

Student Backgrounds vs. Behaviors in e-Learning: A Case Analysis of E-Campus Coursework

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ABSTRACT

No sooner than the e-Campus Three Digital Learning System was introduced into our university, did students find themselves with more obligations to fulfill. In addition to attending the two-hour lecture every week, those who took the required course 'A General Introduction to Western Literature/Culture' in the fall semester of 2007 were supposed to keep weekly reflective journals (also known as learning logs), take quizzes, submit assignments and download handouts online in the virtual classroom. These students belonged to four different classes, each with a specific background. According to their learning logs and questionnaires, the researchers analyzed their online learning behaviors in relation to their educational backgrounds.

Keywords: e-learning, online learning behaviors, educational backgrounds, reflective journals/learning logs

INTRODUCTION

Teaching multi-level large classes in the Technical and Vocational Education System (TVES) of Taiwan is not easy (Wen, 2007). Such ideal circumstances as one-on-one interaction between a teacher and a student are the exception rather than the rule. It is important to explore the use of support structures in teaching large classes where the circumstances are less than ideal yet most teachers have to work nevertheless (Lier, 1996). E-learning system is a promising support structure that promotes peer interaction and enables peers to support one another's learning.

Students in modern time are no longer those the traditional educational system was

designed to teach. As called by Lynn Zimmerman and Anastasia Trekles Milligan (2007), they are the born “net generation,” who speak the digital language of computers, video games, and the Internet as their native language. We are not exaggerating when saying that they are the “digital natives” (Prensky, 2001, p. 1). However, as teachers, we are mostly “digital immigrants” (Prensky, 2001, p. 2) who learned the identical language later in adolescence or adulthood. To talk to students, teachers ought to command students’ native language of the advanced technologies. These are reasons why the researchers decided to incorporate e-Campus Three Digital Learning System (abbreviated as e-Three System in the following discussion) into the coursework when it was first launched in National Formosa University (NFU) in January 2007. It is actually the third version of the program developed by National Chiao-Tung University in collaboration with 3Probe Technologies®.

With this system, students taking the required course ‘A General Introduction to Western Literature/Culture’ had more requirements to fulfill than attending the lectures two hours a week. They were supposed to publish their weekly reflective journals or learning logs there. They had to take quizzes and submit group assignments there too. They were also allowed to download handouts, answer questionnaires and see works done by others. The students responded differently just as their backgrounds varied. They belonged to four different classes in the Department of Applied Foreign Languages (DAFL) in NFU. Each of the four classes was with a specific educational background. One was of the five-year junior-college program (5AFL). These students joined the institute right after graduation from junior highs. At that point they were at quite an early age, around sixteen. Another class was of the four-year college program in the night division (NAFL). It consisted of senior and vocational high graduates. Many were in-service workers though some were full-time students too. Still two other classes were made up of sophomores in the four-year college programs of the day division. Although both classes came from technical and vocational senior highs, the programs they attended were of two different types. Class A (AFL2A) was made up of business majors while class B (AFL2B) comprised of language majors. Both along with the night class would eventually receive a degree of Bachelor of Business Administration (B.B.A.) upon fulfilling all requirements. However, 5-year program students would get a diploma instead (see Table 1).

Table 1 Participants

Programs	4-Year College Programs			Five-Year Junior College
Year of Study	2nd			5th
Abbreviation	AFL2A	AFL2B	NAFL	5AFL
Name of Course	A General Introduction to Western Literature			A General Introduction to Western Culture
Major	Business	Language	Business	Business
Degree/Diploma	B.B.A.			Diploma

RESEARCH BACKGROUND

According to Lee & Lee (2008), the e-learning system is defined as a web-based information system of teaching and learning methods that allow flexible learner-centered education. In their definition, e-learning provides an inter-disciplinary approach between information technology and educational engineering. As for the researchers, the e-Three System works as a powerful tool of ongoing interaction between teachers and students, students and course content, and among students (Wen, Tseng, & Lai, 2008). Some suggestions made by students were really conducive to teacher-student relationships in class. Therefore, the system contributed to classroom interaction too. With students' reflective journals, teachers were enabled to assess students' understanding of the course content and to give feedback and clarifications. The virtual classrooms became a platform where ongoing assessment of lectures in the classrooms and adaptation of various types of support can be attained through the "*dialogic and interactive*" (Puntambekar & Hübscher, 2005, p. 3) nature of scaffolded interaction online. Oliver and Herrington (2001; quoted in Wu & Liang, 2007) also proposed a theoretical framework for online learning with which the researchers would like to present the coursework design in e-Three System. In their structures of e-learning design, the virtual learning environment is composed of three major elements: learning tasks, learning support, and learning resources.

In e-Three System, learning support such as syllabi and records of weekly progress were offered to the students in the Introductory Section. Students who overslept or missed some classes for whatever reasons or excuses were allowed a second chance. They made up for the loss by visiting this section and studied the teaching materials in the Document Area. The weekly records of progress served well as a tentative course plan or a memorandum of what was already done. By posting announcements, teachers informed students of further details concerning their presentations, examinations, and

assignments which they failed to make clear in class. For students, these announcements were good reminders of how well they had been doing since the records of their mid-term scores were made known there.

Their online learning tasks were classified into two types: compulsory and optional. Students were required to write a learning log each week. They were evaluated two times respectively in the middle and at the end of the semester according to how many messages they had posted. Two examinations on the first unit were given online. Students' PowerPoint slides of mid-term and final presentations were uploaded to the platform. These were their compulsory digital learning tasks. The optional online learning tasks include downloading online handouts, mock tests and other supplementary materials such as lists of online resources and reference books. The questionnaire was also optional. In addition, they were able to see and download presentation files of others. Learning resources included videos shot during mid-term and final presentations. The researchers also offered a link to another platform (Author Plus®) where there were ten sets of exercises. In the e-Three System, students also found audio-visual files prepared by the teacher with Mimic Builder®. They were transformed into web pages by the Digital Learning Center of NFU and linked to e-3 System in the Announcement Area. A course assistant (CA) offered by the Teaching Excellent Project helped score students' records and answer students' questions. The design is portrayed in Figure 1.

METHODOLOGY

In this research, the major approach to probe into students' online behaviors was through questionnaires. Connection was drawn by the researchers between students' online behaviors and learning attitudes in their actual classrooms off line. The questions are listed in Table 2.

Table 2 Survey on Students' Online Learning Behaviors

No.	Question
1.	How much time did you spend in the virtual classroom per week?
2.	Did you take the two online quizzes?
3.	How do you feel about the interface?
4.	Did you do the exercises at Author Plus®?

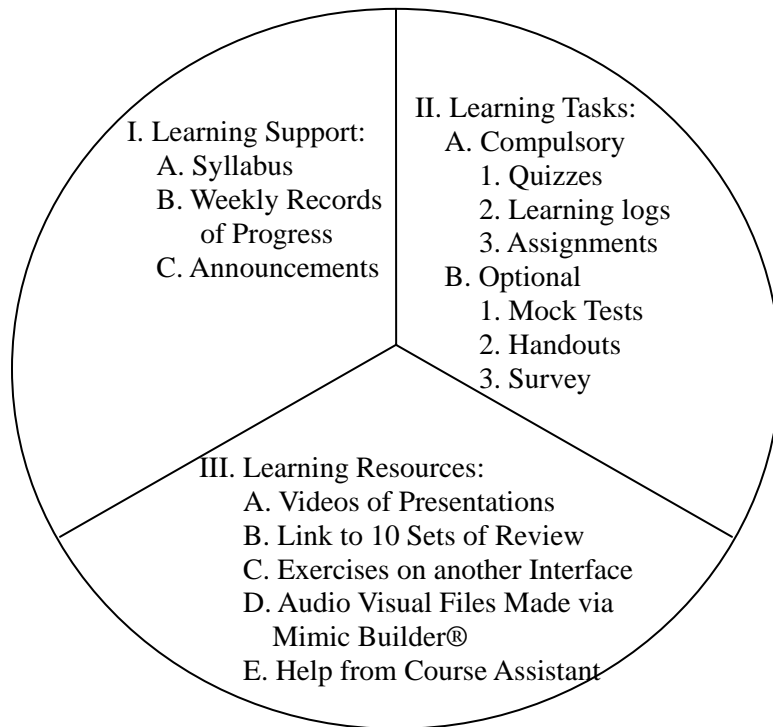


Figure 1 Online Learning Construct: The Coursework Design
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RESULTS & DISCUSSIONS

How much time did you spend in the virtual classroom per week?

5AFL stayed the longest time in the virtual classroom. Twenty-two out of 31 (70.97%) interviewees spent a weekly average of more than half an hour online in it. Twenty-eight of NAFL stayed more than half an hour every week in their virtual classroom and that took up 57.14%. AFL2A spent the least time: thirty students spent more than half an hour in it weekly and that took up 56.6% (see Table 3).

Table 3 Time Spent in the Virtual Classrooms per Week

Class	How much time did you spend in this virtual classroom per week?							
	< 30 mns.		31~60 mns.		61~90 mns.		> 91 mns.	
5AFL n = 31	9	29.03%	18	58.06%	3	9.68%	1	3.23%
AFL2B n = 31	9	29.03%	21	67.74%	1	3.23%	0	0%
NAFL n = 49	21	42.86%	20	40.82%	6	12.24%	2	4.08%
AFL2A n = 53	23	43.40%	28	52.83%	2	3.77%	0	0%

Common to both classes of sophomores is the fact that nobody spent more than one hour and a half in the virtual classrooms per week. The scenario was totally different in the other two classes: 12.91% (4 out of 31) of 5AFL students spent more than one hour

per week in the virtual classroom while 16.33% (8 out of 49) of NAFL stayed for more than one hour in it each week. Why so? How come AFL2A and AFL2B with different educational backgrounds bear similitude in their online learning behaviors? By examining their answers to Question 3 in Table 2, an explanation can be achieved.

How Do you feel about the interface: Is it Easy to Handle?

Although all of the four classes got more than ninety percent positive answers to this question, these sophomores in the day division got particularly high percentage in this respect. Less than 2% (only 1 out of 53) of students in AFL2A found it difficult to work in the e-learning platform while less than 4% (only 1 out of 31) of AFL2B students found it hard. The statistics can be seen in Table 4. Both classes found it easy to work in the digital learning environment. The phenomenon that they did not stay long in the virtual classrooms may be a consequence of the Law of Diminishing Marginal Utility. According to Slate (2000), diminishing marginal utility gently pushes users to explore newer areas that assuredly yield higher marginal utilities. These learners appear to be more willing to find excitement or freshness elsewhere that seems to be more worth exploring.

It is noticeable that not any one in the four classes said that they hated the interface although their backgrounds vary. It is not far from the truth to draw the conclusion that the digital learning system is just the right way for teachers to communicate with the learners after class, for its language is their native language.

Table 4 Is it Easy to Use the Interface?

Class	How do you feel about the interface?							
	Easy to handle.		Not too hard.		Very difficult.		I hate it.	
AFL2A n = 53	29	54.72%	23	43.40%	1	1.887%	0	0%
AFL2B n = 31	10	32.26%	20	64.52%	1	3.26%	0	0%
5AFL n = 31	14	45.16%	15	48.39%	2	6.45%	0	0%
NAFL n = 49	16	32.26%	29	59.18%	3	6.12%	0	0%

Did you take the two online quizzes?

Students' answers to the second question in Table 2 revealed great differences. Somehow 4 of those language majors in AFL2B did not even bother to take the two online quizzes and they took up 12.9% of the class. This did not come as a surprise, for this result just closely corresponds to the cold learning attitude of the class. Only 9 students in NAFL got perfect scores in both quizzes. That took up 18.37%. This did not come as a surprise, either, because the admission threshold for night school students is much lower than those in the day division.

Table 5 Did you take the two online quizzes?

Class	Did you take the two online quizzes?							
	No.	I did one only.		I did both.		I got 100 for Both.		
AFL2A n = 53	0	0%	0	0%	11	20.75%	42	79.25%
5AFL n = 31	0	0%	1	3.23%	10	32.26%	20	64.52%
NAFL n = 49	2	4.08%	2	4.08%	36	73.47%	9	18.37%
AFL2B n = 31	4	12.9%	8	25.81%	18	58.06%	1	3.23%

Did you do the exercises at Author Plus®?

A link connected to another platform online (Author Plus®) offered ten sets of exercises. The students were asked whether they did those or not. Whether they got hard copies and went on to do other exercises of the site was also questioned. No body (0%) in AFL2B did that. It did not disappoint the researchers because of their indifference in class. More than one third (38.71%) of them (12 among 31) did not even go to that website. However, in 5AFL, only one (3.23%) student did not go there. In fact 96.77% (30 among 31) of them did and 61.29% of them (19 out of 31) finished them all. Seven (22.58%) of them got hard copies of the questions. What really surprised the researchers was that 2 respondents (4.08%) in NAFL took extra effort to do other exercises of Author Plus. Most of these students were part-time students and had to work full-time. Yet in AFL2A and 5AFL where most students are full-time only one in each went on to do other exercises there. These NAFL students may have been in more urgent need of help from the teacher since they were weaker upon entrance. These results can be seen in Table 6.

Table 6 Did you do the exercises at Author Plus®?

Class	Did you do the exercises at Author Plus®?									
	No, I did neither.		Yes, but just a little bit.		Yes. I finished them all.		Yes and I printed them out.		I got hard copies & did others.	
5AFL n = 31	1	3.23%	11	5.48%	11	35.48%	7	22.58%	1	3.23%
NAFL n = 49	11	22.45%	19	38.78%	7	14.29%	10	20.41%	2	4.08%
AFL2A n = 53	15	28.30%	22	41.51%	14	26.42%	1	1.89%	1	1.89%
AFL2B n = 31	12	38.71%	12	38.71%	6	19.35%	1	3.26%	0	0%

CONCLUSION

From the statistics shown above, the researchers really observed some phenomena that can be related to student backgrounds. Students in AFL2B, the language majors, were especially indifferent towards learning both in class and in the virtual classroom.

The percentage of them who missed to take quizzes and to do exercises ranked the highest among all the four classes in the same department.

One phenomenon is especially interesting in the virtual classroom of the 5AFL. Many of them posted more than one hundred logs well before the mid-term examination. They responded zealously and eagerly to one another's logs. This situation continued till the end of the semester. They wrote countless messages, responding to one another's messages as soon as any was posted. Some were answering questions in the teacher's stead. Among them the researchers observed a phenomenon of what Howard Rheingold (1993) called as "gift economy." According to Rheingold, when people are doing things for one another out of a spirit of building something between them, they get more than just a transcript or a sheet of academic record. As such a mindset pervades, types of the gifts exchanged can be diversified. Every one gets a little extra something, a little more than just practical transactions of ideas or substances. The source of this phenomenon can be traced back to the students' educational background. These students have stayed with one another since their graduation from junior high school. And they knew one another quite well with the previous years spent together. Among them, they had something that was already built. They were just encouraging one another as they were accustomed to in their already existing relationships. Yet such a gift economy was not readily visible among the other three classes. Both language majors and business majors found it easy to work in the digital learning system. Although they were different in their educational backgrounds, they both spent the least time weekly in there. As mentioned above, this can be a result of the Law of Diminishing Marginal Utility. It was likely that they wanted to find something even more interesting and exciting where the marginal utilities were considered to be higher. As Slate (2000) declared, virtual space of the Internet extends the potential of applying all kinds of theories to its interpretations. Online learning system, as testing grounds of all kinds of theories, can be measured against many theories. The economic perspective as employed above is just one of them.

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