Differences in Students` Satisfaction with Distance Learning Studies

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Abstract—Rapid growth of distance learning resulted in importance to conduct research on students' satisfaction with distance learning because differences in students' satisfaction might influence educational opportunities for learning in a relevant Web-based environment. In line with this, this paper deals with satisfaction of students with distance module at Faculty of organizational sciences (FOS) in Serbia as well as some factors affecting differences in their satisfaction . We have conducted a research on a population of 68 first-year students of distance learning studies at FOS. Using statistical techniques, we have found out that there is no significant difference in students' satisfaction with distance learning module between men and women. In the same way, we also concluded that there is a difference in satisfaction with distance learning module regarding to student's perception of opportunity to gain knowledge as the classic students.

Keywords—distance learning, students' satisfaction

I. INTRODUCTION

EXPRESSED development of the Internet resulted in creating useful and powerful tools for distance learning so distance learning is becoming increasingly important, making the learning process more effective in many contexts [12]. Distance education fosters learning and teaching in a variety of ways. One of the many advantages of distance education is that it offers instructors and students a flexible learning setting in terms of time and location. "Distance education is becoming a good way to acquire knowledge separate from the traditional method of attending the classroom" [25].

Withnin the distance learning contex, learning environment as social, psychological and pedagogical components which affect student achievement and attitudes [9] has been shown to be important in the development of the generic competencies that are so vital to today's graduates [14]- [15] . Thus, it is very important for countries which started implementing and developing distance learning courses to investigate learning environment at their faculties in order to find the way of improving this kind of learning mode. Students' satisfaction with distance learning could be good indicator of quality of such environment. In line with previously mentioned rapid growth of distance learning, it is important to conduct more research into the key factors that affect students' satisfaction with distance learning. As the use of the Internet has become more important, these qualitative differences in students' satisfaction might influence educational opportunities for learning in a relevant Web-based environment [24].

Additionally, research suggests that distance learning environments may be more suitable for some students than others [2] which means that some personality dimensions such as affiliations or hostility are associated with their satisfaction. Understanding the characteristics of online students and integrating this understanding into designing student-centered collaborative learning environments foster successful learning experiences in distance education.

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Gender difference is often a major concern for researchers interested in students' abilities and attitudes towards the computer or Web-based learning [24]. Recent research dealing with gender differences in distance learning modes mainly found that male students have a more positive perception of e-learning than female students [17] while there is also some who concluded that female students show a greater degree of satisfaction than male students [10].

A. Purpose

The purpose of this paper is to contribute to expanding knowledge on distance learning environment through determing students` satisfaction with learning programs; pointing out differences in students` contentment with distance learning studies regarding the gender as well as students' perception of opportunity to gain knowledge as the face to face students. We determined this by observing the sample as a whole and monitor at parts of the sample by dividing the sample into groups. The first group consists of male and female students`, and second group of students who consider that they do have, do not have or partially have the same opportunity to acquire knowledge as the face to face students.

B. Hypotheses

Based on the results of past research and the discussions in the introduction, the following hypotheses were formulated.

Hypothesis 1: There is no statistically significant difference in satisfaction with distance learning module between men and women.

Hypothesis 2: There is a difference in satisfaction with distance learning module regarding to students's perception of opportunity to gain knowledge as the classic students.

II. METHOD

A. Participants

The questionnaires were sent to 68 undergraduate students of distance learning online module at the Faculty of Organizational Sciences, University of Belgrade. This program includes eight semesters, from which at the time of this research, students were attending the third (the beginning of semester). A total of 61 questionnaires were available for analysis, resulting in a response rate of 89.7%. Respondents on average were young, age between 19 and 21 (only one respondent was 27). The percentage of males was 37.7, and female 62.3.

B. Instruments

Questionnaire used for this study consisted of two parts. The first part of the questionnaire consisted of demographic questions about the sample, while another part contained questions on quality characteristics of distance learning

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studies. These are the following characteristics: waiting time for response, quality of feedback, availability of materials, materials completeness, clarity of materials, easy to use website, cooperation diversity, communication with other distance learning students, material presentation rate and material quantity. For the second part of questionnaire we defined scale that was used to determine students' satisfaction with the quality characteristics of distance learning studies. Internal consistency was good, and Cronbach's alpha coefficient was 0.860. For this, we used a 5-point Likert scale (from "very dissatisfied to very satisfied").

The response formats were explained and participants were asked to work through the questions in their own time. All the respondents were anonymous.

III.   RESULTS

Quality perception of distance learning was measured using the variable satisfaction, obtained in this research. It was created using a 5-point Likert scale (see method Section), and it measures satisfaction with quality characteristics at the beginning of the third semester. It determines students' contentment with the quality characteristics of distance learning module.

Proving the hypothesis was conducted using traditional statistical methods, implemented in IBM SPSS Statistics 19. In order to establish whether the variable are normally distributed, Kolmogorov-Smirnov test of normality was used. The results of the test, as well as the variable descriptive, are shown in Table 1. As can be noticed, satisfaction is greater than 0.05, which proves null-hypothesis that variable is normally distributed, or in other words, there is no significant discrepancy from normal distribution. In addition, Normal Q-Q Plot and Detrended Normal Q-Q Plot show that there are no significant biases (discrepancies) from normal distribution.

TABLE I
THE VARIABLES DESCRIPTIVE AND THE RESULTS OF KOLMOGOROV-SMIRNOV TEST OF NORMALITY

	Mean	Standard deviation	Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
Satisfaction	34.868	5.857	0.917	0.370

TABLE II
THE RESULTS OF THE CONFIRMATORY DATA ANALYSIS

		Test	Test value	Significance
Hypothesis 1: There is no statistically significant difference in satisfaction with distance learning module between men and women.	Satisfaction	Independent Samples T-test	-1.176	0.244
Hypothesis 2: There is a difference in satisfaction with distance learning module regarding to students's perception of opportunity to gain knowledge as the classic students.	Satisfaction	ANOVA	9.954	0.000**

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For confirmation of this hypothesis, independent sample t-test was used. No statistical significance is found in this test. For the variable *Satisfaction* the value of the t statistics is -1.176, p = 0.244, which shows statistical insignificance in the difference between man and women. Figure 1 shows the mean values of these groups.
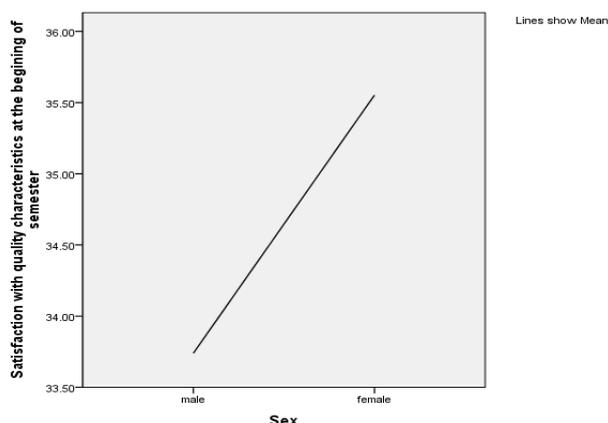

Fig. 1 Means plot for variable *Satisfaction*

In this confirmatory analysis, ANOVA test was used. Students were divided in three groups, according to their reply on the question about the opportunity to acquire knowledge (yes/partial/no).

For the variable *Satisfaction* value of the ANOVA F statistics is 9.954, p = 0.000**, which proves that there is statistically significant difference between these groups. Further analysis was made, and Post Hoc tests showed that there was a statistically significant difference between the group who claimed that they gained the same knowledge as classic students and the group who claimed this was not the case (difference is 11.931, p = 0.007**). There was also difference between students who considered that they partially acquired the same amount of knowledge and those who's answer was "no" (difference is 4.897, p = 0.002**).

In fact, if another study was carried out, when students were divided in two groups (yes and partial/no), independent sample t-test would show that there was statistically significant difference between them (t value is -3.966, p = 0.000**). This proves that students who consider to be degraded in comparison to classic students are far less satisfied by distance learning than the other group. Figure 2 shows the mean values of three groups.
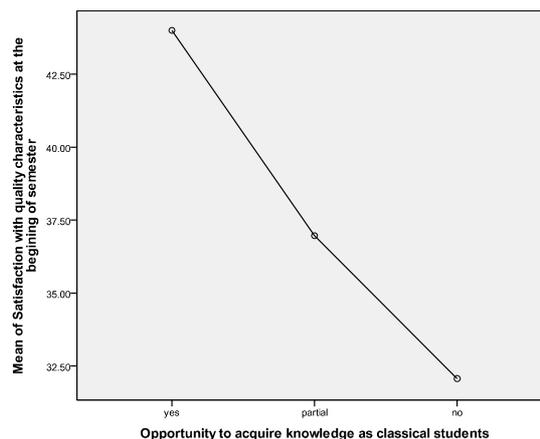

Fig. 2 Means plot for variable *Satisfaction*

IV. DISCUSSION AND CONCLUSION

In findings of this research we can see that there is no statistically significant difference in satisfaction with online learning module regarding gender differences. Cognitive and metacognitive (learning) content of on-line seminar contributions by men and women to be similar, although their social and interactive behavior was significantly different [5]. Some researchers stated that people are not naturally sharply divided into two categories, but in the literature, they agreed that there is a need for more research on gender debate about differences and similarities from learning strategies to performance [6], [8], [22], [23]. In fact, number of studies has shown that male and female students experience the online environment differently with respect to several ways, such as, performances, motivations, perceptions, study habits, and communication behaviors [8], [11], [22], [23]. On the other hand, several results have suggested that gender effects are insignificant [4], [18], [21], [26], [30].

Many regard the Internet as male-dominated while women are constrained by the need to juggle jobs and family commitments [28]. This has given rise to concerns about equity in education, particularly for women [29].

Our findings comply in the theoretical outline that main gender differences emerge when distant learning is aimed at female adult learners with children or family responsibilities [27]. Since this is not the case in our study, results are expectable. Designers and implementers of distance learning module should therefore bear notice of the demographics of their students – in case such as described in this research, where main population is between 19 and 21 years old, gender differences and adoption of module to specific gender traits in order to increase satisfaction with quality of learning module.

However, if students are divided into two groups, those who believe that they have equal opportunity to gain knowledge as students of classic studies, and those who do not believe in equal opportunity, difference can be noted. Observing these two groups, statistically significant difference in satisfaction can be notified between them. This indicates that there is a critical group of students, whose evaluation of quality characteristics of distance learning is important for improving students satisfaction. Their evaluation is shown to be much lower than the other groups, so further attention should be given to increasing their satisfaction by improving distance

** Significant at 0.01 level (p < 0.01).

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learning module. Student's satisfaction can be defined as the perceived value of his or her educational experiences in educational institution [3]. "Significant differences still exist in the way students perceive their online experiences during learning" [19]. Perceptions of their learning experiences can influence students' decision to continue with the course [7] and affect levels of satisfaction with overall online learning experiences [16]. Student's satisfaction, according to the American Distance Education Consortium (ADEC, n.d.) [1]., "is the most important key to continue learning". Satisfaction is therefore important for developing good distance learning module. In our study satisfaction was measured using quality characteristics of distance learning that describe learning environment. With the knowledge of the factors contributing student's satisfaction in online learning, we can intentionally act to provide appropriate support and to design appropriate online learning environments. This will have positive impact on student's satisfaction, positive influence on student's engagement with the learning, and it will ultimately positively influence student's learning outcomes [13]. In higher education, satisfied learners are more likely to be successful in academic achievement, and that the key to measuring satisafaction is determining what is important to the learner [20].

There are two limitations of this study. First, the size of the population from which the sample was taken for research. The population consists of 68 students of distance learning studies at Faculty of Organizational Sciences, University of Belgrade. Proposal is to extend research to other faculties at the Belgrade University and other universities in Serbia. Second, it should be taken in consideration that distance learning studies are only at their beginning, and still not developed enough in Serbia. After all, our research shows that 85.2% of students enrolled distance learning studies because of the insufficient number of points for enrolling classic studies. In the future they have to develop and prosper.

REFERENCES

[1] American Distance Education Consortium (ADEC). (n.d.). Quality framework for online education. Lincoln, NE: Author. Retrieved December 28, 2008, from http://www.adec.edu/earmyu/SLOANC~41.html
[2] Arbaugh, J. B., & Stelzer, L. (2003). Learning and teaching management on the Web: what do we know? In C. Wankel & R. DeFillipi (Eds), Educating managers with tomorrow's technologies (17–51). Greenwich, CT: Information Age.
[3] Astin, A.W. (1993). What matters in college? Four critical years revisited. San Francisco: Jossey-Bass.
[4] Astleitner, H., & Steinberg, R. (2005). Are there gender differences in web-based learning? An integrated model and related effect sizes. AACE Journal, 13 (1), 47-63.
[5] Barret, E., & Lally V. (1999). Gender differences in an on-line learning environment, Journal of Computer Assisted Learning, 15 (1), 48–60.
[6] Bidjerano, T. (2005). Gender differences in self-regulated learning. Paper presented at the Annual Meeting of the Northeastern Educational Research Association, October 19-21, Kerhonkson, NY, USA.
[7] Carr, S. (2000, February 11). As distance education comes of age, the challenge is keeping the students. Chronicle of Higher Education, 46(23), A39–A41.
[8] Chyung, S. Y. (2007). Age and gender differences in online behavior, self-efficacy and academic performance. Quarterly Review of Distance Education, 8 (3), 213-222.
[9] Fraser, B. J. (1998). The birth of a new journal: Editor's introduction. Learning Environments research, 1 (1), 1–5.
[10] González-Gómez, F., Guardiola, J. and Rodríguez, Ó. M. (2011). Gender differences in e-learning satisfaction, To appear in: Computers & Education, Reference: CAE 1959, Accepted Date: 11 August 2011.
[11] Gunn, C., McSporran, M., Macleod, H., & French, S. (2003). Dominant or different? Gender issues in computer supported learning. Journal of Asynchronous Learning Networks, 7, 14-30.
[12] Ho, Ch. and Dzeng, R. (2010). Construction safety training via e-Learning: Learning effectiveness and user satisfaction. Computers & Education, 55, 858–867.
[13] Hollis V. & Madill H. (2006) Online learning: the potential for occupational therapy education. Occupational Therapy International 13, 61–78.
[14] Kember, D., & Leung, D. Y. P. (2005a). The influence of active learning experiences on the development of graduate capabilities. Studies in Higher Education, 30 (2), 157–172.
[15] Kember, D., & Leung, D. Y. P. (2006). Characterising a teaching and learning environment conducive to making demands on students while not making their workload excessive. Studies in Higher Education, 31 (2), 185–198.
[16] Kenny, J. (2003, March). Student perceptions of the use of online learning technology in their courses. ultiBase Articles. Retrieved December 28, 2008, from http://ultibase.rmit.edu.au/Articles/march03/kenny2.pdf
[17] Lu, H. and Chiou, M. (2010). The impact of individual differences on e-learning system satisfaction: A contingency approach. British Journal of Educational Technology, 41(2), 307-323.
[18] Lu, J., Yu, C,-S., & Liu, C. (2003). Learning style, learning patterns and learning performance in a WebCT-based MIS course. Information & Management, 40, 497-507.
[19] Muilenburg, L.Y., & Berge, Z.L. (2005). Student barriers to online learning: a factor analytic study. Distance Education, 26(1), 29–48.
[20] Noel-Levitz. (2004). Priorities survey for online learners. Retrieved May 24, 2005, from http:// www.noellevitz.com/NR/rdonlyres/25818F7F-0AD9-406E-BA02-45CB3CBC9D96/0/2004OnlineLrnrPriorrpt.pdf
[21] Ory, J. C., Bullock, C., & Burnaska, K. (1997). Gender similarity in the use of and attitudes about ALN in a university setting. Journal of Asynchronous Learning Networks, 1 (1), 1-17.
[22] Price, L. (2006). Gender differences and similarities in online courses: challenging stereotypical views of women. Journal of Computer Assisted Learning, 22, 349–359.
[23] Rovai, A. P., & Baker, J. D. (2005). Gender differences in online learning: Sense of community, perceived learning, and interpersonal interactions. The Quarterly Review of Distance Education, 6 (1), 31-44.
[24] Ru-Si Chen and Chin-Chung Tsai (2007). Gender Differences in Taiwan University Students' Attitudes toward Web-Based Learning, Cyberpsychology & Behaviour, Volume 10, Number 5.
[25] Schmidt, E. K., & Gallegos, A. (2001). Distance learning: Issues and concerns of distancelearners. Journal of Industrial Technology, 17 (3), 2-5.
[26] Sierra, C., & Wang, M. (2002). Gender, discourse style, and equal participation in online learning. In G. Richards (Ed.), Proceedings of E-Learn 2002 Conference (pp. 2364-2367), Chesapeake, VA: AACE.
[27] Sullivan, P. (2001). Gender differences and the online classroom: male and female college students evaluate their experiences. Community College Journal of Research and Practice, 25, 805-818.
[28] Wolf A. (1998) Exposing the great equalizer: demythologizing internet equity. In Race, Class and Gender on the Internet (ed. B. Ebo), pp. 15–32. Praeger, Westport, CT.
[29] Yates S.J. (2001) Gender, language and CMC for education. Learning and Instruction 11, 21–34.
[30] Yukselturk, E., & Bulut, S. (2007). Predictors for Student Success in an Online Course. Educational Technology & Society, 10 (2), 71-83.