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An Exploratory Analysis of Education Students'
Preparation and Interest in Taking an Online Course¹

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¹ Paper presented at the Annual Meeting of the Georgia Educational Research Association, Clayton College and State University, Morrow, GA, October 2000.

Abstract

This paper explores questions associated with university students' characteristics and online courses. What computer skills do students currently possess? Is there a relationship between student characteristics and their interest in enrolling in an online course? What are some of the possible reasons why students would not consider enrolling in online courses? What could colleges do to make online courses more desirable? Students in undergraduate-level (N=132) and graduate-level (N=48) educational psychology courses at a medium-sized southeastern university were administered the Utilizing Technology Questionnaire (UTQ). Seven recommendations are made that should be of interest to faculty and administrators developing online courses.

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Data indicate that Americans are buying computers and connecting to the Internet at an incredible speed (e.g., Feather, 2000; Read, 1998). In an attempt to help reach individuals with computer access, higher education has sought to deliver distance instruction through an electronic medium. Web-enhanced and web-based course delivery is becoming increasingly viable and of interest to potential students; instructors have been encouraged to begin development of courses that take advantage of this viability and interest (Huitt, 1999). In fact, in a recent survey completed by the National Education Association (2000), close to half of all distance education courses are web-based. At least one university is requiring students to take an online course each year (Associated Press, 2000). Additionally, specific instructional activities for web-enhanced and web-based courses have been identified (e.g., Alley, 2000; Huitt, 2000). However, there is still an important issue to be addressed: are students ready and willing to enroll for online courses? What computer skills do students currently possess? Is there a relationship between student characteristics and interest in enrolling in an online course? What are some of the possible reasons why students would not consider enrolling in online courses? What could colleges do to make online courses more desirable? This study is designed to begin to address these questions.

Method

A questionnaire was given to 180 students in undergraduate- and graduate-level educational psychology courses at a medium-sized southeastern university (132 undergraduate and 48 graduate) during the fourth week of the semester. For students enrolled in an on-campus section, the questionnaire was administered by faculty; students in an on-line section completed the

questionnaire via the Internet. No incentives were given to students who completed the questionnaire.

The Using Technology Questionnaire (UTQ) solicited data on basic demographics (e.g., age, major, distance from campus, non-academic responsibilities), computer equipment available at home and computer-based activities that the students had done. For students enrolled in an on-campus section, data were also collected on whether students had considered enrolling for an online course and what it might take for them to do so.

Results

The findings of this research will be discussed in five sections related to the issues addressed: (a) course enrollment demographics, (b) the relevant computer skills the students currently possessed, (c) an analysis of student demographics based on whether the students would or would not consider enrolling in an online course, (d) reasons students gave for not considering enrolling in online courses, and (e) what colleges could do to make online courses more desirable.

There were 180 students who provided information through the UTQ. Eighty-six (47.8%) were enrolled in the PSYC 3110: Educational Psychology, a course that discusses psychological principles, laws, and theories pertinent to the teaching and learning process. This course is primarily for middle grades and secondary education majors. Forty-six (25.6%) were enrolled in PSYC 3120: Psychoeducational Aspects of Early Childhood, a course that is focused on early childhood development in the school environment. Thirty-nine (21.7%) were enrolled in PSYC 7010: Learning and Assessment, a graduate course that prepares students to apply learning and assessment principles in school settings. Nine (5.0%) were enrolled in PSYC 7020: Conditions of Learning, a graduate course primarily for school counselors and school psychologists that

focuses on the application of learning theory and developmental principles to educational settings.

[Place Table 1 about here]

A major research question was whether or not students had the necessary skills and access to be successful in an online course. Most students in this sample seemed to have home access and perfunctory knowledge of hardware and software necessary to participate in an online course. For example, 71 (82.6%) of the PSYC 3110 students, 43 (93.5%) of the PSYC 3120 students, and 46 (95.9%) of the PSYC 7010 and 7020 graduate students had a computer at home. Not only did students have access to home computers, many had experience with common tools utilized in electronic distance learning. For example, 82 PSYC 3110 students (95.3%), 45 PSYC 3120 students (97.8%), and 48 PSYC 7010 and 7020 students (100%) had previously used the Internet. Additionally, 75 PSYC 3110 students (87.2%), 36 PSYC 3120 students (78.3%), and 37 PSYC 7010 and 7020 students (77.1%) had downloaded files from the Internet. It was interesting to note that students reported less familiarity with some of the more advanced software and tools that are utilized in online courses. For example, only 18 PSYC 3110 students (20.9%), 7 PSYC 3120 students (15.2%), and 25 PSYC 7010 and 7020 students (52.1%) had utilized WebCT. Students did not seem to have as much familiarity with communication software such as Yahoo Messenger and Netmeeting. Thirty-three PSYC 3110 students (38.4%), 22 PSYC 3120 students (47.8%), and 19 PSYC 7010 and 7020 students (39.6%) had used Yahoo Messenger. Four PSYC 3110 students (4.7%), 3 PSYC 3120 students (6.5%), and 8 PSYC 7010 and 7020 students (16.7%) reported having utilized Netmeeting software.

[Place Table 2 about here]

It was of vital interest to this research to determine what conditions or characteristics of individuals might influence whether or not they would be interested in enrolling in an online course. Therefore, the data were analyzed by means of cross tabulating student characteristics with whether students would consider enrolling in an online course or not. The results of this analysis are shown in Table 3. The student characteristics that were assumed to exert influence over the enrollment decision were level of course (undergraduate versus graduate), age, and major (elementary education, middle grades education, secondary education, and special education).

Distance from campus seemed to play a role in whether or not an individual would consider enrolling in an online course. Only 11 of the 111 students (9.9%) of those who lived locally or within 50 miles of campus stated they would consider enrolling in an online course. However, 6 of the 24 students (25%) who lived more than 50 miles from main campus stated they would consider taking an online course. In terms of responsibilities, children at home seemed to be more important than working full-time (22.6% versus 13.8%).

Undergraduates did express more willingness to consider an online course: 16 of the 129 undergraduates (12.4%) versus 0 of the 27 graduate students. There were no differences in terms of age. It did appear, however, that Middle Grades and Special Education majors were more inclined to consider an online course than were Elementary and Secondary Education majors (18.5% and 37.5% versus 11.1% and 11.4%, respectively).

[Place Table 3 about here]

The data from the free response portion of the UTQ regarding why students elected to not enroll in an online course were summarized into 14 possible reasons. The major reasons why students did not consider enrolling in an online class were: was not aware, rather be in classroom

with professor, fears regarding computers and/or online courses, and fears regarding class difficulty.

[Place Table 4 about here]

One of the intentions guiding the creation and administration of the UTQ was to determine what conditions universities could create to make enrolling in online courses more desirable. Data from the students' free responses for this question were categorized into 26 reasons. The most often cited reasons they would enroll in an online course were: more information (19%) and to be aware of it (13%). As stated previously, however, 12.4% of undergraduate students and none of the 27 graduate students stated that they would like to try an online course.

[Place Table 5 about here]

Discussion

This study was undertaken to determine the extent of readiness on the part of students to enroll in an online course and to identify some reasons that might make enrollment more likely. The findings should be considered as exploratory and limited to education majors at Valdosta State University (VSU). This research needs to be replicated among other majors at VSU and other institutions as the findings are likely to be specific to this group of students.

At least for students in this population, it would seem reasonable to conclude that most students have the equipment needed to enroll in an online course: 86.4% of undergraduate students and 95.9% of graduate students have computers at home; 87.9% and 91.7% have access to the Internet, respectively. Additionally, students also have most of the technical skills necessary to enroll in an online course: over 95% of both undergraduates and graduates have used word processing, the internet, and e-mail. Over 80% have downloaded files from the Internet; over 60% have used a program for streaming audio and video files. However, students

will likely need training on interactive programs such as WebCT, Yahoo Messenger or Microsoft Netmeeting if those are to be used in an online course. Experience with these programs might be provided in web-enhanced courses as a preparation for taking a web-based course.

However, the fact that 8 students enrolled in an online undergraduate course while over 90 students enrolled in an on-campus section and 18 students enrolled in the graduate course while 24 enrolled in an on-campus section (with half of the graduate students knowing about the online section) suggests there are issues still to be resolved.

One of the most important is information about the existence of the online course: 83% of the undergraduate students and 50% of the graduate students said they were unaware of the existence of an on-line section. However, when asked if they would consider enrolling for an online course, only 14.2% of the undergraduate students and none of the graduate students said they would.

An analysis of some of the student characteristics that might positively influence the enrollment in an online course the following were found:

- Middle grades majors (19.2%)
- Special education majors (37.5%)
- Children at home (22.6%)
- Living more than 50 miles from campus (25%)

However, when asked specifically if the individual considered enrolling in an online class 75% of the undergraduate students who gave an answer other than “Was not aware” indicated a preference for being in a traditional classroom with a professor or a fear of technology or computers (63% of graduate students gave similar responses). That would indicate that, at least for education majors, there is a significant experience and psychological barrier to having large

numbers of students enroll in an online course. And when asked what it would take to get the student to enroll in an online course, 9% said they would like to try it and 11% gave a very emphatic answer of “No way.”

There may be a learning style explanation for these data. Macdaid (1986) and Tieger (1992) have shown that the learning style of the majority of teachers (about 60%) relies on the senses for information and likes to have the environment ordered and structured. Huitt (1988, 1992) has shown that this particular style must know the details of expectations in order to feel comfortable. People with this learning style are also very social in nature and like to interact with other people as part of the learning experience.

We believe the following recommendations are warranted based on these data:

1. Attention must be paid to preparing students with the technology skills to successfully handle the requirements of an on-line course. Requiring a computer course for all majors apparently does this.
2. Faculty need to integrate computer training components gradually into courses to prepare students to take an online course. Most students will prefer to have several web-enhanced courses before they actually take a web-based course.
3. Undergraduate students, especially those living more than 50 miles from the campus with children at home, may be the most interested in taking on-line courses. However, as graduate students become more familiar with the technology, they may become more interested in online courses. A concerted effort should probably be made to entice these students to enroll in a web-based course as they are more likely to have scheduling and traveling problems that make web-based instruction a viable alternative.

4. Attention must be given to making students aware of the availability of on-line courses. Perhaps bold type for all on-line courses in the printed schedule of classes should be considered.
5. Faculty need to design web-based activities that consider individual differences in learning style. (See Huitt, 2000 for specific recommendations.)
6. If on-line learning is a desired learning experience for successful living in the modern world, it must be required as some students will not take an on-line course unless it is mandated.
7. If online courses are required, the infrastructure must be robust enough to be working continuously. Students expect the classroom always to be available and they expect the same for an on-line course.

In conclusion, we view this study as only scratching the surface of the data that must be collected as we explore the movement towards integrating web-enhanced and web-based teaching into higher education. It is important to caution the reader not to over interpret the data of this inquiry. While there were several interesting patterns in the data, use prudence when interpreting the results. We recommend future study in this area through the sampling of students from other majors at VSU and other institutions. We are just getting started and have a long way to go before the Internet is a tested and accepted means of delivering instruction. We should be just as concerned about sharing our failures as sharing our successes. We can certainly learn from both.

References

- Alley, L. (2000). Criteria for an excellent online course. Paper presented at the Educause 2000 conference, Nashville, TN, October 10-13.
- Associated Press. (2000, October 15). University to require students to take 1 online class a year. The Jacksonville Times-Union, p. A-17.
- Feather, F. (2000). FutureConsumer.Com: The Webolution of Shopping to 2010. Warwick Publications.
- Huitt, W. (1988). Personality differences between Navajo and non-Indian college students: Implications for instruction. Equity & Excellence, 24(1), 71-74. Available online: [<http://chiron.valdosta.edu/whuitt/files/mbtinav.html>].
- Huitt, W. (1992). Problem solving and decision making: Consideration of individual differences using the Myers-Briggs Type Indicator. Journal of Psychological Type, 24, 33-44. Available online: [<http://chiron.valdosta.edu/whuitt/files/prbsmbti.html>].
- Huitt, W. (1999). Web-based instruction: Why and how faculty should get involved. Paper presented at the Seventh Annual Applied Psychology Conference, Valdosta, GA. Available online: [<http://chiron.valdosta.edu/whuitt/files/webfac.html>].
- Huitt, W. (2000). Using the 4MAT system to design Web-based instruction. Paper delivered at the 8th Annual Conference: Applied Psychology in Education, Mental Health, and Business, Valdosta, GA, April 15. Available online: [<http://chiron.valdosta.edu/whuitt/files/4matonweb.html>].
- Macdaid, G. (1986). Myers-Briggs Type Indicator atlas of type tables. Gainesville, FL: Center for Applications of Psychological Type.

National Education Association. (2000). A survey of traditional and distance learning higher education members. Washington, DC: Author. Available online: [<http://www.nea.org/he/abouthe/dlstudy.pdf>].

Reed, S. (1998, October 19). In search of definitive numbers that show the Internet's rapid growth. Info World, 69.

Tieger, P. (1992). Do what you are: Discover the perfect career for you through the secrets of personality type. New York: Little, Brown.

Table 1: Descriptive Statistics of Sample

Course	#	%
PSYC 3110: Educational Psychology	86	47.8
PSYC 3120: Psychoeducational Aspects of Early Childhood	46	25.6
PSYC 7010: Learning and Assessment	37	21.7
PSYC 7020: Conditions of Learning	9	5.0
Total	180	100.0

Table 2: Analysis by Course

		3110		3120		7010/7020	
		#	%	#	%	#	%
Location	On-campus	83	96.5	46	100	33	68.6
	On-line	3	3.5			15	31.2
Major	Elementary	3	3.5	42	91.3	11	22.9
	Middle Grades	28	32.9	1	2.2	2	4.2
	Secondary	37	43.5		0.0	6	12.5
	Special Ed	9	10.6	4	8.7		0.0
	SLP	2	2.4		0.0		0.0
	Fine Arts	3	3.5		0.0		0.0
	Psychology	1	1.2		0.0		0.0
	School Counseling	0	0.0	0	0.0	9	18.8
	Leadership	0	0.0	0	0.0	15	31.3
	Other	2	2.4		0.0	5	10.4
Enrolled	Full-time	69	80.2	41	89.1	22	47.8
	Part-time	8	9.3	2	4.3	24	52.2
	No Answer	9	10.5	3	6.5	0	0.0
Age	18-25	61	70.9	37	80.4	8	16.7
	26-40	19	22.1	9	19.6	30	62.5
	41-55	5	5.8		0.0	10	20.8
Responsibilities	Children	19	22.1	9	19.6	27	56.2
	Work Full-time	18	20.9		0.0	40	83.3
	Work Part-time	48	55.8	29	63.0	5	10.4
Distance	Local	60	69.8	30	65.2	21	43.8
	Within 30 miles	6	7.0	3	6.5	2	4.2
	31-50 miles	5	5.8	3	6.5	10	20.8
	51-100 miles	9	10.5	9	19.6	11	27.1
	101-150 miles	5	5.8	1	2.2	1	2.1
	150 miles +	1	1.2		0.0	1	2.1
Equipment	IBM compatible	70	81.4	42	91.3	43	93.8
	MAC	1	1.2	1	2.2	1	2.1
	Internet	68	79.1	38	82.6	42	91.7
	Printer	72	83.7	41	89.1	42	91.7
	Microphone	26	30.2	14	30.4	33	72.9
	Sound card & speaker	54	62.8	23	50.0	30	65.5
	Scanner	17	19.8	8	17.4	16	33.3

Table 2: Analysis by Course (continued)

		3110		3120		7010/7020	
		#	%	#	%	#	%
Actions Taken	Word Processing	83	96.5	45	97.8	45	97.9
	Spreadsheet	68	79.1	37	80.4	35	72.9
	Database	47	54.7	28	60.9	27	56.3
	CD-ROM	68	79.1	37	80.4	38	81.3
	Connect to Internet	82	95.3	45	97.8	46	100.0
	E-Mail	82	95.3	45	97.8	45	97.9
	Downloaded files	75	87.2	36	78.3	37	77.1
	WebCT	18	20.9	7	15.2	25	52.1
	Real Audio/Media	58	67.4	26	56.5	31	67.6
	Instant Messaging	51	59.3	25	54.3	19	39.6
	Chat rooms	61	70.9	27	58.7	21	45.8
	Listserver/bullet brd	27	31.4	8	17.4	27	56.3
	Yahoo Messenger	33	38.4	22	47.8	18	39.6
	Netmeeting	4	4.7	3	6.5	8	16.7
Taken*	Yes	7	8.4	4	8.7	2	5.3
	No	73	88.0	35	76.1	25	65.8
	No Answer	3	3.6	7	15.2	11	28.9
Aware**	Yes	12	14.5			10	41.7
	No	69	83.1			13	58.3
	No Answer	2	2.4				

* Data for students enrolled in an on-campus section of PSYC 3110 and PSYC 7010 only

** Data for students enrolled in on-campus sections only

Table 3: Analysis by Consideration

		Yes	No	% Yes
Course	3110	11	62	15.1
	3120	5	28	15.2
	7010	0	22	0.0
	7020	0	3	0.0
	Total	17	107	13.7
Age	18-25	12	73	14.1
	26-40	4	28	12.5
	41-55	1	6	14.3
Major	Elementary	4	32	11.1
	Middle Grades	5	21	19.2
	Secondary	4	31	11.4
	Special Ed	3	5	37.5
Responsibilities	Children	7	24	22.6
	Work Full-time	4	25	13.8
	Work Part-time	9	56	13.8
	Other	1	21	4.8
Distance	Local	10	76	11.6
	Within 30 miles	1	8	11.1
	31-50 miles	0	5	0.0
	51-100 miles	5	13	27.8
	101-150 miles	1	4	20.0
	150 miles +	0	1	0.0

Table 4: Did you consider enrolling for an online course? Why not?

Reason	Undergrad	Grad
1. Was not aware	50	3
2. Rather be in classroom with professor	24	3
3. Fears regarding computers &/or online courses	8	1
4. Fears regarding class difficulty	3	1
5. Course not offered	2	
6. Unsure of details of course delivery	2	
7. Have taken online course and didn't like it	2	
8. VSU server problems	2	
9. No computer or internet service at home	1	2
10. Lack of technology or computer skills	1	1
11. Don't like computers/not very personable	1	
12. Lack of social interaction	1	
13. On campus section fit into my schedule	1	
14. Lack of discipline to study by myself	1	
Total	99	11

Table 5: What would it take for you to enroll in an online course?

Reason	Undergrad	Grad
1. More information	19	3
2. To be aware of it	13	2
3. Would like to try one	9	
4. Like the classroom	12	
5. Available for my major	7	1
6. Availability to interact with the professor	7	1
7. Would like to observe or audit one first	3	1
8. An act of God/Never	6	
9. If it was the only way I could take the class	3	1
10. Pay me	2	
11. Not having to drive	3	
12. Schedule conflicts	2	
13. Better computer/technology skills	2	
14. Have computer at home	2	
15. Better internet service	1	
16. Hand in work on paper	1	
17. Faster computer	1	
18. Take combination of traditional and online course	1	
19. Not satisfied/didn't like the one I took	2	
20. See and listen to lectures	1	
21. Other people got bad grades	1	
22. Not having to write all the time	1	
23. More selection of courses	1	
24. If it were easier	1	1
25. Text support and explanations	1	
26. More time		1
Total	102	11

Appendix A

Using Technology Questionnaire

- 1) Course: ___PSYC3110 ___PSYC3120 ___PSYC3130 ___PSYC7010 ___PSYC7020
- 2) Are you a: ___Full-time student ___Part-time student
- 3) Type course currently enrolled in: ___On-campus ___Off-campus ___On-line
- 4) Age: ___18-25 ___26-40 ___41-55 ___56 or older
- 5) Major: ___Elementary ___Middle Grades ___Secondary ___Special Ed ___SLP
 ___HPE ___Fine Arts ___Psychology Other (Please specify):_____

6) Non-academic responsibilities: Check all that apply

- ___Children at home
 ___Work full-time
 ___Work part-time
 ___Other_____

- 7) Are you living: ___in Valdosta/Lowndes County
 ___within 30 miles of Valdosta State University
 ___within 31 to 50 miles of VSU
 ___within 51 to 100 miles of VSU
 ___within 101 to 150 miles of VSU
 ___more than 150 miles from VSU

8) Check the following equipment you have at home:

- ___IBM Compatible Computer
 ___Macintosh
 ___Internet connection
 ___Printer
 ___Microphone
 ___Sound card and speakers
 ___Scanner
 ___Other:_____

9) Which of the following have you done using a computer:

___Word processing	___WebCT
___Spreadsheet	___Real Audio or Windows Media Player
___Database	___Instant messaging
___CD-ROM	___Chat rooms
___Connected to the Internet	___Listserver or bulletin board
___Sent and received e-mail	___Yahoo Messenger
___Downloaded files from Internet	___Microsoft Netmeeting

For PSYC 3110 and PSYC 7010 Students Only

Students enrolled in an on-campus section, please answer the following questions:

10) Were you aware an on-line section of this course was available? _____Yes _____No

11) Did you consider enrolling for the on-line course? _____Yes _____No

11a) If not, why not? _____

11b) If you did consider it, why did you ultimately choose the on-campus course?_____

12) Have you ever taken an online course? _____Yes _____No

12a) If not, what would it take for you to enroll in an on-line course?_____

12b) If you have, what was your experience? How satisfied were you with the course?__

Students enrolled in the on-line section, please answer the following questions:

13) What were some of the factors that influenced you to enroll in an on-line course?

	Very Unimportant	Somewhat Unimportant	No Opinion	Important	Very Important
a) Travel time	1	2	3	4	5
b) Schedule conflicts	1	2	3	4	5
c) Interest in utilizing technology	1	2	3	4	5
d) Past experience with online course	1	2	3	4	5
Other factors: Please list					
e) _____	1	2	3	4	5
f) _____	1	2	3	4	5
g) _____	1	2	3	4	5