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A Portrait of Distance Learners in Higher Education

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Introduction

Distance Education has become paramount as an alternative method of course delivery being used by colleges and universities as they expand access to higher education at both the national and international level. Its hallmark is that technology is used to bridge the instructional gap (Willis 1993) between the instructor and students who are removed from direct, immediate, physical contact (Hassenplug & Harnish, 1998). Through avenues such as distance education, individuals are able to improve their social and economic well being as well as to raise their educational attainment level. In U. S. geographic regions where the student population is widely distributed, public as well as political interest in distance education is especially high (Sherry, 1996). The same holds true for various foreign countries as well; for instance, because of their remoteness away from conventional universities in Australia, many Australian students have decided to obtain their education through distance education (Williams & Sharma 1988, in Sheets 1992).

In essence, the impracticality of attending a conventional institution, scheduling conflicts, and preference for the distance education system itself is what motivates students to choose distance education courses. However, it is important to note that whether offered online, by correspondence study, or by videoconference, distance education is not for everyone. Students often times focus more on the convenience of DE as opposed to the special nature of this type of study. DE courses are usually more time consuming and more demanding than traditional courses. Thus, many students drop DE courses because of the same reason they enrolled in them, busy lifestyles. It is, therefore, important for institutions to provide students with resources that will help them decide if DE courses are right for them Smith (2001).

Distance Education appears to be in a unique position to serve diverse learners who can not or will not participate in the traditional classroom setting. Thus, it is important to examine the characteristics, a portrait if you will, of these learners in order to be able to best serve them.

Review of Literature

Educators are witnessing a global-wide systematic increase in distance education enrollment. Therefore, it is important to examine the characteristics of the online learner, especially since a review of literature reveals that distance education students often share many characteristics.

Ashby (2002) notes that the most common mode of delivery for providing distance education is the Internet, and the majority of distance education students are enrolled in subjects related to education, humanities, and business. Further, reports reveal that distance education enrollment is on the rise. For instance, in 1994, 68% of Canada's community colleges and 54% of their universities were offering distance education courses. Of those universities that had not yet adopted distance education, 94% planned to offer DE courses within the next five years. At the global level in 1998, the United

States dominated the distance education scene accounting for 76% of the courses being offered online. Canada accounted for 19%, Australia 3%, and other countries accounted for barely 2%. However, in India during the period 1975 to 2001, DE increased from 2.6% to 20%. It is expected that there will be a 30- to 40% annual growth of the DE system as opposed to only a 5- to 10% growth for the formal education system (Srivastava, 2002).

According to a report by the U. S. Department of Education's National Center for Education Statistics, there is a proliferation of distance education offerings. This report, The Condition of Education 2002, states that the percentage of institutions offering distance education increased rapidly during the 1990s. It rose from 33 to 44% between 1995 and 1997; and between 1998 and 2001, one-fifth of the nation's higher education institutions planned to start offering distance education courses. Cited in the report were estimates that by 2002, approximately 84% of postsecondary institutions would offer distance education courses. In addition, between 1995 and 1997, the number of classes being offered nearly doubled. A review of NPSAS, an education database consisting of more than 19 million postsecondary students, reveals that the number of students enrolled in distance education has tripled in just four years. It is estimated that approximately one in every 13 postsecondary students in the U. S. is enrolled in at least one DE course (Ashby, 2002).

Of all the students enrolled in distance education, nearly 2 million of them are being served by Minority Serving Institutions—Hispanics, Blacks, and Tribal. Many of these minority students are first generation college students (Ashby 2002). A typical cultural picture of DE students can be seen in a 2002 report submitted to the North Carolina General Assembly. The University of North Carolina (UNC) reported its cultural enrollment which included 14.5% African American, 1% American Indian, 2.1% Asian, 1.6% Hispanic, and 76.5% White. On an international level, Sheets (1992, p. 7) reported characteristics of distance education students enrolled in universities for seven countries: New Zealand, Israel, Canada, Netherlands, Britain, Germany, and Spain. Characteristics of students enrolled in these open universities consisted of the following "in percentage" (Table 1):

Table 1. Characteristics of Students in Open Universities

	Massey U. N. Zealand	Evrymn U. Israel	Athabasca Canada	OU of Nthlds	British OU	FeU FRG	UNED Spain
Age 24 or older	85	69	67	92	95	73	76
Male	37	47	39	67	56	75	70
Female	63	53	61	33	44	25	30
Employed	83	NA	86	73	81	67	88

Explanations and Sources:

Massey University, New Zealand (Tremaine & Owen, 1984)
Everyman's University, Israel (Guri, 1986)
Athabasca University, Canada (peruniak, 1983)
Open University of the Netherlands (Boon & van Enckevort, 1987)
British Open University (Rumble, 1983)
Fernuniversitat: Gesamthochuschule, Federal Republic of Germany (Rumble, 1983)
Universidad Nacional de Educacio'n a Distancia, Spain (Rumble, 1983)
NA: Not Available

Distance education students are typically older than traditional students with the average age being more than 25 years old, and they are more likely to be females rather than males. They tend to have family and a job responsibility that prohibits them from attending traditional classes—being employed full-time while attending college on a part-time basis; and, they are often times disadvantaged by geographic remoteness, generally living in rural areas (Ashby 2002, Halsne & Gatta 2002; Smith 2001; Gilliard 1997; Guernsey 1998). Further, they are more likely to be married and have higher incomes (Ashby, 2002). Gilliard (1997) also notes that distance education students are mature, have a high level of motivation, and do not require instructors to constantly remind them to meet deadlines. They are disciplined, they establish regular study schedules, and they set aside time on a regular basis in order to successfully accomplish their tasks.

Purpose of the Study

Since the dynamic nature of the distance education student precludes a typical student profile, it is important to examine their characteristics in order to be able to best serve them. Thus, this study sought to examine the characteristics of students taking courses through distance education. This information should prove valuable to educators as they strive to develop distance education curricula as well as to implement innovative teaching strategies that best motivate and meet the needs of students.

THE STUDY

Methodology

For this study, data was collected from five randomly selected distance education courses offered through a Business, Career, and Technical Education Department. The medium of course delivery and instruction was the Blackboard system. This system was used by students for asynchronous and synchronous activities which included the discussion board, the virtual chat room, and e-mail. The course syllabus, course information, assignments, and announcements were posted. Students received lectures through printed notes as well as through the use of streaming audio and streaming video.

Population

Participants in the study included 150 students. These students were enrolled in five randomly selected courses being offered through a Business, Career, and Technical Education Department at a large, doctoral II university in eastern North Carolina. The participants were comprised of 39 males (26%), and 111 females (74%). Ages ranged from 18 to 56, with the average age being 31.66 years (SD=9.88). Participants lived an average of 71 miles away from the university. The distance in mileage ranged from as far as 600 miles away to zero miles away. Forty-five percent of the p

articipants lived in rural areas, 28% lived in urban areas, and 27% lived in suburban areas.

In terms of ethnicity, 71% (107) were Caucasian, 25% (37) were African American, and the remaining 4% (6) belonged to other ethnic categories (Hispanic, Asian, English/French, European American, Indian, and Puerto Rican). In addition, 33% of the participants were juniors, 27% were seniors, 25% were sophomores, 7% were graduate students, 5% were freshmen, and 3% were other—they were taking courses for interest.

The ultimate educational goal of 63% of the participants was to obtain a bachelors degree; 37% intended to obtain a graduate degree. For the courses in which participants were currently enrolled, 1% anticipated receiving a grade of D, 5% anticipated receiving a C, 19% anticipated receiving a B, and 66% anticipated receiving an A for the course. At

least five web-based courses had been completed by 72% of the participants, 19% completed from 6 to 10 courses, 6% completed from 11 to 15 courses, and 3% had completed 20 or more web-based courses.

Participation was voluntary, and participants were given the opportunity to earn extra-credit within their course. The survey was provided to them as an e-mail attachment. Responses were typed in the instrument, saved, and returned as an e-mail attachment.

Measured Variables

A survey was used to assess a variety of single-item demographic measures, including age, class standing, ethnicity, location, outside responsibility, etc. Distance education enrollment statistics were obtained from the University online database system.

Learning Styles. To obtain learning styles of the students, the Canfield Learning Styles Inventory was used. The Inventory is divided into four major categories: Conditions for Learning (Peer, Organization, Goal Setting, Competition, Instructor, Detail, Independence, Authority); Area of Interest (Numeric, Qualitative, Inanimate, People); Mode of Learning (Listening, Reading, Iconic, Direct Experience); and Expectation for Course Grade (A, B, C, D, and Total Expectation). The A- to D-Expectation scales reflect the level of performance anticipated (Canfield, 1977). The CLSI has been used in a number of studies of both community college and university students, and it has high reliability and validity values (Brainard and Ommen 1977, Llorens and Adams 1978, Davis 1979, Alsagoff 1985, and Smith 1999).

Attitudes and overall satisfaction with DE courses. A questionnaire composed of 81 questions was used to determine attitudes and overall satisfaction with DE courses. Scores were based on a five-point agree-disagree Likert-type rating scale: 1 = strongly disagree, 2 = disagree somewhat, 3 = neither agree nor disagree, 4 = agree somewhat, and 5 = strongly agree. Reliability coefficients ranged from .77 to .97. The following items were assessed:

Resistance_to_web-based_instruction: Six items (alpha = .77) asked participants to use 5-point rating scales to indicate the extent to which they were amenable to web-based media for learning purposes. Consequently, resistance to web-based instruction scores could range between 6 and 30. An example item includes "I would consider taking a Web-based course instead of a classroom course in the future." High scores represented great resistance to web-based instruction.

Procrastination_tendencies: 20 items (alpha = .89) included items such as "I do not do assignments until just before they are to be handed in." Procrastination scores could range between 20 and 100. High scores indicated high procrastination tendencies.

Satisfaction_with_instructor: Four items (alpha = .93) included questions such as "I would recommend this Web-based instructor to others." Satisfaction with instructor scores could range between 4 and 20. High scores represented high satisfaction with the instructor.

Perceived_quantity_learned: Two items (alpha = .91) asked questions such as "As a result

of the course, I gained a greater understanding of the subject." These scores could range between 2 and 10. High scores indicated high perceived quantity learned.

Satisfaction_with_Web-based_training_overall: Two items (alpha = .97) included questions such as "Overall, I enjoyed the Web-based course." Satisfaction with web-based training scores could range between 2 and 10. High scores represented high satisfaction with Web-based training overall.

Self-efficacy: Eight items (alpha = .81) included questions such as "I feel confident understanding terms/words relating to Internet hardware." Self-efficacy scores could range between 8 and 40. High scores indicated high self efficacy.

Results and Discussion

There is a systematic increase in distance education enrollment. Full-time enrollment increased by 71% for distance education, but only 4% for traditional. Further, a review of enrollment statistics depicts that university-wide, traditional part-time enrollment declined by 9% while distance education enrollment increased 37% (Table 2).

Table 2. Enrollment Growth of Distance Education vs. Traditional Education

Category	% Change in DE 2000-2001	% Change in Traditional 2000-2001
Undergraduate		
Full-time	133%	4%
Part-time	43%	-11%
Graduate		
Full-time	55%	5%
Part-time	36%	-8%
Grand Total		
Full-time	71%	4%
Part-time	37%	-9%

With regard to outside responsibilities, 47% of the participants were married, 14% had one child, 18% had two children, 5% had three children, and 2% had four children living with them under the age of 18. Further, participants worked the following hours per week: 30% (31-40), 21% (41-50), 15% (11-20), 7% (21-30), 7% (more than 50), and 4% (1-10). However, 16% of the participants did not work, and 61% did not have children under the age of 18.

The average score for participants preferring web-based instruction was 13.08 (SD = 5.32), and 64% (96) participants preferred web-based learning, 9.3% (14) were neutral, and 26.7% (40) were resistant to web-based learning. Further, 39.4% (59) of the participants were procrastinators, 81.3% (131) were satisfied with their web-based instructor, 85.4% (128) perceived that they had learned a lot from their web-based course, 86.7% (130) were satisfied with web-based training overall, and 72.7% (109) had high self-efficacy beliefs (Table 3).

Table 3. Descriptive Statistics for Web-based Training (WBT) in percentage

	Agree	Disagree	Neutral	Mean	SD
Prefer WB Instruction	64	26.7	9.3	13.08	5.32
Procrastination	39.4	40	20.7	49.40	13.03
Satisfied w/Instructor	81.3	6	6.7	17.48	3.47
Perceived Amt Learned	85.4	4.7	10	8.52	1.75
Satisfied w/WBT Overall	86.7	6.7	6.7	8.81	1.84
High Self-efficacy	72.7	6.7	20.7	33.25	5.77

In addition, results revealed a high correlation between satisfaction with web-based training overall and perceived quantity learned (.762); and between satisfaction with instructor and the following: perceived quantity learned (.702), web-based training overall (.876). Further, there was a moderate correlation between the following: resistance to web-based instruction and perceived quantity learned (-.501); satisfaction with web-based training overall (-.524) and satisfaction with instructor (-.450). Finally, a weak to moderate correlation existed between resistance to web based instruction and the following: outside responsibility (-,398) and procrastination (.216); between perceived quantity learned and the following: procrastination (-.216) and self-efficacy (.306); between satisfaction with web-based training overall and self-efficacy (.296); between self efficacy and the following: outside responsibility (.228), procrastination (-.202), and satisfaction with instructor (.262); and between age and the following: self-efficacy (.227), satisfaction with web-based training overall (.223), and perception of amount learned (.311).

The Canfield Learning Styles Inventory (CLSI) was used to examine the learning styles and learner typologies of students. The inventory consists of 21 different scale units within four categories. The Conditions for Learning category is designed to measure student motivational qualities. The items are phrased in classroom or instructional situations and center around the motivational areas of achievement, affiliation, structure, and eminence. The scales include Peer, Organization, Goal Setting, Competition, Instructor, Detail, Independence, and Authority. The Areas of Interest Category is designed to measure students' preferred subject matter or objects of study. The scales include Numerical, Qualitative, Inanimate, and People. The Mode of Learning category concentrates on identifying the specific modality through which students learn best. Included are four modes: Listening, Reading, Iconic, and Direct Experience. The Expectation for Course Grade category is designed to contrast the prediction of success or failure for the individual learner.

The most preferred scales were: Organization, Inanimate, Direct Experience, and B-Expectation for Course Grade. The least preferred scales were Independence, Numeric, Reading and D-Expectation. The students in this study prefer well-organized course work, meaningful assignments, as well as a logical sequence of activities. They need to know why things occur in a given order and manner. Material must be covered logically and systematically. A clear understandable path for development must be defined. The students appreciate and work well with lecture note outlines, course outlines, chapter outlines, and topical outlines (Table 4).

Table 4. Learning Style Profile (n=150) Including Means and Standard Deviation

SCALE	MEAN*	S.D.
Conditions for Learning		

Organization		**10.43**	**3.29**
Detail		**10.91**	**3.42**
Instructor		**14.31**	**4.08**
Goal Setting	**15.47**	**3.23**	
Authority	**16.28**	**3.55**	
Peer	**16.73**	**3.57**	
Competition	**17.35**	**2.95**	
Independence	**18.59**	**3.57**	
Area of Interest			
Inanimate	**13.49**	**4.36**	
People	**14.41**	**4.33**	
Qualitative	**15.17**	**4.04**	
Numeric	**16.95**	**4.67**	
Mode of Learning			
Direct Experience	**12.27**	**4.01**	
Iconic	**13.53**	**4.11**	
Listening	**16.79**	**4.27**	
Reading	**17.57**	**4.45**	
Expectation for Course Grade			
B-Expectation	**10.84**	**3.17**	
A-Expectation	**11.98**	**4.80**	
C-Expectation	**15.74**	**2.67**	
D-Expectation	**21.52**	**4.62**	
Total Expectation	**24.96**	**18.28**	

***The lower the mean, the higher the preference**

outlines. They are likely to receive well organized presentations that are presented without diversion into unrelated topics. In addition, they enjoy hands-on or performance situations, i.e., working with things—building, repairing, designing, and operating. It is important to have direct contact with materials, topics, or situations being studied. Enjoyment is derived from real-life contact with the subject through clinical experience, laboratory or fieldwork, actual research with the subject matter, operation of equipment, or through the use of simulation. Participants who selected the B-Expectation scale expect to perform at an above-average level in a learning situation, but not necessarily at a superior level. They are more likely to expect to be in the top 25 to 33%.

Summary and Conclusions

The major findings of this study were that distance education enrollment for part- and full-time students is substantially increasing as reported by (Ashby 2002, and Srivastava 2002). Results also revealed that enrollment for traditional full-time students is slightly increasing, but traditional part-time enrollment is actually decreasing. With regard to learning style preferences, the majority of the participants prefer working alone toward individual goals and on materials that are highly and conceptually organized. In an attempt to address the needs of the diverse distance students' learning styles, instructors

should consider the use of independent reading and literature searches, theory-guided analysis of case studies, term research papers, student-prepared lectures, critical analyses paper assignments, individual debates defending key theories, and independent readings.

Further, these findings are in keeping with (Ashby 2002, Halsne & Gatta 2002; Gilliard 1997; and Guernesey 1998). The majority of the participants had completed at least five web-based courses, preferred web-based instruction, were female, Caucasian, older than 25 years of age, lived in rural areas, had prior college experience, and had job responsibilities. They had high self-efficacy beliefs and were also satisfied with the following: the instructor, perceived amount learned, and overall web-based training. There was a high correlation between satisfaction between web-based training and the perceived quantity learned, and between satisfaction with the instructor, perceived quantity learned, and web-based training. Implications for educational institutions are that they must ensure that educators receive the training and professional development necessary to aid them in producing well-developed, high quality distance education curricula as well as innovative online instruction. This is essential if distance education students are to continue to prefer web-based instruction, be satisfied with instructors, perceive they have learned a lot, and be satisfied with web-based training overall.

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