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Academic Performance Of Virtual Students Based On Their Personality Traits, Learning Styles And Psychological Well Being: A Prediction

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Abstract

The aim of this study was to distinguish the relations between the so-called variables and the education of virtual students. We also are to identify which of the variables could act as predictors suitable to interpret virtual education. The sample of the study consisted of the last-year students of the virtual education career of Shiraz University 200 students out of who were randomly selected to complete the questionnaire. The tools were: a short questionnaire comprising of 5 personality factors (NEO-FFI, Kolb's list of learning styles, the Ryff's model of psychological well being. The semester average mark of students was measured as the indicator of the educational progress of students.The results of this study reveal the correlation between personality traits and learning styles which could lead learners to a higher level of learning and, in turn, to the sense of self-satisfaction and enjoyment of the learning process.

1. Introduction

Internet technology has developed to the extent that such a development is assumed as an Internet revolution (Amichai-Hamburger, 2003). The revolution of open and distance education along with the term of electronic and online learning implies on the extensive use of the internet made in the current learning processes (Moor & Kearsley, 2005). E-learning is considered as an interactive process of learning-teaching the most common styles of which are carried out through text, image and/or sound (Kurta et al, 2003). Therefore, efficiency and effectiveness of such a developing educational method are being investigated by many researchers discussing various variables such as learner's perceptions, well being, motivation, cognition, and learning styles (Fany & Ally, 2005; Young, 2006; Bates & Khasawneh, 2007; Offir, Beezalel & Barth, 2007). As same as all learning environments, internet has also brought about a unique psychological arena for its users. Personality and learning style of learners are the important variables been frequently investigated in the respective literature. Both variables have demonstrated to be known as reliable sources for analyzing the learners' behavior variance at online learning processes (Hamburger &

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Ben-Artzi, 2003). Other personality variables such as extroversion-introversion, the need to proximity (Amichai-Hamburger, fine & Goldstein 2007); the need to cognition (Amichai-Hamburger, Kinar 2007); source of mastery (Hoffman, Novak & Schlosser 2003); and sensitive search (Alonze & Aiken 2004) have also been reflected in the literature. Personality is a unique organized collection of relatively fixed and consistent characteristics which distinguish people from each other. This study defines personality traits under the "five-personality-factor model". Comprising the five chief characteristics of neuroticism, extraversion, and openness to experience, conscientiousness, and agreeableness. Concisely, those with neuroticism are less interested towards pleasant thoughts and memories but are more eager to depression and like to remember negative memories; on the other hand, extroverts focus their mental power on outside and outer world. Introverts pay attention to inside, self and inner specific events.

Open-to-experience people, because of "experience" itself, are desirous and eager for variety, bear ambiguity and enjoy a more complicated life with more welfare. Agreeable ones are interested in synesthesia, collaboration, reliability and support. But the sense of extreme agreeableness is unsuitable and may be revealed in form of dependant behavior and self-forgetfulness in social interactions. Conscientious people are diligent, ambitious and energetic; they can stand difficulties and are more subtle. Conscientiousness is related to physical health. Digman (1990), Dollinger & Orf (1991) believe in that conscientious students tend to gain higher scores and do extraordinary assignments. On the other hand, learning style could be described as a fairly consistent factor of the way students behave with learning environments. Hohan (1995) introduces learning style as a collection of beliefs, preferences, and behaviors by use of which individuals keep learning process within a distinctive situation. This study basically tends to interpret David Kolb's view of learning style. Learning styles, from his viewpoint, imply on the methods through which learners organize concepts, rules and principles in a way that they could handle new circumstances. Kolb's viewpoint embodies four situations each of which demonstrates the way learners use for perception of information (Don Klark, 2000); watching and listening –reflective observation–, feeling –concrete experience–, thinking –abstract conceptualization– and doing –active experimental. These four kinds of learners are identified as diverger, accommodator, converger, assimilator (Don Klark, 2000; Bank & Thompson, 1995 quoted from Stewart 2000). In a brief statement, diverging learners are interested in personal experiments, social interaction, discussion and collective activity. Those with accommodating style have the abilities for accuracy, creating theoretical, logical and carefully analyzed models and are able to create different theoretical viewpoints for assessing distinctive situations. Converging people are capable to make use of skills and thought in situations, interested in individual activities, privacy, timely actions, accurate schedule, complete watching and taking notes. Convergers scarcely become absent-minded since they deeply concentrate on the subjects and their studies. Investigating and testing experiences, high flexibility, extensive interests in different contents, tending to risks, accompanying with and learning from others, ready to receive help, and accepting correct answers regardless of asking the logic reasons are the traits of those with assimilating style. Such people are called Assimilator for their attempt, at the shortest time, to adapt to the new circumstances and guys.

Research outputs show that online educational environments increase self-learning activities and enhance learners' well being (Ikota, 2008); thus, investigation of students' psychological well being has been of great importance in the literature. According to Ryff (1989), the remarkable skills existent in the concept of well being could attribute to significant relationship management, environmental management and self-perception. Psychological well being not only is required for university career but should be considered in all stages of life. Ryff (1991), regarding his previous research in field of welfare and prosperity, and positive performance of human beings, has introduced six positive dimensions for psychological practice or psychological well being as following: 1.autonomy, 2. positive relations with others, 3. purpose in life, 4. self-acceptance, 5. environmental mastery and 6. personal growth; therefore, the adaption between learning environment and the learner's individual attributes could enhance the level of psychological well being. Researches about the above-mentioned variables indicate that different personality traits will end in different learning styles; for instance, emotional extraverts have better performance in virtual education (Kitchell and Kanoo, 2001). Those learners with the styles of accommodating and converging show higher progress in electronic learning than those of other learning styles (Nik Manoocherhr, 2009).

Furthermore, Prantoni (2010) studied the relationship between Kolb's learning styles and learners' success in online education and found that the accommodating and diverging styles increase the average score of the class.

Furnham (1992) reported a positive correlation between activist and pragmatist styles and extroversion. He also reported a positive relation between extroversion and diverging and assimilating learning styles. There was also found a negative correlation between neuroticism and diverging styles. Neuroticism keeps a positive correlation with accommodating and diverging styles. Such results were repeated by Lawty-Jenes (1996) and Jackson (1996). Activist style has also a significant correlation with agreeableness, conscientiousness, and extroversion. There was no correlation between neuroticism and any of other learning styles (Furnham, 1992). Ikota (2008) states that online educational environments cause an increase in the autonomous activities of learners and their satisfaction of e-learning as well. Sahin (2006) investigates the correlations among the traits of learners at Kolb's learning styles and their perception, acceptance, and well being of web-based distance learning. Results suggested that the students with abstract conceptualization got higher level of perception, acceptance and well being (Chaw, 2007). Moreover, Elliot (2006) reported a high significant correlation between personality traits and Kolb's learning styles in online learner's educational success. Unterrainer and colleagues (2010) also argue that the amount of moral satisfaction is correlated with different aspects of personality (extroversion, neuroticism, and openness) and psychological well being. Investigations show that psychological welfare has a positive and significant impact on the students' educational performance (Shokri and colleagues, 2007). Based on the statements mentioned above, this study aims to distinguish the relations between the so-called variables and the education of virtual students. We also are to identify which of the variables could act as predictors suitable to interpret virtual education.

1.1. Data analysis tools

The tools were: a short questionnaire comprising of 5 personality factors (NEO-FFI) which totally includes sixty questions. This questionnaire has been revised in 2004 by McCarry and Custa who defined suitable coefficients for validity and reliability of the questionnaire. The choices designed for each question are scored in a 5-degree scale based on Likert method. The first standardization of the test, in Iran, was first done by Haghd-Shenas (2006). The analyses demonstrated a remarkable acceptance on the reliability of the test in the literature in Iran. The Kolb's list of learning styles was used for investigating the learning styles used by the students. The test consisted of 12 questions and four sections of concrete experience –accommodator-, reflective observatory –diverger-, active experimental –assimilator- and abstract conceptualization –converger-. The content validity of the test has been investigated and accepted by Wilcokson (1995). The reliability coefficients of the test have also been declared qualified by Homayoon and Abdollahi (2003). The psychological well being questionnaire. The Ryff's model of psychological well being was used as the measurement tool. Ryff (1989) offered his measurement scale in Wisconsin University in US and revised it in 2000. This questionnaire includes the six items of autonomy, positive relations with others, purpose in life, self-acceptance, environmental mastery and personal growth and asks 83 questions which are scored on a Likert scale (quoted from Niknam, 2004). The semester average mark of students was measured as the indicator of the educational progress of students.

1.2. Statistical population and sampling method.

The sample of the study consisted of the last-year students of the virtual education career of Shiraz University 200 students out of who were randomly selected to complete the questionnaire.

2. Results

Table 1 shows the statistical data related to the students' scores of the variables like learning style, personality, well being, and educational progress.

Table1. The statistical data related to the students' scores of the variables like learning style, personality, well being, and educational progress.

Variables	M	SD	Min	Max	Alfa	N
Neuroticism	23.39	8.37	4	75	0.78	195
Extraversion	29.66	6.33	13	53	0.74	195
Openness to experience	27.72	6.27	13	48	0.81	195
agreeableness	28.24	8.12	12	72	0.76	195
conscientiousness	30.30	6.86	16	73	0.73	195
Accommodator	33.21	8.60	14	72	0.80	195
Diverge	35.60	9.39	20	86	0.66	195
Converge	38.40	9.80	17	94	0.73	195
Assimilator	39.90	11.45	20	81	0.56	195
psychological well being	100.15	16.65	60	206	0.83	195
Educational achievement	14.35	2.25	9	18		195
Age	24.32	4.44	19	39		195

According to Table 2, the highest and the lowest means of all learning styles respectively refer to the assimilating and accommodating styles. Conscientiousness and neuroticism among all personality traits respectively get the highest and the lowest means. The correlation matrix of the variables is shown in Table 2.

Table2. The correlations among the learning styles, personality traits, psychological well being, and educational achievement

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Educational achievement	*										
2. Neuroticism	-0.34**	*									
3. Extraversion	0.11	-0.30**	*								
4. openness to experience	0.10	-0.25**	0.28**	*							
5. agreeableness	0.009	0.17*	0.22**	0.19*	*						
6. conscientiousness	0.13	0.25**	0.21**	0.32**	0.31**	*					
7. Accommodator	0.17*	0.19*	0.07	0.09	0.11	0.12	*				
8. Diverge	0.11	-0.22**	0.10	0.13	0.04	0.006	0.33**	*			
9. Converge	0.22**	0.11	0.008	0.09	0.11	0.22**	0.18*	0.15	*		
10. Assimilator	0.15	0.14	0.11	0.03	0.19*	0.12	0.09	0.03	0.12	*	
11. psychological well being	0.21**	0.17*	0.13	0.11	0.10	0.008	0.13	0.12	0.09	0.004	*
12. Age	0.07	0.09	0.12	0.11	0.08	0.12	0.14	0.08	0.005	0.15	0.22**

*P<0.05   **P<0.01

The high scores of conscientiousness and extraversion are synchronous with the highest scores of accommodating style. There is a negative and insignificant correlation between neuroticism and converging style and educational progress. The traits of conscientiousness, agreeableness, and openness to experience keep a significant correlation with the level of psychological well being. There is also seen a negative and insignificant correlations between educational progress and diverging styles. You can find the regression results in Table 3.

Table3. Beta Coefficients, personality traits, learning styles and well as the predictors of students' educational achievement

Variables	Beta	t	R^2
neuroticism	-0.24	3.22	0.44
extraversion	0.20	3.19	0.33
agreeableness	0.21	3.01	0.38
Converge	0.19	2.89	0.32
psychological well being	0.14	2.66	0.21

Neuroticism as the first predictor correlates negatively with diverging styles and positively with accommodating style. Agreeableness has also corresponded to the converging style.

3. Discussion and conclusion

As seen, some of the personality aspects and learning styles were correlated with the educational progress which corresponds with the results of Furenham (b 1996) and Jackson and Lawti-Jones (1996). Interpretation of such results is that learning styles correlate to the students' educational performance. Most of researchers agree that students do not follow a single learning style and their attitudes differ towards the learning process. Learners' approaches to learning could be affected by the age of learners; adult learners due to their range of age and experience show more various and different views towards learning.

The results of this study reveal the correlation between personality traits and learning styles which could lead learners to a higher level of learning and, in turn, to the sense of self-satisfaction and enjoyment of the learning process. As the matter of fact, learning is the origin of all fascinating advancement and development.

Education specialists believe in that the learners who are enthusiastic and active in learning are more likely to achieve success in education. Eagerness in learning could increase the sense of ability and authority in learners. Yong (quoted from Duff) believes in that as human is possible to face a variety range of environmental stimuli each of which needs to be specifically met, he would be better to develop his abilities in learning and in other fields as well in order to be well-equipped towards responsibilities. Kolb states that ignorance of individual differences may result in profitability decrease in education and well being. Therefore, it deserves restating that there always have been correlations among personality traits, interests, motivations, and the intelligence of learners.

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