

MANAGEMENT OF INNOVATIVE E-LEARNING ENVIRONMENTS

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ABSTRACT

Technology is central to every educational institution. Without incorporating technology into every aspect of student activities, no educational institution can expect to succeed or excel. E-learning is designed to provide students with uninterrupted access to education through electronic media. This paper reviews and discusses strategies to enhance the quality of e-learning and instruction for freshman by analyzing the e-learning experiences of freshmen students and their instructors. Faculty and student perspective surveys carried out at SUNO during this research revealed potential problems facing students and instructors participating in online courses.

Analysis of students' online grades for three consecutive semesters show that grade point averages increased from 1.04 to 1.13 and 1.23 consecutively. However, freshman retention rates dropped from 296 to 225 to 130 sequentially among students overall, and from 68 to 54 to 33 for online students. Findings from this research may provide educational institutions with necessary strategies to enhance the quality of e-learning and the retention of e-learners.

Keywords: Administrators, E-learning, Orientation, Retention, Assessment, Outcome.

INTRODUCTION

Southern University at New Orleans (SUNO) is an HBCU (95% African American, 2% White and 3% others) open admission institution. The female/male student ratio is 60/40. Traditionally a brick and mortar university, it now offers both ground-based and online courses. With the implementation of e-learning, the number of online classes being offered per semester has increased from 15 before Hurricane Katrina (August 2005) to over 100 at present. Furthermore, the Departments of Criminal Justice, Early Childhood Education and General Studies now offer online undergraduate degree programs. An online graduate program in Museum Studies is also available. The average age of freshman students who took the survey ranged from 17 to 19.

The rapid expansion of e-learning at SUNO has created a need for greater understanding of the online learning dynamic from the perspective of students, of faculty, and of the administration. Earlier studies have paid little attention to real users of e-learning focusing

instead on instructors or administrators. As a result, students' needs and demands have often been neglected in studying the design and implementation of e-learning, while administrators' or instructors' demands or assumptions have been the major focus of investigation (Oh, 2003). According to Oh (2003), administrators of higher education tend to view e-learning not from students' perspective, but from an internal organizational or technological prospective. In order to truly understand e-learning, administrators, instructors, and students should all be considered as part of the learning process. As such, educational institutions need to base e-learning programs on real circumstances by periodically examining students' and instructors' needs and attitudes towards e-learning and, on the basis of the findings, suggesting improvements to the e-learning environments.

Lyons (2004) confirmed that many professors use technology in the traditional classroom but would not teach online because they dislike the lack of personal interaction. Other online instructors, according to Lyons (2004), complained that answering emails and participating in discussion boards mean that online teaching takes up more of their time than a traditional class and criticized the attitudes and behaviors of online students who do not take deadlines seriously. The reality of online teaching can be confounding and upsetting and can make a talented teacher feel like an unmitigated failure (Laird, 2003; Lyons, 2004).

Tunison and Noonan (2001) stated that the development of e-learning may have a significant impact on the lives of both students and teachers because it is a form of school improvement and innovation that confronts many of the short-comings of education. New developments in e-learning and increasingly sophisticated learning technologies are beginning to have a major impact in universities. It is clear that universities need to adapt to the impact of technology on learning. Communication technologies that are free from time or space constraints provide new challenges to universities on how courses should be organized (Jones & O'Shea, 2004). Learning in higher education is now presented with hardware and/or software tools that can allow institutions at this level to overcome some of the limitations associated with the lack of linkage between instructors and learners separated by time and place (Oh, 2003). According to Oh (2003), Tony Blair, the then U.K. prime minister once said, *"Technology has revolutionized the way we work and is now set to transform education. Children cannot be effective in tomorrow's world if they are trained in yesterday's skills. Nor should teachers be denied the tools that other professionals take for granted."* Furthermore, according to the E.A.SY. Project (European Agency for Easy access to virtual campus), institutions of higher education should provide information, training and counseling to students, students with special needs (disabilities), teachers/trainers, tutors, mentors, administrative staff through the effective use of Information Communication Technology (ICT) in order to promote virtual mobility as a complement and/or alternative to physical mobility. The purpose of this research is to review and discuss e-learning strategies used at SUNO to enhance the quality of learning and instruction for first year freshman.

Statement of the Problem

The failure to get adequate attention is often related to the quality of the plans for e-learning (Oh, 2003). While e-learning increases access to education, instructional quality often suffers because of increased faculty workload, problems of adapting to technology, difficulties with online course management, insufficient training, and insufficient instructional and administrative support (Cravener, 1999; Carthan, 2007). Rising costs, shrinking budgets, and an increasing need for e-learning are causing educational institutions to re-examine the way education is delivered (Wagner, Hassanein & Head, 2008). According to Weller (2004), cost effective models of large scale e-learning have proven difficult to implement. Depending on the technological infrastructure at an institution, implementation of e-learning courses can involve very costly technology upgrades because e-learning systems require different components such as sufficient bandwidth, course management systems, and technology equipped laptops or computers for instructors (Wagner et al., 2008). Budgetary constraints are a primary problem for many educational institutions. Tight budgets make it difficult to implement broad, campus wide e-learning solutions. Individual departments tend to implement their own solutions, which may not be consistent with the rest of the institution. This reduces the potential for cross-departmental efficiencies, and can complicate the process for faculty, staff, and students, especially if they are involved with more than one department (Wagner et al., 2008). Another important problem is resistance from instructors. Although studies have shown that there is no significant difference between the performance of students in the two methods (Huynh, Umesh, & Valachich, 2003), many faculty members still believe that e-learning is inferior to face-to-face instruction.

Since e-learning presents an entirely new learning environment for students, it requires a different skill set in order to succeed. Critical thinking, research and evaluation skills are growing in importance as students sort through increasing volumes of information from different sources. E-learning requires technical skills from both instructors and students. Online course administration may require instructors to learn new software applications. The use of new technology may be extensive in situations where instructors also create the course content. Arabasz and Baker (2003) suggested that the main challenges of technical support for e-learning initiatives include lack of knowledge of how to adapt instructional design for effective use in courses using technology, and lack of confidence in using the applications to teach.

Instructors take a lot of time to create and manage e-learning courses. Compared to traditional delivery of classes, faculty and support staff spends more hours providing online versions of courses. Unless incentives are provided to encourage instructors to use e-learning technology, resistance to additional workload is likely to continue (Wagner et al., 2008).

Statement of the Objective

This study addresses problems that students and instructors face in the e-learning environment. Based on the assumption that our findings at Southern University at New Orleans (SUNO) are somewhat representative of the state of e-learning at a national level, this study reviews and discusses strategies to enhance the quality of e-learning and instruction in general and at Southern University at New Orleans in particular. Our surveys of faculty and student perceptions revealed actual and potential problems facing students and instructors taking and teaching online classes. Additionally, this research analyzed students' online grades for Fall 2007, Spring 2008 and Fall 2008 to determine if current strategies enhance students' learning. It investigated online students' and teachers' needs in order to determine strategies to enhance the quality of e-learning. This research focuses on questions such as: What factors frustrate faculty when teaching e-learning courses? Do online faculty need more training and in-service orientation? Does the current e-learning platform enhance student participation? Do existing factors in online courses frustrate students or instructors? Results from this study may provide educational institutions with necessary strategies to enhance the quality of e-learning.

REVIEW OF LITERATURE

E-learning is becoming an increasingly popular way for students to take courses and for faculty to teach, with the number of students taking at least one online course growing more than ten times as rapidly as actual enrollments in post-secondary education (Smith, Samors, & Mayadas, 2008). The growing demand for online courses from working adults and the global competition from institutions of higher education have led administrators to modify traditional methods of education delivery in order to sustain long term competitiveness. E-learning offers higher education institutions innovative ways to target adult learners who want to continue their education but are constrained by work schedule, family and/or time (Coppola, Hiltz, & Rozanne, 2002). As demand for online education continues to increase, institutions are faced with developing process models for efficient, high quality online course development (Puzziferro & Shelton, 2008).

The increasing demand for online courses has caught the attention of higher education administrators in traditional brick-and-mortar institutions who want to satisfy adult learner needs in knowledge-based global societies (Chen, Gupta, & Hoshower, 2006). However, much remains unchanged. The vast majority of online courses are organized in the same manner as their campus counterparts: developed by individual faculty members, with some support from the IT staff, and offered within a semester. Most follow traditional academic practices ("Here is the syllabus, go off and read or do research, come back and discuss"), and most are evaluated using traditional student-satisfaction methods (Twigg, 2001). The problem with applying old solutions to new problems in the world of e-learning is that these applications tend to produce results that

are “as good as” what has been done before – what is often referred to as the “no significant difference” phenomenon (Twigg, 2001). Some researchers have expressed concern about the learning outcomes of e-learners, but a review of 355 comparative studies reveals no significant difference in learning outcomes, commonly measured as grades or exam results, between traditional and e-learning modes of delivery (Russel, 2001). According to Twigg (2001), “It’s not providing student services online; it’s how you provide student services online.” Institutions of higher education need strategies or approaches that produce more significant differences.

Online instructors need to move beyond traditional pedagogy and adopt new, more facilitative practices. Instructors of higher education institutions need to move beyond using the internet to deliver standard classroom models. Instead, they should focus on developing ways to use the internet to develop a “richness” that enhances education (Smith, 2005). They should be able to effectively use technology that has been selected for course delivery before the first day of class as this will continue to play an important role throughout the course (Smith, 2005).

The development and availability of information communication technology is significantly changing the way e-learning courses are conducted. The increase in information and communication technology available for instructional design and delivery, and technology-supported learning models, are eroding the dominance of traditional classroom learning (Oh, 2003). Additionally, Oh (2003) stated that colleges and universities are the most wired communities on the Web, with more than 90% of college students accessing the internet, 52 % daily. The internet has enabled tremendous innovation in the delivery of post-secondary education (Wagner, Hassanein & Head, 2008). The increasing use of information communication technology challenges historical classroom and instructional models of how teaching and learning are conducted. For technology supported learning, the most important concerns are how content is prepared, how and to what extent person-to-person interactions are arranged, and how the whole learning environment matches learner needs (Oh, 2003). The degree of interaction among participants in online courses is widely acknowledged to be an indicator of successful learning experiences. Interaction contributes to both achievement and student satisfaction. Thus, providing better interaction is an important means of assuring course quality (Roblyer & Wiencke, 2004).

E-learning Dimensions

The use of e-learning technology in delivering courses varies broadly. Table 1 shows variations in the configuration of e-learning offerings described through a number of attributes which can be categorized into the dimensions of synchronicity, location, independence, and mode. E-learning can be synchronous (real-time) or asynchronous (flex-time). Synchronous e-learning, which includes technology such as video conferencing and electronic white boards, requires students’ presence at the time of content delivery. Asynchronous e-learning, which

includes programmed instruction and tutorials, allows students to work through the screens at their own pace and at their own time (Wagner et al., 2008).

Table 1: E-learning Dimensions			
Dimension	Attribute	Meaning	Example
Synchronicity	Asynchronous	Content delivery occurs at different time than receipt by student.	Lectured module delivered via email.
	Synchronous	Content delivery occurs at the same time as receipt by student.	Lecture delivery via web cast.
Location	Same Place	Students use an application at the same physical location as other students and/or the instructor.	Using a Group Support System (GSS) to solve a problem in a classroom
	Distributed	Students use an application at various physical locations, separate from other students and the instructor.	Using GSS to solve a problem from distributed locations.
Independence	Individual	Students work independently from one another to complete learning tasks.	Students complete e-learning modules autonomously.
	Collaborative	Students work collaboratively with one another to complete learning tasks.	Students participate in discussion forums to share ideas.
Mode	Electronically Only	All content is delivered via technology. There is no face-to-face component.	An electronically enabled e-learning course.
	Blended	E-learning is used to supplement traditional classroom learning.	In class lectures are enhanced with hands-on computer exercises.

Source: Wagner, Hassanein, & Head, 2008

Wagner et al. (2008) elaborate that a single course component consists of a single attribute value from each dimension, but a course may contain several components, each with different attribute values. For instance, some components of a course may be delivered synchronously and others asynchronously. However, most courses available on the internet are based on the asynchronous model (Greenagel, 2002). Asynchronous e-learning, commonly facilitated by email and discussion board, supports work relations among learners and between teachers and learners, even when participants cannot be online at the same time. This is a key component of flexible e-learning (Hrastinski, 2008). With asynchronous e-learning, learners can log on to an e-learning environment at any time and download documents or send messages to teachers or peers. Students may spend more time refining their contributions, which therefore are usually more thoughtful than those in synchronous communication (Hrastinski, 2008).

Moreover, e-learning creates access to higher education that students would not have otherwise because of geographic or time constraints (Kabassi & Virvou, 2004). As high-speed internet access and computing power increase, more organizations are turning to collaborative and synchronous software for e-learning in which users in geographically distant locations work together online, share documents and applications, and use video and audio to communicate in real time (Beck, 2007). Synchronous e-learning, commonly supported by media such as video-conferencing and chat, has the potential to support e-learners in the development of learning communities. Learners and teachers experience synchronous e-learning as more social and less

frustrating since they can ask and answer questions in real time. Synchronous sessions help e-learners feel more involved and less isolated. "Isolation can be overcome by more continued contact, particularly synchronously, and by becoming aware of themselves as members of a community rather than as isolated individuals communicating with the computer." (Haythornthwaite & Kazmer, 2002).

Instructional Strategies

Effective teaching begins with effective planning (Ekwensi, Moranski, & Townsend-Sweet, 2006). Planning includes determining the instructional strategy to be used in order to deliver the instruction and achieve the learning objectives. These strategies are usually tied to the needs and interests of students to enhance learning. The following instructional strategies can be used in an e-learning environment:

Mentorship: One-on-One

This is a one-on-one learning relationship between a student and an expert in a specific topic or discipline for the purpose of supporting learning and development. In e-learning, mentorship is a reciprocal and collaborative learning relationship between a mentor and a student. It combines the impact of learning with the compelling human need for connection (Ekwensi et al., 2006; Wilson, 2006; Wisker, Exley, Antoniou, & Ridley, 2007) through email, instant messenger, conferencing or text messaging.

Small Group Work

This is the root of online learning. Students in a small group situated in an online learning environment have the ability to research at their own pace. Many of the programs used for online courses, such as Centra, facilitate online learning and training, enabling users to share knowledge and skills. Group work increases learners' ability to better organize and manage their thoughts and research (Ekwensi et al., 2006; Rana, 2005).

Projects

Projects can be assigned on an individual or group basis. Assigning projects is a great instructional strategy. An individual research project gives a student an opportunity to research topics of interest. This strategy provides the student with the experience of working through the process from the beginning to the end. Projects in a group atmosphere are also effective in creating a dynamic learning environment. When individual projects are completed, the instructor has the option to keep project results private. A more effective strategy, however, is to have the

instructor or the students share their results with the rest of the class. In this way, each class member is provided with honest feedback that will serve him or her in future projects. In addition, feedback from the class is from numerous people with different points of view, which gives students a wider range of input than the instructor alone can provide. Students learn to collaborate together and share their own distinct views to discover a common solution (Ekwensi et al., 2006). According to Thomas (2000), projects involve students in a constructive investigation which is a goal-directed process that involves inquiry, knowledge building, and resolution. Such investigations for example, could be design, decision-making, problem-finding, problem-solving, discovery, or model building process.

Collaborative Learning

This commonly used strategy creates a dynamic online learning environment. It involves the interaction between two or more students with different skill set levels. This variety of levels enables students to learn from their peers. Students help each other by putting the new information in perspective for the learner so that the learner can relate to it and remember it. This instructional strategy is deemed so useful in the online environment that “collaborative learning methods are now used in over a third of higher education courses” (Ekwensi et al., 2006; Stairs, 2002; Young, 2009). Through collaborative learning students learn to work well in a group environment and to enhance their communication and critical thinking skills.

Case Study

This strategy involves the learners’ past experience, while the case’s outcome involves the learners’ future. In order to create an effective learning environment, students must have access to the problem they are studying but not the solution until they reach their own conclusions. Then, students can compare their results with results of actual decisions used to solve the problem in the study. Discussion sessions can be accomplished in the online learning environment through Adobe Acrobat Connect Professional (Beck, 2007), Centra, and other online collaboration applications as a means of sharing information so students can later apply this new knowledge. This interaction can be presented by groups to the rest of the class and discussed through email or online conferencing. Case Study strategy relies upon the active participation of a host of contributors in a union established to achieve a community result greater than that which could be attained by individual effort (Rosenthal, 2002; Ertmer & Stepich, 2002; Waterman & Stanley, 2005).

Learning Contracts

This is an agreement between the learner and the instructor that details the learning objective, as well as how that objective will be met. While the objective is provided by the instructor, the student's responsibility is to write and carry out the actual content of the contract. The final document can be negotiated by the student and the instructor in order to provide a meaningful learning experience that meets the expectation of the instructor (Ekwesi et al., 2006). According to Codde (2006), learning contract is an alternative way of structuring a learning experience. It replaces a content plan with a process plan and solves or reduces the problem of dealing with wide differences within any group of learners. As such, every instructor should develop the syllabus as an actual contract between the instructor and the students describing upfront the expected outcomes and how shared responsibility for learning translates in terms of successfully completing the course (Kilmurray, 2003).

Lecture

The lecture strategy for instruction is the model that requires the most of the instructor in an e-learning environment. This strategy assumes the instructor to be the subject matter expert who lays the foundation for students. Lectures provide a basis of subject knowledge on which other knowledge, such as declarative, procedural, and conditional knowledge can be built (Hardy, 2002). A good lecturer must know how to differentiate the lecture materials to meet the individual needs of the students.

In the e-learning environment, lectures can take many forms. A complete set of lecture notes can be presented as a web page or offered as a PDF or as a Microsoft Word file that can be played directly from the source or offered to the learner as a download. Lectures may also be recorded and offered in a Podcast format, as a PowerPoint presentation, or as a flash file. With graphics, animation, sound, etc., the lecture can be made into a multimedia presentation or presented in streaming video, in an effort to motivate the learner and appeal to different styles of learning. Clark & Pitt (2001) suggest that no lecture should exceed twenty minutes: sufficient time to provide enough information to serve as a basis for further study.

Discussion

This is the most favored of all instructional strategies because it is interactive and encourages active, participatory learning. Students in an online learning environment are always isolated so discussion is particularly important for them: it facilitates a feeling of belonging to a group which is critical to success in education (Herring & Dargan, 2002). The following are some benefits of discussion:

It provides teachers with a tool for increasing interactivity in both online and face-to-face courses (Bannan-Ritland, 2002; Brown, 2001; Healey, 1998; Klemm, 1997).

It helps to build a learning community over time (Brown, 2001).

It enhances the learning process by creating more opportunities for active learning and collaboration (Klemm, 1997; Land & Dornisch, 2002; Landsberger, 2001). Additionally, discussion provides learners with opportunities to write and reflect on course content and previous postings (MacKnight, 2000; O'Sullivan, 2001; Rothermel, 2001).

Since it helps learners to construct knowledge, it fits in with the constructivist view of a learner-centered classroom, whether physical or virtual (Campos, Laferriere, & Harasim, 2001).

The instructor manages a discussion by assuming the roles of e-moderator, facilitator, and role model (Landsberger, 2001).

Possible Problems with Discussion

Many teachers who use discussion in e-learning may not have any formal training in how to use online course delivery technology (Herring & Dargan, 2002). They may not anticipate some of the common problems as listed by Branon and Essex, (2001):

Students not responding to other students in a timely manner. Everyone likes feedback: students may be disappointed if they take time to respond to the teacher's prompt, and no one else does for a few days.

Students not checking the discussion board often enough. If students do not log on for a week, they may be overwhelmed by seeing a number of messages, or they may miss deadlines for postings and give up.

Students or teachers not understanding the amount of time needed for discussion to mature. In the early weeks of a new semester, there is a tendency for postings to be more introductory in nature. People may be reluctant to open up or not accustomed to responding to others.

Students feeling socially disconnected. Some students may not feel comfortable with doing their postings. English as a Second Language students, students with limited access to computers or students who prefer lots of social interaction may feel separated from class members.

Branon and Essex (2001) suggest that students should work in groups, and that instructors should summarize rather than respond to each person, and give feedback to peers as assigned. In addition, it is important to give students clear instructions on how to post and respond, and to use tools that notify students of new postings.

METHODOLOGY

The purpose of this paper is to review and discuss strategies to enhance the quality of e-learning and instruction. Offering a course online does not in itself guarantee the quality of teaching and learning. E-learning may help students to access learning opportunities but it is not likely to prove successful unless it is cautiously and properly designed. One important factor in designing an online class is to understand instructors' and students' expectations. To this end, two perception surveys on freshman students and instructors were conducted at the end of the fall semester in 2008, in which 82 freshman students and 46 instructors responded.

Freshman Students and Faculty/Instructor Perception Surveys

The survey consisted of ten statements for freshman students and ten statements for instructors. These statements of interest were associated with the overall picture of e-learning.

Data analysis was accomplished by using the arithmetic means: $mean = \frac{\sum_{k=1}^n x_k}{n}$ to measure the central tendency of the respondents as shown in Table 2. Freshman students were required to mark strongly agree (SA); agree (A); neutral (N); disagree (D); or strongly disagree (SD) in response to the following statements:

- I have full access to a personal computer and internet.
- I understand how to access Blackboard which is required to navigate my online courses.
- I have adequate course assistance from my instructor and the e-learning administrators.
- Software on the Blackboard prevents students from cheating.
- Taking courses online motivates me as a student.
- Existing factors in online classes frustrates me as a student.
- I participate in discussion sessions posted by the instructor.
- Online teaching and practices need improvement.
- SUNO has a motivated and committed online education.
- Online students need more training and in-service orientation.

Table 2 (Statements # 1, 2, 3, and 7) shows that students are satisfied. However, Statement #4 shows that students are not familiar with the options that Blackboard can provide to the instructor to prevent students from cheating. Statement #5 shows that students need new means of motivation. Statement #6 shows that students do not have adequate knowledge to utilize the online learning mode. Statement #8 shows that students need improvement as shown

in the proposed model (Figure 6). Statements #9 and #10 show that SUNO administrators need to provide the means to adequately train students and to enhance their level of motivation.

Statement	SA	A	N	D	SD
1	57.5%	13.8%	16.1%	3.8%	8.8%
2	63.4%	18.3%	8.6%	7.3%	2.4%
3	23.8%	31.3%	32.4%	10.0%	2.5%
4	21.3%	23.8%	45.0%	6.3%	3.8%
5	11.3%	8.8%	48.6%	21.3%	10.0%
6	11.0%	17.1%	58.5%	7.3%	6.1%
7	25.9%	29.6%	27.3%	12.3%	4.9%
8	19.8%	16.0%	54.3%	9.9%	0.0%
9	12.2%	22.0%	59.7%	4.9%	1.2%
10	15.0%	23.8%	55.0%	3.7%	2.5%
Average	26.12%	20.45%	40.55%	8.68%	4.22%

Table 3 shows faculty's perception of online teaching. Instructors were asked to respond strongly agree (SA); agree (A); neutral (N); disagree (D); or strongly disagree (SD) to the following statements:

- The expectations of students who earn grades in e-learning courses are realistic.
- The current e-learning platform is adequate to enhance student participation.
- The software currently used prevents cheating in e-learning courses.
- E-learning is user friendly at SUNO.
- Faculty members teaching at SUNO are motivated.
- There are major factors that frustrate faculty when teaching e-learning courses.
- Faculty hold adequate discussion sessions in e-learning courses.
- Online teaching and learning practices need improvement.
- SUNO has a motivated and committed online education.
- Online faculty need more training and in-service orientation.

Table 3 (Statements # 1, 6, 8, and 10) shows that faculty agree with the statements. However, Statement # 2 shows that the current e-learning platform needs improvement. Statements #3, 4 and 5 show that instructors need more training on how to utilize the options available on Blackboard to make their courses both exciting and user-friendly. Additionally, the school does not provide incentives to faculty who teach online. Due to large class size, over 50% of instructors do not hold adequate discussion sessions. Statement #9 shows that instructors are not motivated due to lack of resources.

Table 3: Faculty's Perceptions of Online Courses

Statement	SA	A	N	D	SD
1	13.3%	42.2%	22.2%	15.6%	6.7%
2	11.1%	35.6%	15.6%	26.7%	11.1%
3	4.5%	25.0%	36.4%	22.7%	11.4%
4	11.4%	38.6%	18.2%	18.2%	13.6%
5	11.1%	33.3%	24.4%	15.6%	15.6%
6	31.8%	38.6%	16.0%	0.0%	13.6%
7	9.1%	22.7%	40.9%	18.2%	9.1%
8	40.0%	42.2%	9.0%	4.4%	4.4%
9	4.4%	28.9%	33.4%	11.1%	22.2%
10	45.5%	40.9%	6.8%	2.3%	4.5%
Average	18.22%	34.80%	22.29%	13.48%	11.22%

Differences in students' and faculty's perceptions of online courses are evident in an analysis of Tables 2 and 3:

About 55.1% of freshman students are satisfied with instructors' online course assistance (Student: Statement #3) while faculty claimed that only 31.8% of them hold adequate discussion sessions in e-learning courses (Faculty: Statement #7).

About 28.1% of freshman students and 70.4% of instructors are frustrated by existing factors in online courses (Student: Statement #6, Faculty: Statement #6).

Only 35.8% of freshman students agreed that online teaching and learning need improvement, 82.2% of instructors argued for improvement (Student: Statement #8, Faculty: Statement #8).

38.8 % of freshman students and 86.4% of instructors favor more training and orientation for students and faculty (Student: Statement #10, Faculty: Statement #10).

These findings show that administrators of e-learning in educational institutions need to improve students' and instructors' skills and methods of online education delivery. Improving students' skills will enable them both to more critically evaluate the learning process and to learn better in the e-learning environment; enhancing faculty skills will make the e-learning environment more exciting and conducive to quality learning. Developing strategies for effective course management should be a collaborative effort by both instructors and universities/colleges (Oh, 2003). In addition, students should be trained to learn prior to taking e-learning courses. SUNO has begun implementing this process by mandating that students may not take e-learning courses without prior experience in them or without having first familiarized themselves with the university environment.

The e-learning department at SUNO which offered 15 courses per semester before Hurricane Katrina (August 2005) now offers more than 100 courses per semester. The survey indicates that

the department needs both to expand course offerings and to improve services and opportunities for faculty and students. Currently, students and faculty do not get enough training from the e-learning department. To ensure the future of e-learning, faculty must keep abreast of e-learning technologies as well as with the latest thinking on the social and psychological factors that influence e-learning. This is best done through developmental processes that include research, attending conferences, workshops, etc. Moreover, the administration should ensure, through a continuing forum, that continuing faculty development is effective and that the model shown in Figure 6 is implemented.

Data Analysis of Students' Grades

Data was obtained from the Information Technology Center (ITC) for students who took online courses at Southern University at New Orleans in Fall 2007, Spring 2008, and Fall 2008. SPSS Statistics 17.0 and Microsoft Excel 2007 software were used to analyze the data in order to examine the rate of students' passing to failing. A, B, C, and D are passing grades, while F is a failing grade. A Single Factor ANOVA was conducted to determine any significant statistical differences in mean grade over the three semesters. Tables 4, 5, and 6 show online grade distributions for Fall 2007, Spring 2008, and Fall 2008 freshmen. The F grade represents an academic failure (F) as well as failure due to excessive absence (FX).

No. of Students	Grade	Frequency	Percent
68	A	11	10.5%
	B	15	14.3%
	C	8	7.6%
	D	4	3.8%
	F	67	63.8%
Total		105	100.0%

No. of Students	Grade	Frequency	Percent
54	A	14	14.9%
	B	9	9.6%
	C	10	10.6%
	D	3	3.2%
	F	58	61.7%
Total		94	100.0%

No. of Students	Grade	Frequency	Percent
33	A	6	10.7%
	B	8	14.3%
	C	8	14.3%
	D	5	8.9 %
	F	29	51.8%
Total		56	100.0%

Table 7 served as grading scales that were used to formulate the salient statistics.

Grade	A	B	C	D	F
Code	4	3	2	1	0

Salient Statistics

Salient statistics show that the online grade average (mean) increased from 1.04 (Fall 2007) to 1.13 (Spring 2008), and 1.23 (Fall 2008). In this study, a Single Factor ANOVA was conducted to test the hypothesis as shown in Table 8.

Groups	Count	Sum	Average	Variance
Fall 2007	105	109	1.038095238	2.248534799
Spring 2008	94	106	1.127659574	2.456646076
Fall 2008	56	69	1.232142857	2.181493506
ANOVA				
Source of Variation	SS	df	F	P-Value
Between Groups	1.404	2	0.702	0.304
Within Groups	582.30	252	2.311	
Total	583.70			
F Crit			0.073	3.032

The p -value of 0.738257811 shown in Table 8 is greater than 0.05. Thus, the difference across the three semesters is not significant.

Retention Statistics and Trends

The transition from high school to college is fraught with difficulties for many students. The inability to adequately manage time, to prioritize commitments, to motivate themselves, to clearly set goals and abide by them, to meet university academic standards, to adapt to their new

social and academic environment, and financial difficulties, are only some of the factors that cause lower-than-acceptable performance. This is especially true for e-learners who, when lacking motivation or time-management skills, tend to fail or drop out more frequently than do other students. These factors translate into a need for increased academic and personal counseling programs to improve student retention (Salinitri, 2005). In a survey of 4,100 learners, Corporate University Xchange found that “85 percent dropped out of online courses versus 15% who dropped out of traditional face-to-face classrooms in 2001” (Alexander, 2002). In a similar study, one higher education institution reported a “58 % completion rate in the same courses offered in a traditional classroom setting” (Carr, 2000).

Table 9 shows that freshman (online and on-campus) percent rate dropped at Southern University at New Orleans.

Semester	No. of Students	% Loss
Fall 2007	296	-
Spring 2008	225	24%
Fall 2008	130	42%

Table 10 shows the dropout percentage of freshman taking online courses.

Semester	Online Students	% Loss
Fall 2007	68	-
Spring 2008	54	21%
Fall 2008	33	39%

FINDINGS

Table 11 shows instructors' and students' perceptions of teaching and learning online.

Statements	Student Perception (%)					Instructor Perception (%)				
	SA	A	N	D	SD	SA	A	N	D	SD
Instructors offer adequate course assistance/discussion	23.8	31.3	32.4	10.0	2.5	9.1	22.7	40.9	18.2	9.1
Existing factors in online course are frustrating	11.0	17.1	58.5	7.3	6.1	31.8	38.6	16.0	0.0	13.6
Online teaching and learning need improvement	19.8	16.0	54.3	9.9	0.0	40.0	42.2	9.0	4.4	4.4
Online students/faculty need more training and orientation	15.0	23.8	55.0	3.7	2.5	45.5	40.9	6.8	2.3	4.5

About 55.1% of freshman students agree that instructors offer adequate course assistance, while only 31.8% of instructors agree that they offer adequate course assistance/discussion; 40.9% of instructors are undecided. Instructors' comments from the survey read "Those of us who are older faculty members have knowledge but still need more intense training on Blackboard as do the older students. We need additional trainers/support personnel." In addition, "The faculty assigned to teach online courses should be well prepared in advance of the start of the semester or term he/she is teaching. It is not acceptable to have a faculty member assigned to the course a day before or a week after the session begins."

About 28.1% of students and 70.4% of instructors are frustrated by existing factors in online courses while 58% of students are undecided. In SUNO's survey, an instructor commented, "As an online instructor, all of my courses have more than 25 students enrolled. This factor affects quality education. Exams are made as multiple choice/True and False questions so that I can realistically grade all 55 students' assignments for each module. SUNO should enforce the rule of thumb as the Tennessee consultants recommended that only 25 or fewer should be enrolled in each class. This will definitely help the quality of online learning."

Though 54.3% of students are undecided on online teaching and learning improvement, 35.8% of students and 82.2% of instructors agree that online teaching and learning need improvement. This finding is supported by an instructor's comment from the survey, "The system has too many bugs, crashes, and other technical issues. Also I think that online proficiency assessment should test students [*sic*] ability to read & follow directions regarding how online classes will be conducted. Also, e-learning should look into Model and other competitors."

The survey shows that 38.8% of students and 86.4% of instructors agree that both students and faculty need more training and orientation. In SUNO's survey, an instructor commented "Training should be on-going [*sic*] and not just aimed at beginners. Additional platforms (for instance, Second Life) should be explored and utilization encouraged, as appropriate. Effort must be accompanied with rewards." Further, a student commented "There should be more professors that are strictly online professors. This would give them a better opportunity to concentrate on learning the Blackboard system and therefore being able to offer a better experience to online students. Some professors are not sure how to utilize the system to its fullest potential. So, it is difficult to expect the students in those classes to perform at the best of their ability."

Student/Instructor Perceptions vs. Online Grade Distribution

Results from Figures 1 and 2 (see appendix) combined, when compared to online grade distribution, reflect a pattern in grade distribution across the three semesters. It can be argued that due to instructors' inadequate course assistance (40.9% neutral), frustrated instructors (70.4%) due to existing factors in online courses, lack of improvement in online teaching and

learning (82.2% for instructors, 35.8% for students), and lack of orientation and training (86.4% for instructors, 38.8% for students), student performance was greatly affected in all three semesters as shown in Figures 3, 4, and 5 (see appendix).

In Fall 2007 (Figure 3) 67.6% of students made D and F grades. Only 24.8% earned A and B grades and 7.6% earned a C grade.

According to Figure 4(Spring 2008) 64.9% of students earned D and F grades;10.6% earned a C grade which reflects a 3% increase compared to Fall 2007. Though A grades from Fall 2007 to Spring 2008 increased by 4.4%, the 24.5% the combined A and B grades in Spring 2008 represents a 0.3 % drop from Fall 2007.

Figure 5 shows that students' performance improved in Fall 2008. About 60.7%of students earned D and F grades (an improvement of 4.2% from Spring 2008). C grades from 10.6% in Spring 2008 to 14.3% in Fall 2008, increased by 3.7%. Further, 25% of students achieved A and B grades, representing a 0.5% increase from Spring 2008.

Causes of grade improvement in Fall 2008 may be investigated in future surveys to determine reasons for improved student performance.

PROPOSED MODEL

It is evident that there is a lack of significant improvement in students' performance and retention(the numbers do not reflect a significant improvement in student performance and retention.)Thus, new and innovative directions/approaches are necessary to ensure improvement in learning outcomes. Instructors offering online courses or face-to-face traditional classes can motivate students and enhance the learning outcome by supporting and facilitating the learning process. Figure 6 illustrates future modules for assessing students' learning processes with the online instructor acting as a motivator to enhance student's outcome.

As demonstrated in Figure 6, the instructor enhances online learning by implementing new software in order to redesign the delivery of online courses (1A), by creating effective presentations with voice and animations (1B), and by learning how to use new tools to organize, prepare, teach and monitor the online class (1C). These processes enable the instructor to establish and encourage online students' learning outcomes through innovation, collaboration and implementation of new ideas.

Assessment in the "Student" column is based on the student's demonstration of critical thinking ability (2A), an illustration of collaborative effort by using chat rooms, etc., to implement the learning process (2B), and the incorporation of new ideas to improve the learning process (2C). A student who follows these learning processes should be able to demonstrate an improved learning ability (2D).

Students should benefit from these enhanced learning methods and will be graded accordingly. This process should be replicated in such a way that both students and faculty

advance their intellectual skills. Implementing such a technique should improve the student's learning process and retention (Omar, Kalulu, & Bhutta, 2008).

As information technology advances, it is critical that faculty and students keep themselves up-to-date. In order for the proposed model to work, both E-learning and Information Technology departments have to encourage and support professors' attempts to enhance online teaching. Furthermore, colleges and universities should find possible ways of securing finances in order to support IT and e-learning projects. Additionally, it is vital that institutions of higher education hire knowledgeable IT and E-learning staff who can determine optimum ways to implement technology into a school's individual curriculum. Also, it is essential to provide an excellent testing space or environment for online faculty to carryout e-learning experiments. Offering these technological opportunities should make professors innovative in online teaching.

CONCLUSION

Student data from SUNO's Information Technology Center for Fall 2007, Spring 2008, and Fall 2008 were analyzed to determine whether significant differences emerged in online courses across the three semesters. Microsoft Excel 2007(ANOVA) and SPSS Statistics17.0 were used to analyze the data; findings indicated that online grade point averages increased from 1.04 to 1.13 and from 1.13 to 1.23. ANOVA single factor analysis gave a *p*-value of 0.738257811, which was greater than 0.05, indicating no significant difference across the three semesters.

The e-learning department at SUNO, which offered 15 courses per semester before Hurricane Katrina, now offers more than 100 courses per semester. Despite this growth, our survey indicates that the department needs to expand even further and to provide better services and opportunities for faculty and students. Currently, the training provided to students and faculty by the e-learning department is inadequate, which accounts for some of the high failure rate relative to ground-based courses. To enhance online teaching, the administration should ensure that faculty members keep their knowledge of e-learning current through developmental processes such as research, attending conferences, workshops, etc.; should provide a continuing forum in which faculty members keep abreast of recent thinking about e-learning (social, technological, psychological etc.); and should implement the proposed model depicted in Figure 6. As a first step in an overall strategy to improve e-learning at SUNO, the administration has implemented the policy that new freshman starting in Fall 2009 should not take online classes until they become familiar with university environment.

As long as institutions of higher education continue to replicate traditional approaches online and to treat all students as if they were the same, the "no significant difference" phenomenon will continue. As administrators or instructors consider ways to design more effective online learning environments, they should think of students as individuals and not as homogeneous groups.

RECOMMENDATIONS

Instructors and students who are motivated, prepared and supported are more likely to succeed in e-learning. Generally, it is unreasonable to expect experienced face-to-face instructors to function well in an online environment without specific training. These instructors should be assisted in transitioning to the online environment, trained and mentored, and provided with written resources about problems that are likely to arise in online courses (Phipps & Merisotis, 2000). Primary and ongoing training, mentoring, and assessment of effectiveness are critical to the success of online learning and teaching. Instructors' training should be facilitated by hands-on, face-to-face lab sessions to assist them in the initial exploration of online learning management systems. The online delivery will provide opportunities for prospective online instructors to experience the anxiety, uncertainty, and other challenges that new online students encounter. In addition, during the primary training, colleges and universities should initiate a support forum facilitated by an experienced online instructor (Smith, 2005). This implementation will enable instructors to engage in collaborative learning through online discussion, thereby forming a mutual support community and encouraging communication among all instructors.

Instructors may need to teach students about online learning, especially in courses that have many new online students (Palloff & Pratt, 2001), in order to promote active learning techniques (Moore, Winograd, & Lange, 2001). Instructors should accomplish this without overwhelming new students who may not be familiar with the online learning platform, the software needed to support learning, the policies and procedures of the institution, the basic study methods, and the uncertainties inherent in electronic communication that may generate fear and anxiety (Smith, 2005).

Instructors must maintain the momentum of the course (Coghlan, 2008) by confronting students who are not participating (Palloff & Pratt, 2001) or are disruptive (Ko & Rosen, 2001). As facilitators, instructors should focus not only on course content but also on development of an online community which encourages peer interaction. Student-to-student and student-to-instructor interactions are essential to the success of e-learning.

E-learning is an increasingly sophisticated tool for teaching students valuable new skills and upgrading their proficiencies as well as exposing them to new products and services, equipment and procedures.

LIMITATIONS AND FUTURE STUDY

This study only compared online grades for freshman students at SUNO across three semesters. Further surveys are needed to investigate the challenge facing institutions if they are to continue with quality online courses and reduce retention drop rate. Additionally, institutions

should conduct research designed to determine the most efficient and effective paths for online students in order to enhance student retention, critical thinking and outcome.

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APPENDIX

Figure 1: Student Perception

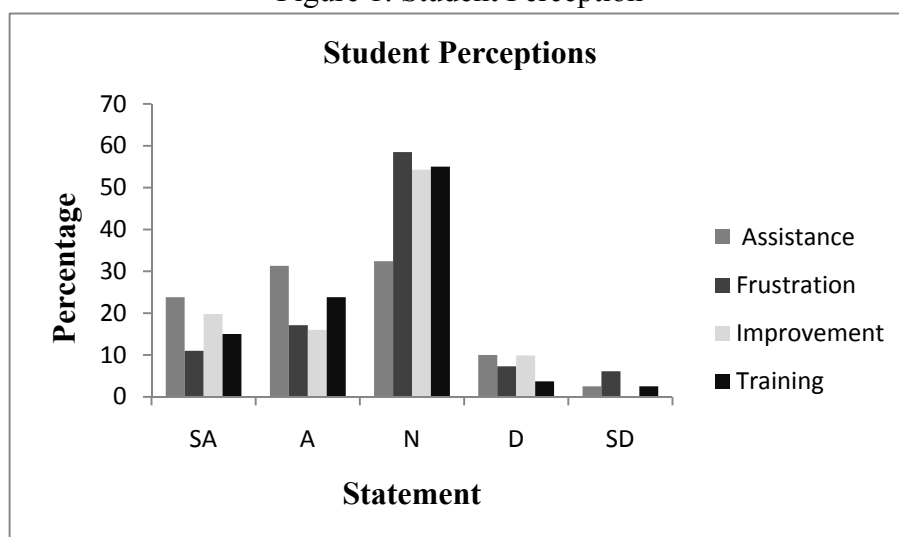


Figure 2: Faculty/Instructor Perception

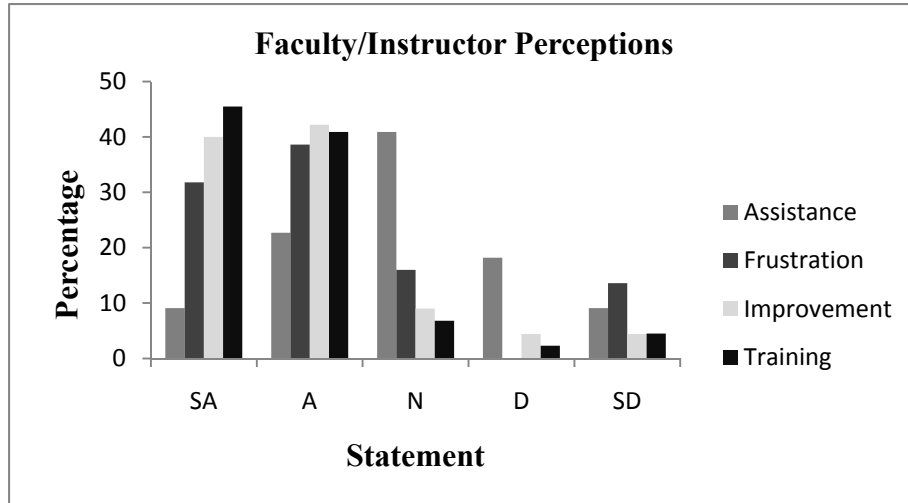


Figure 3: Fall 2007 Online Grade Distribution

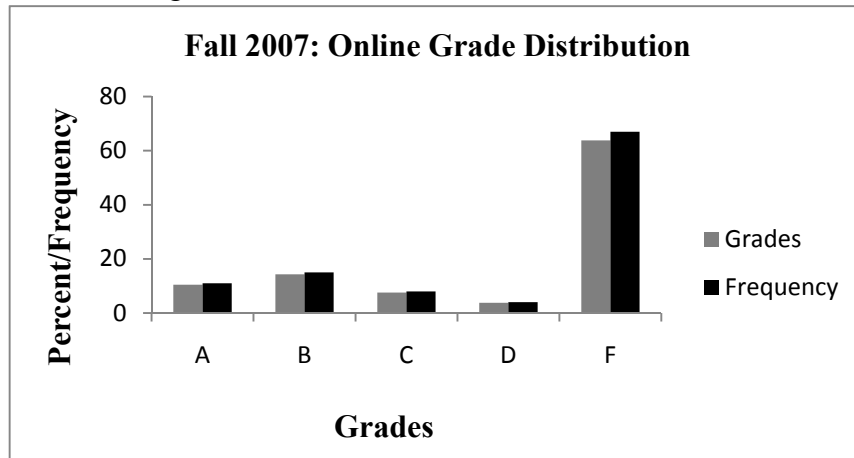


Figure 4: Spring 2008 Online Grade Distribution

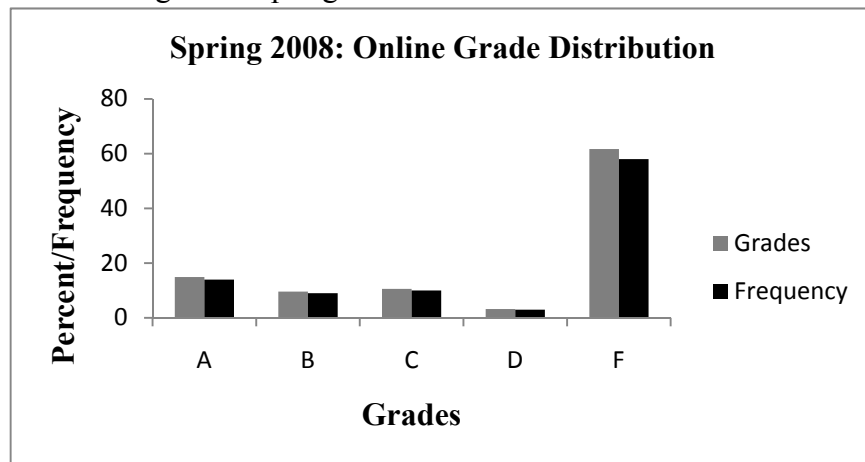


Figure 5: Fall 2008 Online Grade Distribution

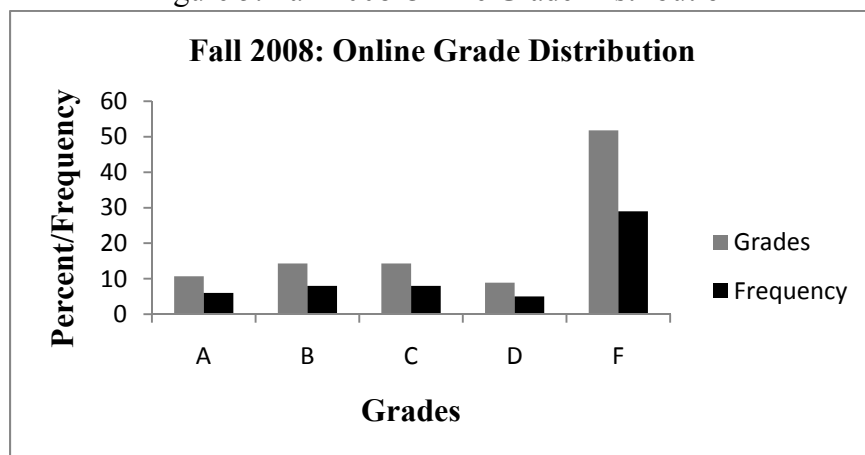
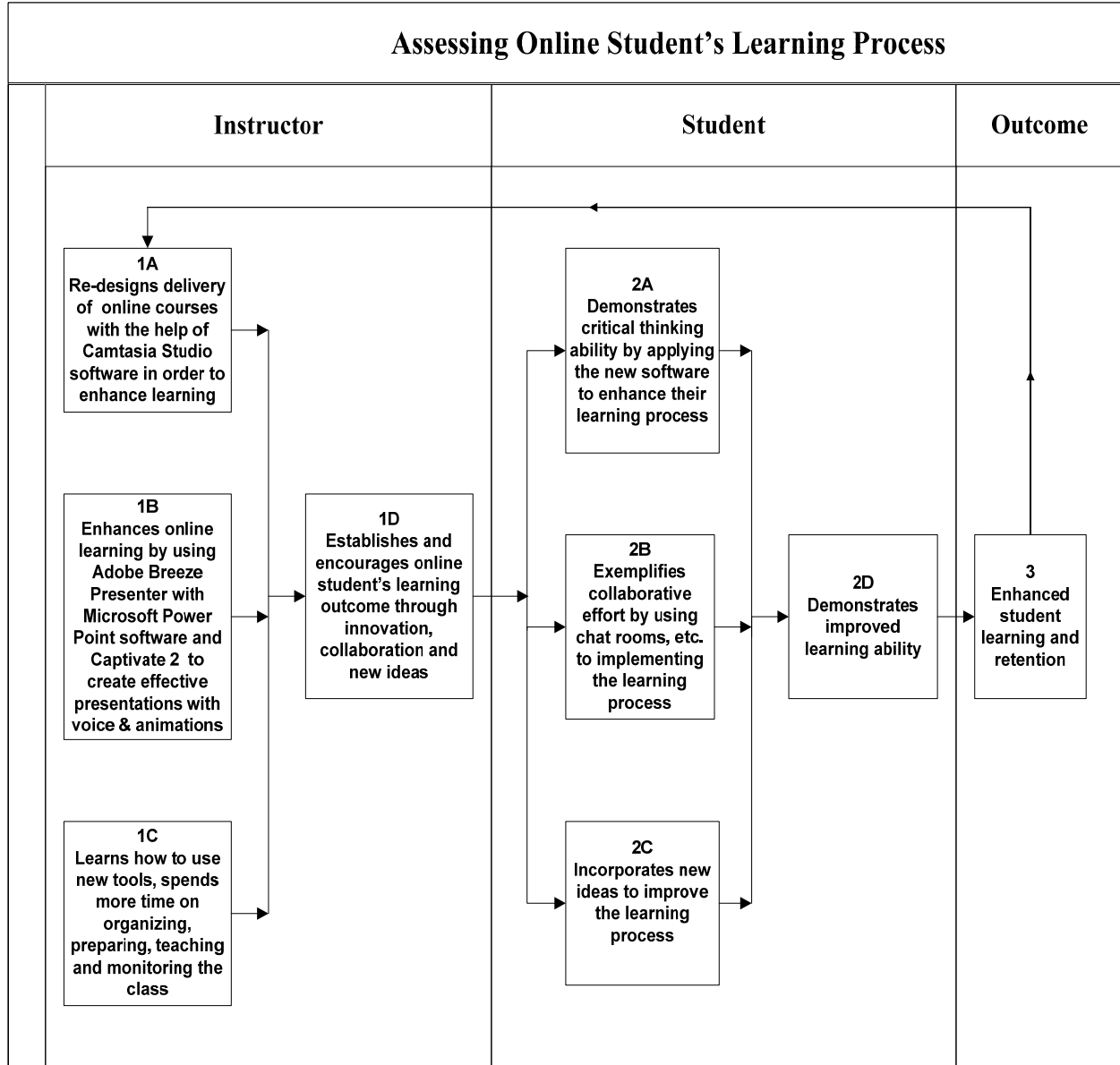


Figure 6: Assessing Student's Learning Process



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