

Designing a Model for Developing Students' Needs Skills of High Schools for Using Virtual Learning

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Abstract – The main purpose of the present research is designing a model for developing students' Needs skills of high schools for using Virtual Learning. The Methodology of research is correlation. The general hypothesis, there are relationship between the Five skill needed for virtual student (availability, openness, communication, cooperation, flexibility) and students' efficiency learning in the virtual schools. The population of the study includes the whole of the virtual high Schools ' teachers of Iran (2011-2012). The statistical samples were randomly selected. Two questionnaires were used in this research. Questionnaire prepared by researcher based on the findings of Rena M Palloff and Keith Pratt and questionnaire prepared by researcher about using IT in the Learning. The reliability of two questionnaires were estimated 0/84 and 0/92. The total results show that there are positive relationships between students' efficiency learning in the virtual schools with students' motivation of learning, availability, openness, communication, cooperation, flexibility. Also there are there are positive relationship between students' motivation of learning with availability, openness, communication, cooperation, flexibility. The CFA shows that the measurement model fit the data very well with a goodness of fit index (AGFI) of 0/96 and adjusted goodness of fit index (GFI) of 0/95 and a chi-square (203.21) ($p < 0/001$). It concluded that the adjusted model developing students' needs skills for using IT in the Learning.

Keywords – Online education, virtual student, Higher Schools, Online Learning, students' needs.

I. INTRODUCTION

As you know, the students' efficiency learning in the virtual school is required to factors that influence on it. Many educators appreciate the importance of factors that influence it. The increased availability of technology, including the Internet, allows the faculty to develop web-based modules which can help the students enhance their learning. Online learning—also known as electronically delivered learning or e-learning—is one of the most important and potentially significant new instructional approaches available for supporting the improvement of teaching and learning in America's K-12 schools today (Blomeyer, Robert, 2004) [1]. According to a recent report of the National Association of State Boards of Education, "E-learning will improve American education in valuable ways and should be universally implemented as soon as possible". A growing body of evidence supports the conclusion that when e-learning is deployed with identical attention to the enabling details that characterize high quality face-to-face instruction, it can effectively complement, enhance, and expand educational options available for K-12 students. In cases where e-learning is appropriately deployed, educators can generally anticipate student academic performance that is at

least equivalent to traditional classroom instruction (Cavanaugh *et al.*, 2004) [2]. Access to online learning systems in public education has shown dramatic growth with support from the Technology Literacy Challenge Fund and the Federal Communications Commission's E-Rate program. According to the most recent report from the National Center for Education Statistics, 98 percent of U.S. public schools were connected to the Internet in fall 2000 (Cattagni & Farris, 2001) [3]. Investments in computers, Internet access, technology professional development, technical support, and content development have allowed elementary and secondary teachers and students to experience the benefits of using these powerful new learning technologies. The deployment and diffusion of online courses in K-12 schools and postsecondary institutions is becoming an almost irresistible force. Accordingly, it is now important to give careful, systematic consideration to details that will have lasting impacts on the U.S. educational system. Such consideration must be given to all aspects of e-learning and online education that may affect the quality, efficiency, equity, and educational choices available to all American students—regardless of age, race, religion, or socioeconomic standing—"any time, any place, any path, any pace" (Rossett, A. (2002) [4]. The study conducted by Harlak (2008), showed that availability had a positive attitude in students and there are five main reasons behind the growth in online learning: access, efficiency, stability, cost, and technology [5]. Thus, this research tends to test this hypothesis:

H₁: There is direct relationship between availability and students' efficiency learning in the virtual schools.

We must know that some of the important characteristic the student needs to possess in order to be successful is an online course. One of these is a willingness to be open about personal details of his or her life, work, and other educational experiences. Sharing this information can be encouraged by the instructor early on through the posting of introductions and bios (Gartner, 2004) [6]. As the course progresses, students can encourage on another to continue to share information and experiences through participation in the social area of the course or by responding in a personal way to the posts of others. One of the biggest advantages of openness (and it is one of the things that connects all of the points here) is the messiness of the process. It allows for the unexpected good and bad, to pop into a learning scenario. It approximates real life in a way that is sadly lacking from the majority of our educational encounters. There is some relationship, I think, between that desire for 'clean' and the prominence of the 'print' in our society (Marley, 2008) [7]. When you are freed from the final product, in your curriculum as well as elsewhere, it allows you to do a lot

more iterative learning. Thus, this research tends to test this hypothesis:

H₂: There is direct relationship between openness and students' efficiency learning in the virtual schools.

When you need to make an important announcement to students, it is necessary think about which tools you must use. Interactivity and communication are key factors in student achievements and satisfaction (Moore, 2007[8]; Mahle, 2007[9]; Wanstreet, 2006[10]; Bruck, 2005[11]; Salmon, 2002[12]). Communication is a vital tool for any types of education, but it assume critical value in online learning. Instructors need to be cognizant of incorporating a significant amount of interactivity into their courses (Mahle, 2007). Typically, the quality of online course outcomes can be affected by the quality of the interactions in class (Norton & Hathaway, 2008)[13]. Therefore, learning through discussion or conversation is a fundamental part of teaching and learning, particularly in higher schools (Maurino, 2007)[14]. Thus, this research tends to test this hypothesis:

H₃: There is direct relationship between communication and students' efficiency learning in the virtual schools.

According to researches conducted, cooperation teaching method has some advantages including raising the power of expression and raising the power to comment and because this method is subset of exploratory method, it enjoys all of their advantages such as strengthening students' intellectual ability, increasing internal motivation, and bringing up creative and capable people (Hamedikhah, 1998)[15]. Learning through cooperative teaching method improves students' academic performance and helps them use their own knowledge effectively and slightly remove their learning defects in the first session and learn the subject better. The time spent in cooperative learning is half of traditional learning and due to savings in time. There and opportunity to implement reform education and bug fixes in the classroom. Therefore, cooperative learning context makes the authority of teachers clear in accordance with which they balance between meaningful educational activities and students' guided group activities to create cooperation (Rauf, 1999)[16]. In this regard, using traditional, old and repetitive methods has shown a lower performance compared with new and innovative teaching methods. Importance and necessity of education and the real value of using active teaching methods is known to the planners and those involved in education all over the world.

Thus, this research tends to test this hypothesis:

H₄: There is direct relationship between cooperation and students' efficiency learning in the virtual schools

Going with the flow of an online course, not being rattled when things go wrong, and even facing the minor crises with humor help to keep the sense of community moving. Often, students will encounter technical difficulties that may preclude their involvement online or may encounter life experience that interfere, being able to jump back in when the barriers are removed and rejoin the learning process and the learning community are important (Palloff & Pratt, 1999)[17]. Additionally, the virtual student needs to accept the change role of the instructor online and recognize that the deepest learning in an online course comes from interaction

with everyone involved developing that level of understanding and being willing to take on the responsibility involved with the creation of the learning community as a result is critical to its formation (Collison, 2000)[18]. The ability to see humor in text and to laugh at ourselves online is another measure of flexibility (Mayes, 2001) [19]. The creation of a warm, inviting course environment includes the use of humor. The issue online is that humorous comments maybe misinterpreted due to the absence of virtual cues, consequently, cares in the wording of a humorous comment. The use of emoticons (or text symbols that convey emotion, examples of which can be found in the toolkit, or bracketing the emotion involved, can help recipients of the message understand the intent (Palloff, Pratt, 2003)[20]. Thus, this research tends to test this hypothesis:

H₅: There is direct relationship between flexibility and students' efficiency learning in the virtual schools.

II. METHODOLOGY

We used structural equation modeling (SEM) to empirically examine the relationships among variables in our study such as availability, openness, communication, cooperation, flexibility. The statistical sample was randomly selected (n=100). The data gathering instruments were tree questionnaires (Questionnaire of factors of efficiency learning (=0/95), and questionnaire of students' motivation of learning (=0/93) and questionnaire of efficiency learning in Virtual Schools (=0/91) that all of them are structured by researcher). Based on procedures reported in the literature (Palloff & Pratt, 1999; Cattagni & farris, 2001; salmon, 2002; Palloff & Pratt, 2003; Cavanaugh *etal*, 2004;; Bruck, 2005 ;Wanstreet, 2006; Maurino, 2007; moore, 2007; Mahle, 2007; Morton & Hataway ,2008), we tested all constructs of variables of the model. To measure latent variable with single indicators ,we took measurement error into consideration by setting the path from the latent variable to the scale score equal to the product of the square root of the reliability and its' standard deviation, and by setting the error variance equal to the product of variance of the scale score. Also, we used the chi-square, RMR, AGFI, GFI, and RMSR to evaluate the fitness of the model. A significant chi-square difference value suggests that the hypothesized model should be accepted.

III. RESULT

Table 1: Shows descriptive indicators and correlation among the variables of the research

Item	Variables of the research	Mean	Standard deviation	Students' efficiency learning in the virtual schools	Students' motivation of learning	availability	openness	communication	cooperation	flexibility
1	students' efficiency learning in the virtual schools	43.34	4.38	-						
2	students' motivation of learning	54.23	8.19	0.342***	-					
3	availability	21.48	2.63	0.230***	0.531***	-				
4	openness	19.32	4.27	0.378***	0.672***	0.358***	-			
5	communication	49.23	2.35	0.281***	0.367***	0.874***	0.465***	-		
6	cooperation	38.28	7.63	0.357***	0.543***	0.763***	0.785***	0.567***	-	
7	flexibility	24.02	9.56	0.459***	0.370***	0.475***	0.678***	0.874***	0.672***	-

As you see, there are positive relationship between students' efficiency learning in the virtual schools with students' motivation of learning($r=0.342$), availability ($r=0.230$), openness ($r = 0.378$), communication ($r=0.281$), cooperation ($r=0.357$), flexibility ($r=0.459$). Also there are there are positive relationship between students' motivation of learning with availability (0.531), openness (0.672), communication (0.367), cooperation (0.543), flexibility (0.370).

Table 2: Shows Standard Coefficients of the Final Path Model

	Variables of the research	Un standard coefficient	Standard error	Standard coefficient	sig	R2
1	students' motivation of learning → students' efficiency learning in the virtual schools	0.27	0.035	0.132	0.042	0.194
2	availability → students' efficiency learning in the virtual schools	0.332	0.078	0.183	0.036	
3	openness → students' efficiency learning in the virtual schools	0.184	0.83	0.168	0.028	
4	communication → students' efficiency learning in the virtual schools	0.372	0.13	0.169	0.005	
5	cooperation → students' efficiency learning in the virtual schools	0.421	0.142	0.173	0.002	
6	Flexibility → students' efficiency learning in the virtual schools	0.583	0.135	0.217	0.008	
7	availability → students' motivation of learning	0.382	0.126	0.182	0.001	0.48
8	openness → students' motivation of learning	0.638	0.189	0.195	0/001	
9	communication → students' motivation of learning	0.287	0.123	0.139	0.021	
10	cooperation → students' motivation of learning	0.833	0.115	0.241	0.034	
11	Flexibility → students' motivation of learning	0.784	0.472	0.457	0.005	

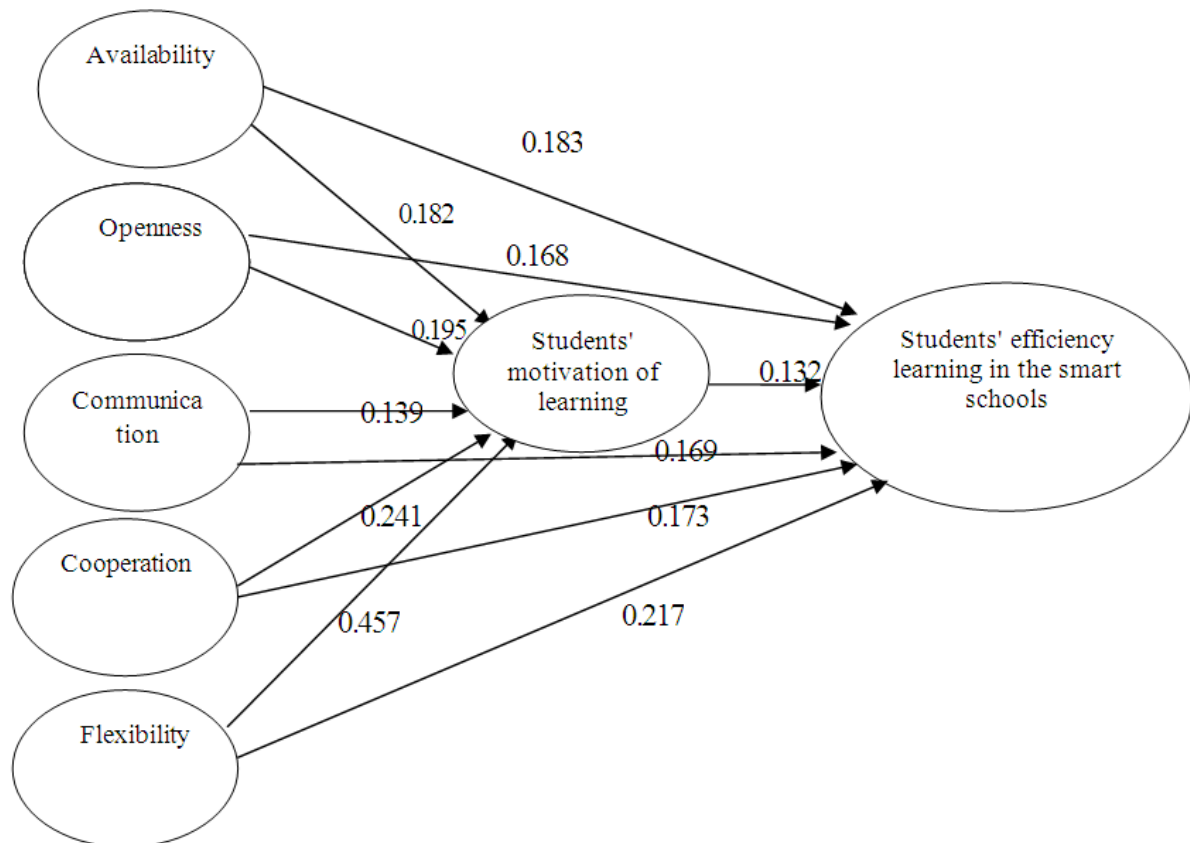


Fig.1. A conceptual framework for analyzing the relationship between, availability, openness, communication, cooperation, flexibility with students' efficiency learning in the virtual school

Table 2: Shows the direct effects and indirect effects of variables for final model on students' efficiency learning in the virtual schools

Item	Variable of the research	students' motivation of learning			students' efficiency learning in the virtual schools		
		Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
1	students' motivation of learning	0	0	0	0.132	0	0.132
2	availability	0.182	0	0.182	0.183	0.024	0.207
3	openness	0.195	0	0.195	0.168	0.026	0.194
4	communication	0.139	0	0.139	0.169	0.022	0.018
5	cooperation	0.241	0	0.241	0.173	0.031	0.204
6	flexibility	0.457	0	0.457	0.217	0.060	0.277

IV. CONCLUSION AND DISCUSSION

The results of this research, showed that conceptual model of research, extracted by relationship between availability, openness, communication, cooperation and flexibility has a suitable condition on the basis of fitting between research data with model. Direct effects of the variables, such as cooperation (0.241), and flexibility (0.457), are more than other variables. Also direct effects of availability on students' efficiency learning in the virtual schools are (0.183), direct

effects flexibility on students' efficiency learning in the virtual schools are (0.217). Total effect of the cooperation, availability, flexibility on students' efficiency learning in the virtual schools is (0.204, 0.207, 0.277). These results indicate that the effects of three mentioned variables on students' efficiency learning in the virtual schools are important. Also Cattagni & farris,2001; salmon, 2002; Palloff & Pratt;2003; Cavanaugh etal , 2004; Bruck, 2005 ; Wanstreet,2006; Maurino,2007; moore,2007; Mahle,2007; Morton & Hataway ,2008, showed that all of educators for teaching to

the students must consider to availability , cooperation, and flexibility. One of the biggest advantages of openness is the messiness of the process. It allows for the unexpected good and bad, to pop into a learning scenario. Learning through cooperative teaching method improves students' academic performance and helps them use their own knowledge effectively and slightly remove their learning defects in the first session and learn the subject better. The CFA shows that the measurement model fit the data very well with a goodness of fit index (AGFI) of 0/9 and adjusted goodness of fit index (GFI) of 0/96 and a chi-square (203.21) ($p < 0/001$).

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