SELF-DIRECTED LEARNING READINESS AMONG UNDERGRADUATE STUDENTS AT SAUDI ELECTRONIC UNIVERSITY IN SAUDI ARABIA

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ABSTRACT: This study aimed to determine the level of self-directed learning readiness (SDLR) among undergraduate students at Saudi Electronic University in Saudi Arabia. Also, investigated were potential relationships between the level of self-directed learning readiness and selected demographic variables such as gender and specific college within the university in this specific sample of undergraduate students in Saudi Arabia. This research utilized a quantitative design using descriptive and inferential statistics. Data were collected using the Self-directed Learning Readiness Scale (SDLRS), developed by Guglielmino (1977). Results for question one found that total SDLRS scores among undergraduate students at Saudi Electronic University on Riyadh campus ranged from 132 to 279 with a mean score of 213.60, a standard deviation of 25.26. The results of this study were: undergraduate students at Saudi Electronic University on Riyadh campus have an average level of SDLRS; there is no significant result between the level of SDLRS and the selected demographic variable of gender. Also, there is a statistically significant difference in the mean SDLRS regarding the independent variable of college. The result of Tukey post-hoc test indicated the existence of significant differences at the .05 level between the students in the Administration and Finance College who scored higher than students in the Sciences and Theoretical Studies College. Also, there was a significant difference between the students in the Computation and Information College who also scored higher than the students in the Sciences and Theoretical Studies College.

According to Levett-Jones (2005), self-directed learning (SDL) is an educational concept that has received increasing attention in recent years, particularly in the context of higher education. Knowles (1975) defined self-directed learning as a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes (p. 18).

According to Merriam (2002), readiness for self-directed learning includes self-discipline, autonomy, effective organization, effective communication, acceptance of constructive feedback, engagement in self-reflection, and self-evaluation. Self-directed learning (SDL) requires various skills and attitudes to ensure successful independent study. Therefore, students have to analyze their current situations, support networks, study habits, and family situations (Caffarella, 2006).

For adult learners, learning places emphasis on self-directed learning processes, skills, and systems rather than tests and content coverage (Brookfield, 1984). Therefore, individuals are expected to initiate personal challenge activities and develop personal qualities to enable them to pursue the activities successfully (Caffarella, 2006). In relation to this, self-directed learners demonstrate a better awareness of their responsibility in monitoring themselves, as they seek to make learning meaningful. They

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become curious to learn new things by trying and exploring new areas, concepts, and skills. Due to this, they view problems as challenges, enjoy learning, and desire change, which implies that self-directed adult learning requires enhanced motivation, persistence, independence, self-discipline, self-confidence, and achievement of a goal-oriented attitude (Abdullah, 2007). Therefore, there are benchmarks for determining levels of readiness.

Statement of Problem

According to Alturki (2014), based on statistical data, the population of Saudi Arabia continues to rise. Among its current 20 million citizens, 9 million are immigrants. Also, the number of high-school graduates has been increasing during the past 20 years. In the 2012-13 academic years, 228,000 out of 310,000 students were admitted to universities or colleges, which means there is a gap in available places at universities, colleges, and other institutions. The government of the Kingdom of Saudi Arabia has continued to sustain new developments in the field of educational technology. In 2011, Saudi Electronic University (SEU) was established in Riyadh as an educational institution offering distance education services in the area of Administration and Finance, Computation and Information, Health Sciences, and Sciences and Theoretical Studies (SEU, 2015, 2016). Thus, there is a lack of research on the level of self-directed learning readiness of undergraduate students in Saudi Arabia.

Purpose of the Study

The purpose of this study was to identify the level of self-directed learning readiness (SDLR) among undergraduate students at Saudi Electronic University in Saudi Arabia. Also, this study investigated if there were significant differences between the level of self-directed learning readiness and selected demographic variables such as gender and college in the sample of undergraduate students in Saudi Arabia. Moreover, this study provided an actual report about self-directed learning of undergraduate students in Saudi Arabia in order to identify information for the potential inclusion of self-directed learning as a part of the educational system in Saudi Arabia.

Research Questions

This study determined the level of self-directed learning readiness among undergraduate students at Saudi Electronic University in Saudi Arabia, specifically addressing the following questions:

1. What is the level of SDLRS among undergraduate students at SEU in Saudi Arabia?
2. Does the level of SDLRS among undergraduate students at SEU in Saudi Arabia differ by gender?
3. Does the level of SDLRS among undergraduate students at SEU in Saudi Arabia differ by college (within the university)?

<center>**Literature Review**</center>

Self-Directed Learning

There are many perspectives on what SDL entails, specifically, as it relates to a function of learner personality characteristics and motivation, or SDL as a unique learning process, or potentially a combination of the two. Brockett and Hiemstra (1991) contend that there are two distinct characteristics of self-direction that include: (a) a continuous effort by the learner to maintain control over all learning decisions, and (b) the learner's ability to obtain access and make decisions from a wide range of appropriate and available resources. Likewise, Brockett and Hiemstra (1991) state that self-directed learning should not be confused with isolated study. Instead, self-directed learners are able to decisively and authentically exercise control over the purpose, content, and form of their own learning. Brockett and Hiemstra (1991) believe that in order for authentic control to be obtained, the learner must understand other alternate possibilities that exist from the basis of knowledge, with the intention of choosing among various potential options.

Self-Directed Learning Readiness

According to Fisher, King, & Tague (2001), the notion of self-directed learning readiness examines the degree at which the self-directed learner takes personal control and acknowledges the freedom that is associated with learning what the individual considers important. The degree of control is dependent on the learner's personality characteristics, attitudes, and abilities. Wiley (1983) stated that self-directed learning readiness can be defined as the degree of the attitudes, abilities, and personality characteristics that the individual possesses for self-directed learning. The following are several assumptions associated with SDL readiness. First, there is the assumption that adults are innately self-directing, suggesting that SDL readiness exists along a continuum and there are varying degrees of SDL readiness present in every person. Second, self-direction competencies are challenging to develop. The best way to understand and exhibit self-directed behavior is to learn and practice autonomous behavior. The final assumption is that the ability to practice SDL in one context can be generalized to other environments and settings. This may be the biggest challenge with defining SDL readiness, as high levels of readiness for SDL do not necessarily transfer to unfamiliar environments and contexts (Fisher et al., 2001).

As expressed previously, SDL readiness is considered to be highly individualized and representative along the continuum. As such, evidence has shown that students who possess low SDL readiness that are subsequently exposed to an SDL assignment, demonstrate high anxiety levels that are similar to the responses of learners who have high readiness for SDL and are exposed to environments that have increased levels of structure and teacher direction (Fisher et al., 2001; Wiley, 1983).

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Self-Directed Learning Readiness Scale Instrument (SDLRS)

The best well-known assessment associated with SDL is the Self-directed Learning Readiness Scale (SDLRS) developed by Guglielmino (1977). According to Merriam, Caffarella, and Baumgartner (2007), the SDLRS/LPA is the most extensively used assessment instrument within the field of SDL. It is now also known as the Learning Preference Assessment (LPA) (see Guglielmino & Guglielmino, 2016) to avoid potential participant biases based on perceptions of the words self-directed learning. Guglielmino developed the instrument as a way to effectively measure the complexities of the characteristics that define the readiness to participate in self-directed learning (Guglielmino, Guglielmino, & Long, 1987; Merriam et al., 2007).

According to Guglielmino (2008), the SDLRS is the foremost instrument that is used for evaluating the individual perceptions of the attitudes and skills that are associated with SDL. Specifically, the scale is developed around eight important factors that consider both the personalities and attitudes that have been directly linked to self-directedness. Additionally, the instrument is used for researching the relationship between other personality-related variables and self-directedness. Further, the SDLRS test includes 58-items with a 5-point Likert scale for responses that range from "almost always true" to "almost never true," with questions that are both positively and negatively phrased.

According to Guglielmino (1977), it is important to note that the SDL readiness score can be variable, meaning, that a person's score can be changed and improved upon through attention to awareness and practice. Generally speaking, higher scores on the SDL readiness are associated with higher performance on projects that require individual applications of creativity, problem solving, and change (Dynan, Cate, & Rhee, 2008). In a study performed by Guglielimo (2008) that examined the SDL readiness of the average population as compared to successful entrepreneurs, it was found that the mean readiness scores were 214 and 248, respectively (Dynan et al., 2008).

Method

Population and Sample

The target population for this study was undergraduate students who attend Saudi Electronic University on the Riyadh campus and were taking at least one course during Summer 2016. Founded in 2011, the Saudi Electronic University on Riyadh campus has a 2016 enrollment of 4,490 undergraduate students (see Table 1).

Table 1
Number of Student Enrolled in SEU Divided by College and Gender in 2016

College	Male n	Female n	Total n	%
Administration and finance	927	614	1541	34.32
Computation and information	974	348	1322	29.44
Health sciences	453	425	878	20.00
Sciences and theoretical studies	324	425	749	16.70

N=4490

The sample selected for this study included undergraduate students from the colleges of Administration and Finance, Computation and Information, Health Sciences, and Sciences and Theoretical Studies. The design of this study required two distinct statistical tests to answer the research questions: *t* test for independent samples and analysis of variance (ANOVA). Each testing method had a different associated value for medium effect size .25 and the suggested sample size while holding the power constant at .80 and Alpha .05% (Cohen, 1992), a minimum of 179 participants was required. Therefore, the total sample size for this study was 179 undergraduate students at Saudi Electronic University on the Riyadh campus by using convenience sampling.

Instrumentation

The researcher utilized a demographic information sheet and the Self-directed Learning Readiness Scale (SDLRS). SDLRS measured the level of self-directed learning readiness of undergraduate students at Saudi Electronic University on Riyadh campus.

      Demographic information sheet. The survey began with five demographic questions: What is your gender? What year were you born? What is your current college? How many years have you studied at the Saudi Electronic University? And how many courses have you taken at the Saudi Electronic University? To verify that there would be no problems associated with the translation and questions a small test was conducted with Saudi Students in Tampa. Based on their input, only minimum changes were needed.

      Self-directed Learning Readiness Scale (SDLRS). The SDLRS, originally developed by Guglielmino (1977) for measuring readiness for self-directed learning, and subsequently revised, has been used in a variety of studies and with a variety of populations. It is a 58-item, 5-point Likert-type scale designed to collect data on the respondents' perceived SDL readiness.

      Reliability and validity of the SDLRS. The SDLRS instrument was originally developed in English, but it has been translated to other languages, one of them is the Arabic language. Abo-Rokbah (2002) translated the SDLRS instrument to Arabic through the use of two official translation offices, which were the International Institute for translation and Global Nexus. Next, he had the two versions translated back into English through the use of two other official translation offices, which were Nusaiba International Translation Center and Al-Qabas Translation House. After the translation was completed, he conducted a pilot study. He asked 12 Saudi students to provide feedback about clarity and ease of understanding. All 12 students completed the instrument and gave satisfactory comments about the SDLRS instrument and its questions. As a result of his pilot study, he decided to proceed with his research. In order to examine the reliability of the SDLRS instrument Arabic version, Abo-Rokbah (2002) calculated Cronbach's alpha (α). The result of the calculation was .8795, which indicates that the Arabic version of the SDLRS instrument is highly reliable.

Interpretation. SDLRS has a total range of scores from 58 to 290 and it is divided into three levels of self-directed learning readiness: below average, average, and above average. Guglielmino (1978) interpreted each individual's SDLRS score based on her sample. The interpretation of SDLRS, the score range and explanation of readiness, is presented in Table 2.

Table 2
Interpretations of SDLRS the Score Range and Explanation of Readiness

SDLRS score range	Explanation Readiness for SDL
58-201	Below average
202-226	Average
227-290	Above average

According to Guglielmino (1978), individuals with high SDLRS scores usually prefer to determine their learning needs and to plan and implement their own learning. This does not mean that they will never choose to be in a structured learning situation. They may choose traditional courses or workshops as a part of a learning plan. On the other hand, individuals with average SDLRS scores may be successful in independent situations, but are not fully comfortable with handling the entire process of identifying their learning needs and planning and implementing the learning. Individuals with below average SDLRS scores usually prefer very structured learning options such as lecture and traditional classroom settings.

Data Collection

Data collected from the undergraduate students at the Saudi Electronic University (SEU) on Riyadh campus. The sampling strategy utilized in this study is a convenience sample. According to Creswell (2012), through using a convenience sample, the researcher can select participants because they are willing, available, convenient, and represent some characteristics the researcher seeks to study. The questionnaire was made available online by using the Qualtrics Survey Software. The researcher met the Dean of Students Affairs at SEU on June 26 to arrange the distribution of survey. The office of Students Affairs was asked to forward the link of demographic questions and Arabic version of SDLRS to their undergraduate students who had taken at least one course during Summer 2016. The first contact was on June 28 and the second contact was on July 3. There were 270 uncompleted surveys that were not part of analyses. Data collection took place between June 28 and July 8, 2016.

Data Analyses

The researcher unitized descriptive statistics such as central tendency, frequencies, and percentages and inferential statistics such as independent means *t* tests, analysis of variance (ANOVA), and Tukey to describe and analyze data.

Findings

Findings for Research Question 1

What is the level of SDLRS among undergraduate students in Saudi Arabia? In order to answer research question one, descriptive statistics for SDLRS scores were used. The SDLRS scores ranged between 58 and 290. Based on Guglielmino and Guglielmino's work (2008), there are three levels of readiness for self-directed learning: Below average 58-201; average 202-226; and above average 227-290 score. Descriptive statistics for SDLRS scores for all participants are presented in Table 3.

Table 3
Descriptive Statistics for SDLRS Scores for all Participants

Statistic	Value
Mean	213.60
Median	215.00
Standard Deviation	25.26
Variance	637.84
Skewness	- .067
Kurtosis	.027
Range	147.00
Minimum	132.00
Maximum	279.00

N = 203

As indicated in Table 3, the total SDLRS scores ranged from 132 to 279 with a mean score of 213.60, which is considered as average level, a standard deviation of 25.26, and median of 215. Mean and Standard Deviation for SDLRS by subgroup are presented in Table 4.

Table 4 presents the mean and standard deviation for SDLRS by subgroups. The female group had a mean 216.28 that is 6 points higher than the male group 210.83. The Administration and Finance group had a mean 217.48 that is higher than the Computation and Information group 215.83, the Health Sciences group 215.02, and the Sciences and Theoretical Studies group 201.92. The 38-47 year old group had a mean of 219.76 that was higher than the 28-37 year old group (213.08), and the 18-27 years group 212.33.

Table 4
Mean and Standard Deviation for SDLRS by Subgroup

Group		Mean	*SD*
Gender	Male	210.83	25.94
	Female	216.28	24.40
College	Administration and Finance College	217.48	24.44
	Computation and Information College	215.83	23.49
	Health Sciences College	215.02	28.13
	Sciences and Theoretical Studies College	201.92	23.52

Age	18-27 years					212.33	24.73
	28-37 years					213.08	26.19
	38-47 years					219.76	23.39

N = 203

Findings for Research Question 2

Does the level of SDLRS among undergraduate students at SEU in Saudi Arabia differ by gender? To answer research question two, an independent means *t* test was performed to ascertain if there was a significant difference between the level of SDLRS and the selected demographic variable of gender.

Results of the independent means *t* tests are presented in Table 5.

Table 5
Independent t Test Result for Gender

Gender	n	Mean	*SD*	*df*	*t*	*P*
Male	100	210.83	25.96	201	1.54	124
Female	103	216.28	24.40	199.37		

Note: α = .05

Table 11 indicates that there was no significant result, $t = -1.54$, $p = 0.124$ between the level of SDLRS and gender. These results suggest that the gender did not have any significant influence in the level of self-directed learning readiness (SDLR) among undergraduate students at Saudi Electronic University in Saudi Arabia.

Findings for Research Question 3

Does the level of SDLRS among undergraduate students at SEU in Saudi Arabia differ by college? This question was answered using a one-way ANOVA to determine if there was a significant difference between the level of SDLRS and college (Administrative and Financial, Computing and Informatics, Health Sciences, Science and Theoretical Studies). Results of the one-way ANOVA are presented in Table 6.

Table 6
Summery One-Way ANOVA Table for College

Source	SS	*df*	MS	F	P
Between Groups	6333.52	3	2111.17	3.43	.018
Within Groups	122509.36	199	615.63		
Total	128842.88	202			

Note: α = .05

As shown in Table 12, at an alpha level of .05 the significance level is .018, which is below .05. There was a statistically significant difference in the mean score of SDLRS related to college in which the participant was matriculating. To know which of the specific groups differed, the researcher used the multiple comparisons table, which consist the result of post-hoc tests. The result of Tukey post-hoc test is presented in Table 7.

Table 7

Multiple Comparisons Results by College

College	Mean	AF	CI	HS	ST
AF	217.48	--	-1.65	-2.46	-15.56*
CI	215.83	1.65	--	-.80	-13.91*
HS	215.02	2.46	.80	--	-13.10
ST	201.92	15.56*	13.91*	13.10	--

Note: α = .05 ∗ p >.05

AF = Administration and Finance College; CI = Computation and Informatics; HS = Health Sciences College; ST = Science and Theoretical Studies College.

Table 13 demonstrates that the Tukey test showed the existence of significant differences at the .05 level between the students in the Sciences and Theoretical Studies College, and the students in Administration and Finance College. Also, revealed were significant differences at the .05 level between the students in the Sciences and Theoretical Studies College, and the students in Computation and Information College.

Conclusion

This study determined the level of self-directed learning readiness (SDLR) for undergraduate students at Saudi Electronic University in Saudi Arabia. The study also investigated the relationships between the level of self-directed learning readiness and selected demographic variables such as gender, college, and age in the sample of undergraduate students in Saudi Arabia. The results demonstrated that undergraduate students at Saudi Electronic University on Riyadh campus had an average level of SDLRS. Also, demographic variables of gender and age did not have differences between them and the mean score of SDLRS among undergraduate students at Saudi Electronic University on Riyadh campus. However, the demographic variables of college revealed a significant difference.

Implications

Results of the study offer several implications for practice and has potential to make positive updates to the educational system in Saudi Arabia in general and SEU in particular. Determining the level of SDLRS among students may provide additional methods for students to learn the skills needed for SDL. It also may help faculty members review their syllabi to be in accord with the level of self-directed learning readiness among undergraduate students. Saudi Arabia students have historically not been taught or encouraged to be self-directed learners. To increase potential increase in SDLRS, the system of education in Saudi Arabia could provide courses and or activities that address self-directed learning skills. Although there was no difference in SDLRS scores by gender, women were not allowed to participant in higher education until about 40 years ago. Since the majority of student were younger, it is possible that a broader age range might have produced different results.

The Administration and Finance College and Computation and Information College had higher scores than the Sciences and Theoretical College. Teachers and students rely on

theoretical techniques, lectures, and memorizing. If the Ministry of Education wants to improve self-directed learning skills at SEU, or any other university, paying attention to the mix between theory and practice might improve self-directed learning skills. Again paying attention to methods and techniques that emphasize SDL skills could be more consciously implemented in the lower scoring colleges.

The participants were close in age, which may have accounted for the similar results. If the age of the students increases, differences in SDL may occur. Should that happen, SEU might need to address changes needed for the increased age range.

Recommendation for Further Research

Recommendations for future research include:
- This study utilized quantitative methods to determine the level of Self-directed student readiness (SDLR) among undergraduate students at Saudi Electronic University in Riyadh campus. Conducting qualitative research studies such as interviews and focus groups may provide greater insights into student SDLR.
- This study indicated the undergraduate student perceptions about their self-directed learning readiness. Similar studies could be conducted with graduate students to determine whether there is similar or different perception about their self-directed learning readiness.
- This study focused only on Saudi Electronic University. Future research could extend to other universities in Saudi Arabia and comparison could be made between Saudi Electronic University and other universities in Saudi Arabia.
- This study focused on Riyadh campus of Saudi Electronic University. Different research studies could be conducted on other campuses of Saudi Electronic University and make comparison among campuses of Saudi Electronic University.
- The number of participants of this study was 203 undergraduate students. Conducting future research with increased number of participants may contribute to providing more information about SDLR.
- This study included the demographic variables of gender and college. A similar study may be conducted with different demographic variables including variables such marital status, occupation, and nationality.
- This study focused on the undergraduate students in summer semester 2016. Future research could be conducted in different semesters at Saudi Electronic University.
- This study included all years of studying at Saudi Electronic University. Different studies could focus only on Fifth year.

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