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E-Learning and Students' Motivation: A Research Study on the Effect of E-Learning on Language Teaching and Learning

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Abstract

Web-based learning is used nowadays as another option to face to face language teaching and learning. Although the e-learning term and tools do exist for over a decade, the educational research field has not given enough attention to the study of student motivation under the effect of e-learning. Online platforms could be used as an aid to deliver e-content and to provide various possibilities for implementing asynchronous e-learning web-based modules. In today's modern learning scenario, it is believed that appropriate utilization of sophisticated tools of e-learning has generally been recommended in order to yield best possible results. In online education, students have autonomy, as they are free to decide what they want-where-when they want to study. Self-regulated learners are described as learners who are active participants in their learning process. The purpose of this study is to investigate self-regulation in Online Language Courses. As self-regulated learning is very important in settings of online education, measurement and adequate support of it are very important. Possible differences between age groups will be examined. A questionnaire will be used and administrated to potential/actual students. The significance of this study is that it will raise the awareness of academic staff to the importance of using the interactive features of e-learning as an important asset in teaching.

Keywords: *e-learning, SOL-Q, online language learning, self-regulated learning*

1. Introduction

As more and more personal computers were deployed in workplaces and homes during 1970s and 1980s, the use of computer-based training increased rapidly [18]. "E-learning is defined as formal and informal education and information-sharing that uses digital technology" [7]. e-Learning capitalises on advances information processing and internet technologies to provide, among others [19]:personalisation, interactivity, Media rich content, Just in time delivery, user-centric environments. According to Rosenberg [18] e-learning has great possibilities based upon three criteria: e-learning is connected to a network, e-learning is delivered to the user via a computer that uses standard Internet technology, e-learning focuses on a broad view of learning which differs from the traditional views of education.

Several studies have investigated students' perspectives of online learning. Petrides [14] interviewed students to reveal their perspectives on Web-based learning. In Vonderwell's [23] study, 22 students were interviewed concerning their perceptions of their asynchronous online learning experiences. Chizmar and Walbert [2] showed that the public display of online discussions made learners more careful in posting their comments Petrides [14] found that participants to work more easy in collaborative groups in an online course without rearranging everyone's schedule

2. Online language learning

Within the field of language learning, there have been several advancements in technology that have promoted the development of multiple softwares. Language learning applications first appeared as PC-based and were usually specialized in phonetic training [4]. For example, the SPATS programme [13], [25] is targeted at remedial work with hearing aid users. The literature on learning outcomes of these new age language learning technologies is not extensive, as few have investigated the design and evaluation of the usability of such applications.

Language education theory supports that notion and additionally finds that language learners require comprehensible input in order to make sense of new knowledge in the target language [11], [12]. In addition, linguistic and cognitive language theories stress the importance of presenting learners with multiple opportunities to interact with authentic, contextualized, and linguistically challenging activities and materials in communicative and academic contexts [6], [10], [11], [12]. Adding e-learning

instructional components may provide more of those opportunities, and may also offer more flexible access to students [15].

In online education, students have autonomy, as they are free to decide what they want-where-when they want to study. This amount of autonomy is a major challenge for students, as being completely responsible for their own learning process. This means that they have to engage in self-regulated learning (SRL) [8]. Self-regulated learners are described as learners who are active participants in their learning process [27]. Self-regulated learners are not only metacognitively and behaviourally active during the process of learning (performance phase), but also before (preparatory phase) and after the learning task (appraisal phase) [17]. SRL encompasses task strategies—the cognitive processes learners engage in—and the activities to regulate these cognitive processes [27].

The purpose of this study is to investigate self-regulation in Online Language Courses. As self-regulated learning is very important in settings of online education, measurement and adequate support of it are very important. Possible differences between age groups will be examined.

3. Methodology Research

Self-regulation in online language courses will be measured through the use of the SOL-Q. Participants of the research divided in two age groups (15-30years old -1st group- and 31-46 years old 2nd group-) in order to reveal possible differences between the two groups self-regulation data towards online language learning.

3.1 Instrument

Several questionnaires are available to measure Self-regulated learners, such as Motivated Strategies for Learning Questionnaire [16], the Online Self-regulated Learning Questionnaire [1], the Metacognitive Awareness Inventory [20], and the Learning Strategies questionnaire [24]. The basic problem with all the aforementioned questionnaires is that their validity in online settings has not been established. Measures developed for traditional classrooms must be validated for use in online settings [22]. For example, a recent study has shown that the MSLQ could not be validated in an asynchronous online learning environment [3], as well as the validity of the MAI and the LS in online settings has not yet been tested. In this research, the relatively new SOL-Q questionnaire, developed by Jansen et al. [8], will be used to measure self-regulated language learning in online courses. This questionnaire was tested in the context of Massive Open Online Courses by conducting an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) on two separate datasets collected in two different Massive Open Online Courses. The SOL-Q, consists of 5 scales: metacognitive skills, environmental structuring, help seeking, time management, and persistence [8]. The participants responses scored using a 7-point Likert scale, ranging from ‘‘not at all true for me’’ (= 1) to ‘‘very true for me’’ (= 7).

3.2 Participants

In Greece, as in many other countries, there are many foreign language academies that offer both traditional and online courses. During the last decade the demand for online language courses has increasingly increased and every year even more learners (both teens and adults) tend to orientation towards online language learning. Participants of this research (N=402) were Greek university students who had participated in online courses offerings of a foreign language.

4. Results

62% of them were male and 38% were female. 48% belong to the age group 15-30 years old and 52% to age group of 31-46 years old.

Multivariate analysis of variance (MANOVA) was conducted to examine differences between the two groups’ self-regulation Table 2. Prior to the test, a test to determine the homogeneity of variance-covariance matrices using Box’s M test was carried out. This is a way to determine whether the variance-covariance among the dependent variables is the same or the opposite, across all groups. This is a prerequisite for MANOVA test [9]. Table 1 shows the result of tests Box’s M.

Table 1. Box’s M test

Box’s M	F-value	df1	df2	Sig.
5.814	0.948	6	34534.413	0.442

Table 1 reveals that there is a significant difference between variance-covariance among the dependent variables for all level of independent variables (F=0.948, p=0.442) (p<0.05). This is interpreted as the variance-covariance of dependent variable is not homogeneous across all groups. Stevens [21] proved that even if matrices homogeneity of variance-covariance (Box's M test) is significant, it is not mandatory to be a problem for the MANOVA test, in cases where the sample size is large and almost the same (biggest sample/smaller sample <1.5) due to the impact of type I error is very small. In this study, the number of sample size is large and almost the same, therefore the above test hypothesis can be done by using MANOVA test.

In the MANOVA analysis, there are various statistical tests that can be used to test hypothesis such as Wilks' Lambda, Pillai's Trace, Hotelling's Trace and Roy's Largest Root. Each one is used to test the hypothesis multivariate, which the population mean is the same. In this study, Hotelling's Trace was used: Hotelling's Trace =0.13, F(6,1014) = 21.21,p < .01. Univariate F-tests showed that Time management, Environmental structuring and Help seeking were significantly different between the two groups. The first age group had higher means in all scales, Table 2. There was no significant difference between the two groups on Metacognitive skills and Persistence.

Table 2. MANOVA for the two groups

	2st group		1nd group		F	Sig	η^2
Metacognitive skills	M	5.32	M	5.58	4.864	0.41	0.018
	SD	1.41	SD	1.32			
Time management	M	4.72	M	5.11	25.154	0.000	0.061
	SD	1.52	SD	1.22			
Environmental structuring	M	5.23	M	5.92	24.206	0.000	0.058
	SD	1.18	SD	1.14			
Persistence	M	5.29	M	5.38	1.711	0.158	0.004
	SD	1.13	SD	1.17			
Help seeking	M	3.81	M	4.02	9.214	0.003	0.032
	SD	1.39	SD	1.31			

To measure self-regulated language learning in online courses in both groups, multiple regression analyses will be used, Table 3.

Table 3. Multiple regression analyses of self-regulated language learning in online courses

		Unstandarized coefficients		Standarized coefficients		
Variables	Group	B	Std. Error	Beta	t	p value
Intercept	2nd	11.98	0.81		16.92	0.000
	1st	11.79	0.89		13.65	0.000
Metacognitive skills	2nd	-.126	.121	-.087	-.089	.317
	1st	.011	.127	.013	.059	.89
Time management	2nd	.127	.091	.098	1.208	.201
	1st	.102	.127	.072	.709	.399
Environmental structuring	2nd	.243	.129	.201	1.971	.064
	1st	.117	.196	.095	.682	.494
Persistence	2nd	.402	.127	.297	2.954	0.005
	1st	.302	.179	.264	1.804	0.081

Help seeking	2nd	-.029	.078	-.285	-.152	.687
	1st	-.304	.109	-.245	-2.604	0.014

According to the multiple regression results, the coefficient of determination - R^2-, which is the proportion of variance in the dependent variable that can be explained by the independent variables, of the 2nd group was 0.146, meaning that our independent variables explain 14.6% of the variability of our dependent variable and the F-ratio, which results indicate whether the overall regression model is a good fit for the data, was F(5, 986) of 5.795, $p < .001$, explaining a significant amount of variance in the outcome variable. R2 for the 1st group was 0.197, explaining 19.7% of the variability of our dependent variable and the F-ratio was F(5, 932) of 5.689, $p < .001$.
After the evaluation of the *F*-value and R^2, the regression beta coefficients were evaluated, Table 3. The beta coefficient is the degree of change in the outcome variable for every 1-unit of change in the predictor variable. The *t*-test assesses whether the beta coefficient is significantly different from zero. . In the 2nd group, Environmental structuring and Persistence (Beta= .201 and .297) and in the 1st group Persistence and Help seeking (beta= .264 and .245) were significant predicting self-regulated language learning in online courses.

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