guides, which provide students with supplemental teaching materials, ideas, and activities to use throughout the academic year. An underlying assumption of the use of textbook is that, a student who utilizes them will have enriched academic experience and will be able to demonstrate improved class performance. Skinner and Howes (2013) noted that, there are multiple benefits that stem from using textbook materials which includes increasing the baseline understanding that students bring to class. From the forgoing, it is important to note that, both online learning materials source and conventional textbook material source are important in promoting learning however, this study seeks to strike a balance between them based on students' perspectives by investigating their opinions on the two categories of learning resources under study.

STATEMENTS OF THE PROBLEM

Online learning resources have been highly canvassed as very effective in promoting learning yet many students in tertiary institutions still patronize the conventional textbook materials. Could it be that, they prefer textbook resource? Also, most existing studies on learning materials only reflect teachers' viewpoints so, this study gears to bridge the gap by investigating the perspectives of students on online learning resource and textbook resource.

OBJECTIVES OF THE STUDY

The study seeks to:

- i. Determine students' perception of online learning resource and textbook materials based on following criteria: coverage of topics, access to current and updated information, flexibility and convenient reading styles, provision of supplemented instruction, critical thinking and problem solving activities etc
- ii. To find out students' most places of accessibility of online services
- iii. To find out the cost implication of patronizing either resources.

RESEARCH QUESTIONS

The following research questions guided the study:

- i. What is the students' perception of online learning resource versus textbook materials?
- ii. What are the students' most places of accessibility of online services?
- iii. What is the cost implication of accessing online learning resource and conventional textbook materials respectively?

REVIEW OF RELATED LITERATURES

Digital technology has become an integral part of our society. Its impacts are enormous in the areas of communication, socialization, entertainment, and even education (Weisberg, 2019). It is just logical that education system follows society's lead and incorporate more technology and digital contents into the classrooms. Teachers have been doing this by incorporating digital resources such as academic games and interactive websites into their lesson plans.

Online learning resource is gaining popularity and as such, institutions of learning across the globe are rapidly switching to digital learning materials. Now, the question is, whether electronic learning resource is better than traditional textbook resource. Conventional Textbooks are integral part of school curriculum which provides detail development of topics, comprehensive coverage of contents, and other features useful to students (Moore, 2018). However, online learning resource stands as an alternative to

conventional textbook materials and on this, Lee (2018) noted that digitized learning resources will potentially replace conventional textbook materials in the school curriculum. Also, since technology has become increasingly popular Dobler (2018) stated that, online learning resource integrates all features of conventional textbooks into digital format that can be accessed through the internet or an application.

As more multimedia options are incorporated into the online learning materials, it has become more interactive with unique features as listed by Dobler (2018) and Choppin (2020) to include: customization tools; ability to bookmark pages; links to various media objects such as videos, podcasts, live hyperlinks; note sharing or some type of discussion board to allow students the opportunity to collaborate with each other; interactive activities and assessments meant to give students immediate feedback on whether or not they understand the material and lots more. In agreement with Dobler and Choppin, Woody, Daniel, and Baker (2020) added that, online learning resource also provides increased visual appeal due to features such as still and moving graphics, and video clips, as well as the potential to add supportive materials such as audio collections, links to activities and websites.

In as much as there are wide varieties of digital features found within online learning materials, the type of devices and software required to use them also varies. On this, Dobler (2018) stated that, common devices used to access online learning resources include e-readers, tablets, smartphones, and computers. Unfortunately, not all online resources are compatible across all media devices and this makes accessing some of them challenging for students, and also gives some an edge if they have multi-touch capabilities (McFadden, 2021).

Overall, online materials are expected to make conventional textbook obsolete, but there has been some resistance (Wiese & du Plessis, 2021). There have been mixed feelings when it comes to choosing between conventional textbooks and online learning materials. There are many factors that can contribute to which type students prefer. These factors may be based on cost, ease of use, ease of purchase, ease of storage, and match to their learning style (Chulkov & VanAlstine, 2020; Dobler, 2018).

Moreover, academic institutions across the globe have also been faced with the task of deciding whether they should adapt their curriculum to include digital resources. There are many variables to consider before that and some of them as pointed out Lokar (2021) include: cost, current resources, and additional resources that will be needed to implement a digital curriculum. So far, there has been serious resistance in the shift towards online learning resources with many still preferring the conventional textbook material (Millar & Schrier, 2021). This study premised on this, and thus investigates students' perceptions on effectiveness of online learning material versus conventional textbook materials in promoting learning.

METHODOLOGY

This section describes the research design, area of study, instruments for data collection and method of data collection and analysis.

Research Design

Descriptive Survey design was used and the setting for the study was a blend of face to face and online. The study covered the following areas, see table 1.

Table 1: Faculty.

Faculty	NO	Percentage (%)
Education	94	26
Management Sciences	93	26
Science	88	24
Social Science	86	24
Total	361	100

Population and Sampling

The population of the study comprised 6000 Post Graduate students of NSUK from which a sample of 361 representing about 60 percent of the total population was taken. The sample size was determined using the Krejcie and Morgan table of sample size determination however, the following formula was used:

$$S = \frac{X^2 NP(1-P) + d^2(N-1) + X^2 P(1-P)}{d^2}$$

Where

S= required sample size

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N= the population size

P=the population proportion (assumed to be .60 in this case or normally .50 since this would provide the maximum sample size)

d= the degree of accuracy expressed as a proportion (.05)

Instrument for Data Collection

The instrument for data collection was a structured questionnaire. It was pilot tested with five participants and the result indicated that, it can be applied to a wide spectrum of people who have varying experiences and involvement in a learning community of professionals. These five participants consist of three students, an expert in research methods, and an instructional designer familiar with survey research method. The questionnaire was administered on face to face and online basis. The questionnaire contains two sections: Section 1 elicited students' demographic information and section 2 gathered information about students' perception of online learning resources versus conventional textbook materials. Descriptive statistics (percentage count) was used to analyze the data collected. A total of 400 copies of the questionnaire was administered and 361 were answered correctly; 280 from the online version and 81 from the face to face version. The response format was based on 5 points Likert scale of the type Strongly Agree (SA), Agree (A), Strongly Disagree (SD), Disagree (D) and Undecided (U). One of the constraints faced was unavailability of students. Most of them were not on ground but we resorted to using their departmental Whatsup group to transmit the questionnaire especially the online version. Some of the students claimed that, they didn't have data to access the questionnaire.

RESULTS

Tables 2 and 3 contain demographic information of the respondents as follows:

Table 2: Gender

Gender	Number	Percentage%
Male	243	67
Female	118	33
Total	361	100

Table 3: Age Category

Range	Number	Percentage%
24-30 years	74	20
31-45 years	162	45
46 and above	125	35
Total	361	100

Table 4: Academic Programmes

Programme	Number	Percentage%
PGD	40	11
Masters	210	58
PhD	111	31

Table 2 shows that, 67 percent of the respondents are male while 33 percent are female. Also, table 3 contains information about the respondents' age range. It shows that, 20 percent of the respondents fall between the ages of 24 to 30; 45 percent between the ages of 31 to 45 while 35 percent are between the ages of 46 and above. Moreover, table 4 shows that, 11 percent of the respondents are Post Graduate Diploma (PGD) students; 58 percent are Masters' Students while 31 percent are PhD students.

RESEARCH QUESTIONS

The study provided the following answers to the research questions:

1. What is the students' perception of online learning resource versus textbook materials?

Table 5 shows the descriptive statistics of students' perception of online learning resources and conventional textbook materials.

Table 5: Online learning resources versus textbook materials

Statements	Textbooks	%	Online	%
Which of them offers in depth of coverage of topics?	40	11%	321	89%
Which of them provides current and updated information?	30	8%	331	92%
Which of them supplement instruction with other learning materials?	9	2%	352	98%
Which of them offers flexible and convenient reading style?	20	6%	341	94%
Which of them takes background knowledge of the student into account?	19	5%	342	95%
Which of them provides many perspectives on a concept?	46	13%	315	87%
Which of them provides higher-level questions, creative thinking and problem-solving activities?	10	3%	351	97%

On table 5, in terms of coverage of topics, 89% of the respondents agreed that online resource provides wider coverage of topics than textbook material. Also in terms of access to current and updated information on subject matter, 92% of the respondents are in favour of online learning resources. On providing supplemented instruction, 98% of the respondents agreed that online resource is more effective. On the issue of flexibility and convenient reading styles, 94% of the respondents agreed that online learning resource is better. On the issue of taking background knowledge of the students into consideration, 95 percent of the

respondents opined that, online resource is also better. Also 87 percent of the respondents agreed that, online learning resource provides many perspectives on a concept than conventional textbook materials. Finally, 97 percent of the respondents agreed that, online learning resource provides higher-level questions, creative thinking and problem-solving activities.

2. What are the students' most places of accessibility of online services?

Table 6 shows the descriptive statistics of the most places of accessibility of online services by the students of NSUK.

Table 6: Places of accessibility to online services

Place of accessibility	No. of respondents	Percentage (%)
Class Room	0	0
ICT Centre	0	0
School library	15	4
Cybercafé	346	96

Table 6 indicates that, 96 percent of the respondents patronize Cybercafé network to access internet services while only 4% access school library network.

3. What is the cost implication of accessing online learning resource and conventional textbook materials respectively?

Table 7 shows the descriptive statistics of students' perception of cost implication of patronizing online learning resources, and textbook materials.

Table 7: Students perception of Cost implication of online learning resources and textbook materials

	Very expensive	Expensive	Little bit expensive	Not expensive
Online Resource	10(3%)	26(7%)	89(25%)	236 (65%)
Textbook Materials	166 (46%)	98 (27%)	87(24%)	10(3%)

Table 7 shows that, 65% of the respondents agreed that online learning resource are more cost effective than textbook materials.

SUMMARY OF FINDINGS

The study found that, online learning resource is more effective in promoting learning than the conventional textbook materials in terms of coverage of topics, access to current and updated information, flexible and convenient reading style, provision of supplemented instruction, cognizance of learner's background, provision of high level questions, critical thinking and problem solving activities. The study also found that, students do not have access to NSUK network so, majority of the students patronize Cybercafé network to access internet services for a fee. This contributes to a large extent why students still patronize conventional textbook materials. The study also found that, online learning resource is more cost effective than conventional textbook material.

DISCUSSION OF FINDINGS

Contents and cost are typically considered when deciding on which medium of learning to adapt. As found in this study, online learning resource is better than conventional textbook materials and is generally more cost effective. This is in line with Noam (2021) who stated that, technology provides digital materials for students, and that, digital materials are better than conventional textbook material. He further stated that, textbook material is an outdated technology that is costly, difficult to locate, ephemeral, perpetually out of print, slow to manufacture, write and read, and a strain on the eye. He believes that conventional textbooks will soon be relegated to historical artifacts. Also, Heider (2019) stated that, since the online resources are not printed, they are able to include features such as color and images with no additional cost unlike the conventional textbook materials.

Also, the study found that, online learning resource provides current and updated information on subject matter than the conventional textbook materials. This goes in line with Baker-Eveleth and Stone (2019) who stated that, online materials have the capacity to accommodate frequent content updates which increases accuracy as opposed to conventional textbook materials that would need to be reprinted. They also added that, online learning resources have the potential to include hyperlinks to extra information on subject matter. This study also found that, online learning resource provides more convenient and flexible reading styles. This agrees with Daniel and Woody (2018) who opined that, students skim computer-based text more than paper-based and also read electronic text, “in an “F” pattern, searching for key terms rather than reading line by line”. Mulholland and Bates (2019) also noted that, e-books are preferred for quick searches, information retrieval and convenient reading than print books.

The study also found that, students have no access to NSUK network so, they patronize commercial cybercafé for their internet services needs. This finding is in agreement with Jagboro (2003) who stated that majority of the students in Obafemi Awolowo University patronize commercial cybercafé for internet services. The finding is however, at variance with Anyira (2011) who researched on Internet services in Nigerian private universities in which he reported that, 41.7% of the respondents agreed that, they slightly accesses internet on campus, another 41.7% of them maintained that, the Internet was not accessible to them however, 12.5% of the respondents agreed that the Internet was very accessible to them, but 4.1% opined that, it was not accessible to them at all.

CONCLUSION

As technology continues to evolve, it makes sense that educational resources would eventually follow suit. Heider (2019) stated that, as students gain more control over their learning, they also want to have more control over the tools that guide their learning. In many ways, the traditional textbook is no longer satisfying the needs of today’s students. There are benefits in utilizing online learning materials, especially for quick searches or research projects however, there is also a value in print books. Based on findings from this study, it is worthwhile to conclude that: online learning resource is better than conventional textbook materials in promoting learning in terms of coverage of topics, provision of current and updated information, provision of supplemented instructions, convenience and flexible reading styles, cognizance of learners’ background knowledge, provision of assorted perspectives on a concept, provision of high level questions, creative thinking and problem solving activities.

Overall, the decision to choose between online materials and conventional textbooks is very complex. Students, teachers, and even school management all have their own priorities and preferences. Both types of medium are associated with health concerns. Print textbooks require students to carry the entire text with them. These books are heavy, especially if a student takes more than one at a time. Heider (2019) noted that, more than one third of middle-school children carry loads on their backs in excess of 30% of their body weight, even though it is recommended to carry not more than 10% of their body weight in backpacks, this often results in back pain. Electronic materials have been noted to cause eye strain and fatigue and on that, Cennamo, Ross, and Ertmer (2018) stated that, Computer monitors challenge our eyes in ways that printed materials does not, and this may lead to vision problems. This may be due to the type of device being used and on this, Mangen, Walgermo and Brønnick, (2019) stated that, Light-emitting screens are known to cause visual fatigue and more specifically computer vision syndrome thus, neither category of learning medium is perfect in all ramifications.

RECOMMENDATIONS

Based on findings of this study, the following recommendations are put forward:

- i. Academic institutions in Nigeria should adapt their curriculum to include digital resources.
- ii. Universities and other similar academic institutions in Nigeria should provide free internet services on campus for all categories of students to enable them utilize available digital resources.

SUGGESTION FOR FURTHER STUDIES

Technology is constantly changing and improving, as are educational resources. There is relatively limited research available on the impact of digital learning resources. Studies that relate more specifically to a particular subject area like mathematics or similar subject would be enlightening. A study that explores how to effectively integrate both categories of learning resources in the classroom would be beneficial as an educator. A future research question could focus on whether they are better for some subjects than in others.

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