Perceptions of Students and Staff of the National Open University of Nigeria on the Quality of Online Instructional Delivery Strategy: An Evaluative Study

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Abstract

Some faculty members of the School of Education, National Open University of Nigeria, implemented a hybrid online and face-to-face instruction in teaching course for the Post Graduate Diploma in Distance Education (PGDDE) programme in the 2012/2013 academic year. This study explores the rationale for the use of this particular mode of delivery; faculty conclusions regarding implementation of this mode, and the impact of this mode on learning. Comparisons of students of the programme using some or all the quality indices of the online mode with the face-to-face strategies were also investigated and analysed. The study established that faculty staff and students viewed the online instructional mode as favourable. The mean students' ratings (mean=3.22, and 3.38 for quality and amount of content learnt) for the dimensions of instructional quality were the same for online and face-to-face course delivery formats. Students also rated online interactive instruction higher than the face-to-face on the ease of access to the course material dimension of effectiveness; (mean=3.43 and 3.42 respectively). These findings suggest that it is possible to achieve levels of effectiveness in an online instructional format similar to those that are found in face-to-face delivery. Students of the PGDDE programme also

rated student's collaborations highly, (mean=3.58 and 3.31), suggesting that faculty may capitalise on available mechanisms for interaction and collaboration.

Keywords: Asynchronous online courses, instructional delivery effectiveness, faculty interaction, quality of instruction

Introduction

Online course delivery has gained acceptance in universities globally; it is also catching up in some universities in Nigeria. At the National Open University of Nigeria, for example, lecturers are already familiar with online course delivery and assessment of students' progress in the form of tutor- marked assignments (TMAs). In the United States of America (USA), Ward, Peters and Shelley (2010) noted that approximately 4.6 million college students took at least one online course during the summer of 2008. Allen and Seaman (2010) also recorded that 73% of higher education institutions reported growth in demand for online courses and programmes in the USA. They also stated that most Chief Academic Officers in the universities (about 58%) perceive that online learning is critical to the long-term institutional strategies of their institutions.

In all learning environments, social interaction between students has been a pivotal and powerful element (Kester, Kirschner, Corbalan, 2006). Wanstreet (2006) also noted that educationists do not yet know what forms of interaction people need, want or expect to support their learning.

Evaluating the levels and contents of student's interactions; what they need; what they lack; relationships with online instructors; how they go on with their studies; their difficulties etc.; will place instructors in vantage positions to understand what their students need for effective study. It can also provide positive feedbacks that will help instructors situate what methods or adjustments are needed to help improve students' learning online. The purpose of this study is to evaluate the perception of instructors and students who were involved in online courses. This research focused on instructors and students who used asynchronous technology, to provide insights into the medium's impact upon the concerns of instructors relative to course quality

in online learning environment. Using a mixed approach (hybrid, face-to-face and asynchronous online instructions), the authors examined an online course medium used in graduate level courses in Post Graduate Diploma in Distance Education, (PGDDE) by drawing on two perspectives: (1) instructors' perceptions of quality of courses delivered online and (2) students' perception of quality of courses delivered online.

The study was anchored on three theories which undergird concepts of learning environments including pedagogical orientation, social constructivism, and immediacy and interaction. The related review of literature addresses primarily two types of learning environments: face-to-face instructor and student instruction; and online instruction which in this case is asynchronous.

Various researchers have addressed the issue of quality in university level teaching. These can also be applied at college level. Onwuegbuzie *et al.* (2007) found that college students believe teachers are effective when they are responsive, enthusiastic, student-centred, professional, and expert. Students further perceive their instructors to be effective when they provide multiple opportunities for students and teachers interactions, impart critical information clearly and accurately, and organise the learning environment so that time is used well and the environment is orderly. Chickering and Gamson (1987) also developed seven dimensions of practice that have been widely accepted as criteria of quality in university instruction. According to Chickering and Gamson (1987), an instructor is effective when he/she does the following:

- encourages student/faculty contact
- encourages cooperation among students
- provides prompt feedback to students
- emphasises time on task
- communicates high expectations
- respects diverse talents and
- promotes ways of learning.

Wards, Peters and Shelley (2010), posited that the degree to which the above dimensions of instructional effectiveness are fulfilled is impacted not only by instructor behaviours and characteristics, but also by the techniques and

media through which instruction is delivered. Many instructional techniques that work well for simple tasks may not work for complex tasks. Learners who are confronted with new and difficult material typically are not organised in their thought processes, nor are they clear on how to prioritise and focus upon the most salient information in order to independently proceed with related learning focus (Ormrod, 2004). The degree to which online learning can attend to multiple dimensions of teaching and learning is an area of important interest to the instructor. While online content is more accessible, obtaining information is only one stage of gaining command over complex content. Hofer and Pintrich (1998) found that self-regulation of learning is difficult for most students. Students in online courses often have difficulty with comprehension and application of information (Schwartzman, 2007). Oh, and Jonassen (2007) asserted that merely providing information to students is insufficient. This they attributed to the nature of discourse in asynchronous online courses (postings and threaded discussions guided by the instructor), which aligns poorly with the inherent complexity of learning processes associated with mastering complex course content.

Also relevant to this study is the theory of constructivism which Driscoll (2000) describes as a theory of learning via a formative process that relies not only on what is transmitted by the medium (instructor, text, audiovisual source) but also on the manner in which the learner makes sense of content within the context of his/her existing knowledge and experiences. Social constructivism extends the frontiers of constructivism by asserting that learning is greatly dependent upon interactions, collaborations, and social exchanges that occur in that learning context. The views of Woo and Reeves (2007) agree with the concept of social constructivism. They suggested that instructors should base on learning environments upon:

- engaging students with authentic learning tasks.
- creating opportunities for meaningful collaboration among instructors' experts, and other students.
- engaging students themselves in defining, implementing and negotiating perspectives relative to the tasks.
- using collaboration, debate, and analysis to refine and complete the learning tasks, and
- ensuring that students have access to the instructor, resources and

one another in order to clear points of confusion and expand concepts.

Woo and Reeves (2007) concluded that such meaningful interaction process is required for meaning making and hence learning various authors have studied collaboration among students in three instructional modalities: face-to-face, online synchronous and asynchronous sessions. The overwhelming view is that students tend to collaborate more extensively in the face-to-face and synchronous online sessions (Mabrito, 2006; Meyer, 2003). Meyer (2003) also found that students believed their contributions to asynchronous collaboration were of higher quality because of the expanded availability of time to craft and edit postings. The potential of web-based learning to enhance dimensions of constructivist learning approaches is significant, and had remained largely untapped in classrooms, according to Woo and Reeves (2007). Wang and Woo (2007), found that the responsiveness of the instructors, interaction and communication between class participants, and the quality of the learning climate were lower in asynchronous online classes than in face-to-face instruction.

The theories of interaction and engagement are integrally connected to social constructivism. For students and instructors, interaction is an important dimension of university course work. Hirumi (2002), however, notes that only certain dimensions of interaction are significantly related to higher achievement. Interaction that:

- prompt intellectual insight
- provoke analysis, and
- deepens commitment to instructional activities influences the quality of learning, sharing personal observations is of limited value.

Savery and Duffy- (1995) contend that the active engagement of students in discourse during analysis of complex problems prompts learning through comparative mental processes and enriches application of content to other problem-solving situations. The quality of interaction and engagement between instructor and students is related to both students' performance and to satisfaction, so, too, is the quality of collaboration among students themselves, (Chickering and Gamson, 1987; Onwuegbuzie *et al.* 2007).

Perception of quality and level of immediacy and engagement in face-to-face and online instructions may differ. Bernard, Brauer, Abrami, and Surkes (2004) define online interaction as the ability to collaborate with peers and instructor. Wanstreet (2006) found that online interaction both between learners; and between learners and instructors, addresses learning-style preferences of students. The nature of interaction is, by extension, and students' evaluations of the quality of their experiences in such courses. While a number of features of online course work lends itself to interaction, the degree to which they fulfil students' needs for interaction and immediacy can vary significantly.

Many researchers and experts have 'applauded' the capacities of online media to enhance interaction and engagement. Threaded discussion, online chat, email, and in some instances, two-way audio and video feeds expand the nature and richness of interaction. Other researchers however question the quality of these interactions online. Wanstreet (2006) observed that researches that reflect positively on online communication in college courses typically focuses more on quantity rather than quality. Mazzolini and Maddism (2005) noted that the frequency, timing and the nature (e.g. clarifying, posing questions, and answering questions) of all instructors' contributions to online postings and threaded discussions are negatively correlated with the frequency and length of students' postings.

Research Questions

The study is anchored on the following research questions, the resolution of which constitutes the findings of this study:

1. Were there challenges to faculty implementing an asynchronous online instructional format?
2. Was the process of social interaction in the asynchronous online instructional environment productive?
3. Were faculty members able to provide a quality learning experience via asynchronous interactive online instruction format?
4. What are students' perceptions regarding the quality of their learning experiences in the asynchronous online instruction?
5. Are there statistically significant differences among the ratings of students regarding the degree to which course quality criteria are met

through face-to-face and asynchronous interactive online instruction?

Hypothesis

There is no significant difference in the effectiveness of the asynchronous and face-to-face methods of instructions.

Methodology

The survey research method was used to gather data from faculty participants who implemented the Asynchronous Online Instruction (AOI) mode. A structured questionnaire on faculty perception of quality of online instruction was administered among faculty members who implemented the Asynchronous Online Instruction (AOI). All the faculty members who taught courses in the PGDDE programme from the School of Education, National Open University of Nigeria participated. In the students' perception dimension of the study, a quantitative study, using survey was employed. The survey instrument used is the survey of opinions of users of the Asynchronous Online Instruction (AOI). The instrument is made up of two parts. Part A assessment of quality of face-to-face instructional mode; and part B, the assessment of quality of the asynchronous online instruction mode. The faculty and students' instruments were adapted from Chickering and Gamson's (1987) dimensions of effective instructions. The instrument has sections on students' comparisons of the capacities of the face-to-face delivery and online instruction. The co-efficient of reliability of the Chickering and Gamson's (1987) instrument is put at 0.6.

All schools and units in the headquarters of the National Open University of Nigeria are represented in the study sample. The study population is the 239 students who registered and participated in the PGDDE programme, and are staff of the Headquarters of the National Open University of Nigeria and the 5 faculty members who facilitated the course. The sample is made up of 67 students drawn out by simple random sampling (35 males and 32 females) from the population. The stratified random sampling method was used in selecting the participants from each unit, considered to have been stratified already. Four out of the five faculty members were on ground to respond to

the instrument. They were all males in the age range of 41 -60 years.

The faculty members' instrument is a 4-point Likert style questionnaire, with options ranging from Strongly Agree, Agree, Disagree to Strongly Disagree. The students' questionnaire is a rating scale whose range is 1-5, 5 being the highest rating on the scale.

The operational definition of quality and effectiveness of online instruction as used in this study implies students rating for (responses) for asynchronous (online) instruction as captured by section B of the students' questionnaire. Quality of online instruction also include faculty scores (responses) on opinions of users of asynchronous online interactive instruction.

The effectiveness of online instruction is assessed by students rating of the quality (measured by the following indices; amount of content, encouraging faculty/students contact, encouraging cooperation, encouraging active learning, providing prompt feedback, time on task, communicating high expectations, ease of course access and minimal cost) as they affect face-to- face and online instruction.

Results

The results of data analysis are presented below for both faculty and students' participants.

Instructors' (faculty members) perceptions

Five instructors, at the National Open University of Nigeria delivered the PGDDE course via the asynchronous and face-to-face method in the first semester of 2012/2013. Out of the five, four (80%) returned their answered questionnaire.

Question by question of faculty of qualitative analysis is presented below:

Research Question 1

Were there challenges in implementing an Asynchronous Online Instructional format (AOI)? The result is presented in Table 1 below:

Table 1: Faculty Perceived Challenges of Using Asynchronous Online Format

Perception from Question 1	Total responses for Strongly Agree	%	Total responses for Agree	%	Total responses for Disagree	%	Total responses for Strongly Disagree	%
Implementing asynchronous online instruction presented certain challenges	44	55%	12	25%	4	10%	4	10%

Total (%) responses of 55 and 25 for strong and ordinary agreement respectively that asynchronous online instruction presented certain challenges. All the four faculty members who responded to the items were unanimous in this perception. Technical details included, but not limited to level of faculty computer literacy, students' computer literacy levels, bandwidth and connectivity.

Research Question 2

Was the process of social interaction in the asynchronous online instructional environment productive? The results are presented in Table 2.

Table 2: Faculty Perception of Nature of Social Interaction in Asynchronous Online Instruction

Perception from Question 2	Total responses for SA	%	Total responses for Agree	%	Total responses for Disagree	%	Total responses for SD	%	Neutral
Social interaction between instructor/students and students/students was a meaningful and productive process in AOI experience	20	25	21	35	12	30	2	10	–

AOI= Asynchronous Online Instruction; SA = Strongly Agree; SD = Strongly Disagree.

Average percentage agreement (i.e. 'strongly agree' + agree) on faculty perception of asynchronous online instruction is 30%. Faculties' total average perception of disagreement is 20%.

Research Question 3

Were faculties able to provide a quality learning experience via asynchronous online instruction format?

Table 3: Faculty Perception of Quality Learning Experience in the AOI

Perception from Question 3	Total responses for SA	%	Total responses for Agree	%	Total responses for Disagree	%	Total responses SD	% for
The instruction offered through asynchronous online instructional format provided quality learning experience for student.	40	32	36	38	14	22	2	7

On the average, faculties agree (32% strongly, 38% agree) that asynchronous online instruction offered quality learning experience to students.

Research Question 4

How does asynchronous online instruction affect your attitudes towards future use of online delivery?

Table 4: Faculty Inclination towards Future Use of AOI Format

AOI Future Effect	More likely to deliver courses online	Not affected my willingness to offer online courses	Less likely to offer courses online
AOI affected my attitude towards online course delivery in the following manner	n = 3 75%	n = 1 25%	n = 0 0%

75% of faculty is more likely to deliver courses through the asynchronous online instruction.

Quantitative Analysis of Students' Responses

Table 5: Age Distribution of Student Participants in the AOI

Age Range	**25-30**	**31 -40**	**41-50**	**51-60**	**Above 60**
No of students	5	30	23	8	1

Table 5 shows that students with the age range of 31 - 40 years predominate (44%) of the total sample of students.

Research Question 5

What are student's perceptions regarding the quality of their learning experiences in the asynchronous online instruction?

Table 6: Mean and Standard Deviation of Overall Experiences with Asynchronous Online Learning

Variable	N	*X*	Sd
1	67	3.39	1.014
2	67	3.22	1.027
3	67	3.58	1.089
4	67	3.52	1.050
5	67	3.18	1.180
6	67	3.57	2.469
7	67	3.30	0.101
8	67	3.46	1.990
9	67	3.43	1.076
10	67	3.51	1.330
Valid N	67		

Table 7: Group Mean and Standard Deviation of Overall Experiences with Asynchronous Online Learning

Variable	g	N	*X*	Sd	St Error Mean
1	1	32	*3.47*	.803	.142
	2	35	3.31	1.183	.200
2	1	32	3.63	1.008	.178
	2	35	2.86	.912	.154
3	1	32	3.78	1.070	.189
	2	35	3.40	1.090	.184
4	1	32	3.31	1.330	.235
	2	35	3.06	1.027	.174
5	1	32	3.78	1.070	.189
	2	35	3.29	.987	.167
6	1	32	3.25	.916	.162
	2	35	3.86	3.300	.558

	1	32	3.38	1.185	.209
7	2	35	3.23	1.031	.174
8	1	32	3.53	1.047	.185
	2	35	3.40	.946	.160
9	1	32	3.34	1.260	.223
	2	35	3.51	.887	.150
10	1	32	3.53	1.436	.254
	2	35	3.49	1.245	.211

The mean students rating for the quality of each course format asynchronous and face-to-face) relative to each dimension of instructional effectiveness (Chickering and Gamson, 1987) is provided in Table 8, which shows the t-test comparison of the relative effectiveness of the two formats under scrutiny. The single hypothesis for this test is there is no significance difference in effectiveness of the asynchronous and face-to-face methods of instruction.

Table 8: t-test of Independent Samples of Asynchronous and Face-to-Face Format

Variable	Mean Difference	Standard Error Difference	df	t	Sign (2-tailed)	Interval
1	.154	.249	65	.620	.538	
2	.768	.235	65	3.273	.002	
3	.381	.264	65	1.443	.154	95%
4	.255	.289	65	.884	.380	
5	.496	.251	65	1.972	.053	
6	-.607	.604	65	1.005	.318	
7	.146	.271	65	541	.591	
8	.131	.243	65	.539	.592	
9	-.171	.264	65	-.645	.521	
10	.046	.328	65	.139	.890	

Table 8: t-test of Independent Samples of Asynchronous and Face-to- Face Format

In all cases equal variances were assumed. Results show that students' comparisons of the effectiveness of the two formats of instruction are significant at 95% interval.

Table 9: Mean Students' Ratings of the Course Formats (Asynchronous and Face-to-Face) Relative to Dimensions of Effective Instructions Dimensions of Effective College Mean (Sd) Mean (Sd) Instruction

Dimensions Of Effective College Instruction		Mean (Sd) Face-to-face	Mean (Sd) Asynchronous
1.	Quality and amount of	3.38(1.014)	3.22 (1.056)
2.	Encouraging	3.22 (1.027)	2.96 (0.996)
3.	Encouraging	3.58 (1.089)	3.31 (1.196)
4.	Encouraging active	3.52 (1.050)	3.27 (1.067)
5.	Providing prompt	3.18(1.180)	3.03 (1.044)
6.	Emphasising time on	3.57 (2.469)	3.18 (0.984)
7.	Communicating high	3.30(1.101)	3.25 (1.064)
8.	Respecting diverse talents and ways of	3.46 (0.190)	3.24(1.046)
9.	Ease of access to the	3.43 (1.076)	3.42(1.131)
10.	Minimise cost	3.51 (1.330)	3.63 (1.289)

Source: SPSS

Discussion

Many university instructors in Nigeria, nay globally, question whether the quality of learning achieved by students in face-to-face environment can be paralleled in an online format, especially for complex content. This study is concerned with instructor and students' perception of the merits of asynchronous interactive online instruction (AIOI). Student respondents provided perspectives on the relative capacities of the face-to-face, and asynchronous online instruction formats, to address dimensions of

instructional effectiveness. In interpreting the results obtained from data analysis, caution was exercised in the light of the relatively small number of participants (4 faculty members and 67 students) and the fact that they were enrolled in a single professional discipline - PGDDE. We need also to draw a distinctive between perceptions of the quality of instruction/leaming and actual measurement of the quality of instruction/leaming. This study is concerned with perception.

Participants gave positive ratings to the overall quality of the learning experiences in online enabled courses with significant majority indicating that they would be willing to take/teach another course through the asynchronous online medium.

Based on dimensions of instructional effectiveness (Chickering and Gamson, 1987), students compared Asynchronous Interactive Online Instruction - AIOI - enable courses to those of face-to-face. While ratings for the amount and quality of content learned were almost the same, (Table 9) for AIOI and face-to-face, mean students rating for Asynchronous Interactive Online Instruction tended to be slightly higher than face-to-face. These findings are important as they suggest to an instructor who is reluctant to employ online learning that students perceive that it is possible to achieve levels of effectiveness in an online instructional format similar to those that are realised in face-to-face delivery.

Mean ratings by students of the dimensions for effective college instruction is lower for asynchronous format than face-to-face. This result is in agreement with that of Ward, Peters and Shelley (2010) who showed that the asynchronous format was perceived to be inferior to both the face-to-face and synchronous interactive online instruction.

These findings may likely reinforce the reluctance of faculties to use online environment. Although the ratings may not be said to be very significant, the students tend to rate minimising cost higher for asynchronous online format than face-to-face format (Table 9). In an era of recessionary economic trends, and an increasing awareness of access to online instructional opportunities, these findings may not be surprising for course offerings that typically allow students access from home.

Students also rated social interaction among themselves and with faculty as well. These ratings were lower for the asynchronous format than for face-to- face. This is important for online instruction, for these are elements of instructional effectiveness, and instructors are encouraged to capitalise or maximise on those mechanisms for interaction and collaboration that are available.

Conclusion

This study had shown that online instruction/learning is feasible and a viable alternative in the face of increasing shortage of space and manpower to cater for increasing demand for higher education. There are several web-based formats for instruction in the online environment. As we use the asynchronous, or even the synchronous interactive online learning to expand the frontiers of education, it will be useful to survey additional instructors, faculties and students participating in AlOI-enabled courses. To increase the learning effect of online interaction, we should first of all understand early the nature of interaction within the framework of social constructivist learning theory. In compliance to the submission of Woo & Reeves, (2007) who stated that once we gain an in-depth understanding of the social constructivist learning theory, we would be able to engage in productive research and development to identify the necessary design principles for implementing more effective interaction activities within web-based learning environment.

References

Allen, I. E., & Seaman, J. (2010). *Learning on Demand: Online Education in the United States, 2009.* Sloan Consortium: Newburyport.

Bernard, R. M. *et al.* (2004). "The Development of a Questionnaire for Predicting Online Learning Achievement." *Distance Education,* 25(1),31-47.

Chickering, A. W., & Gamson, Z. F. (1987). "Seven Principles for Good Practice in Undergraduate Education." *AAHE Bulletin, 3,*7.

Driscoll, M.P. (2000). *Psychology of Learning for Instruction.* Needham Heights, MA: Allyn & Bacon.

Hirumi, A. (2002). "The Design and Sequencing of E-leaming Interactions: A Grounded Approach." *International Journal on E- learning,* 7(1), 19-27.

Hofer, B., YU, S. L., & Pintrich, P. R. (1998). "Teaching College Students to be Self-Regulated Learners." In: D. H. Schunk & B. J. Zimmerman, (Eds). *Self-Regulated Learning from Teaching to Self-Reflective Practice.* New York: The Guilford Press.

Kester, L., Kirschner, P, & Corbalan, G. (2006). "Designing Support to Facilitate Learning in Powerful Electronic Learning Environments." *Computers in Human Behaviour,* 23(3), 1047 - 1054.

Mabridto, M. (2006). "A Study of Synchronous Versus Asynchronous Collaboration in an Online Business Writing Class." *The American Journal of Distance Education, 20(2), 93-107.*

Mazzolini, M. & Maddison, S. (2005). "When to Jump in: The Role of the Instructor in Online Discussion Forums." *Computers and Education* 49(2), 193-213.

Meyer, K. A. (2003). "Face-to-Face Versus threaded Discussions: The Role of Time and Higher Order Thinking." *Journal of Asynchronous Learning Networks,* 7(3), 55 - 65.

Oh, S., & Jonassen, D. H. (2007). "Scaffolding Online Argumentation during Problem Solving." *Journal of Computer Assisted Learning, 23(2),* 95-110.

Onwuegbuzie, A., *et al.* (2007). "Students' Perceptions of Characteristics of Effective College Teachers: A Validity Study of a Teaching Evaluation Form using a Mixed-Method."

Ormrod, J. (2004). *Human Learning* (4th ed.). Pearson Education: Upper Saddle River, NJ.

Savery, J., & Duffy, T. (1995). "Problem Based Learning: An Instructional Model and its Constructivist Framework." *Educational Technology, 35(5), 3 \ -35.*

Schwartzman, R. (2007). "Electronifying Oral Communication: Refining the Conceptual Framework for Online Instruction." *College Student Journal,* 41(1), 429 -441.

Wang, Q., & Woo, H. (2007). "Comparing Asynchronous Online Discussions and Face-to-Face Discussions in Classroom Setting." *British Journal of Educational Technology,* 38(2), 272-286.

Wanstreet, C. (2006). "Interaction in Online Learning Environments: A Review of the Literature." *The Quarterly Review of Distance Education,* 17(4), 399-411.

Ward, M. E., Peters, G., & Shelley, K. (2010). "Student and Faculty Perceptions of the Quality of Online Learning Experiences." *International Review of Research in Open & Distance Learning,* W).

Woo, Y., & Reeves, T. (2007). "Meaningful Interaction in Web-based Learning: A Social Constructivist Interpretation. *The Internet and Higher Education,* 10(1), 15-25.