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An Emerging Trend in Today's World for Future Societies: Life-Wide Learning – a Scale Development and Application Study for Undergraduates in Faculties of Education

Abstract

The recent changes in Europe have changed the understanding of higher education systems in Turkey; as such, higher education institutions have affiliated themselves with a reconstruction period. In this process, it has been emphasized that today's societies are in need of individuals who are well-developed in personal and professional domains. The concept of life-wide learning has emphasised that the people graduating from universities just with the knowledge of their domains will be inefficient for fulfilling the needs of future societies. This study reflects on the results of research that was designed to develop and test an instrument that could identify the components of an undergraduate's life-wide learning habits. Since it was difficult to anticipate the components of lifelong learning because of its complex nature, considerable attempts were made in order to handle the process for cognitive, physiological, affective, social, technical and cultural domains. The instrument which was developed – Life-wide Learning Habits Scale- was trialled with 645 undergraduate students studying at the faculty of education across a range of variables. The data was subjected to an explanatory factor analysis, allowing the identification of four dimensions of lifelong learning. These dimensions appear to be capable of differentiating between the personal developmental habits, professional habits, care-based habits, leisure habits of graduates. The developed scale was applied to 296 undergraduate students and the life-wide learning habits of students were assessed regarding their genders, departments and socio-economic situations. Depending on the collected data, lifelong learning habits of university students

have been discussed, and some suggestions have been proposed to overcome difficulties in organizational changes in higher education.

Keywords: *life-wide learning, habits of personal development, higher education*

Introduction

In today's world it has been difficult to pursue individuals' preferences, choices and expectations as the modern world has made them confront with various challenges never before encountered. In this ever-changing world higher education institutions have taken over significant roles in order to educate individuals for the future in such unprecedented settings. Globalization and industrialization have led universities and other educational institutions to internalize educational reforms in the 21st century. These inevitable trends have made universities transform themselves in order to keep track of new ideas and developments in the social, economic, cultural, etc., dimensions dramatically expanded in volume, scope, and complexity during the past two decades. These activities range from study-abroad programs, allowing students to learn about other cultures, to providing access to higher education in countries where local institutions cannot meet the demand. Furthermore, other activities, such as skills of students, enhancing foreign language programs and providing cross-cultural understanding, have been emphasized in the last two decades.

In Europe, these outstanding reforms have been inspired by the Bologna Process, which has been going on for over a decade. The process can be seen as an educational restructuring process that is outlined at the European level to be implemented in the nations of Europe and other nations as part of the process (Fejes, 2006, p: 203). In the face of continuously changing circumstances, it is possible to outline a lot of policies and agreed implications that have a well-known impact on higher education institutions.

Among the agreed implications, there are a lot of reforms to help achieve the "Europe of Knowledge," which can be seen as the greatest dream of the Bologna Process. Moreover, lifelong learning is constructed as a central part of this knowledge-based society and as a way to create the employable citizen, which is a way to compete with the surrounding world. It is also argued that a Europe of lifelong learning will empower citizens to become more mobilized, and make Europe more democratic, inclusive and tolerant (Fejes, 2006). There have been exhaustive attempts of higher education institutions related to lifelong learning.

Life-Wide Learning

Nowadays, the work of universities is getting hard and complex, as they are expected to achieve many different goals in various fields of life. The most significant dilemma in today's societies is to handle the constantly changing status of information and technology, which makes it compulsory to keep track of new ideas and developments in all domains. As Baumann (2006) stated, universities have become part of a 'liquid life'. Instead of being enclosed and inner-directed, they are today becoming outer-directed and liquid. Accordingly, life-long learning competencies have been indispensable principles for higher education.

Life-long learning can be simply defined as "all learning activities taken throughout life" (European Commission 2002:9; Clark, 2005). While life-long learning describes what an individual learns throughout the entire lifespan, life-wide learning represents the fact that learning can take place in all fields of life, such as work, family, travelling, volunteering, etc. The life-wide learning concept is not totally novel (Jackson, 2011; Clark, 2005). Dewey argued that to provide education that was effective in preparing people for life we must relate education much more closely to life. He also argued that before educators designed educational experiences they must first understand the nature of human experience. Armed with this theory of the role of experience in learning, educators could set about organizing subject matter in a way that took account of students' past experiences and provided them with new experiences to stimulate their development, which can be seen in the philosophical underpinning for life-wide learning and education (Jackson, 2011).

Nowadays, higher education institutions are expected to present a leading education to provide students with whole development. Life-wide learning is directly related to the personal development of individuals, which is a desirable feature for today's graduates. Furthermore, it enables people to improve themselves cognitively, socially and personally. Life-wide education makes it possible to train graduates well-developed both in their own courses and in different ways of life - sports, art, travel, parental issues, etc. Students themselves have become "learning nomads", increasingly inhabiting all kinds of social and economic situations that afford different kinds of learning (Barnett, 2011). In a rapidly changing world, it is important for students to have a lot of experience and knowledge in various parts of life. Hence, universities ought to provide their students with effective settings in various scopes. An undergraduate student should reach a lot of different places to develop him/herself in various fields. Barnett (2011:26) enumerated some learning activities and processes the student may be involved in, such as within a course-accredited or not; voluntary courses, courses unrelated to students' own fields.

In the concept of life-wide learning, it is operational to set time, place and people. In other words, the coordination of time, place and people can be adapted to individuals, their needs, interests, etc. As Yip (2002) stated, life-wide learning is a breakthrough of the limitations, so that it enables students to have a special feeling and motivation. There are various scopes for students to enhance their learning without any borders for time, place and people. In this study, it is aimed to reveal the statistical analysis of an instrument which was developed to identify undergraduates' studying at faculties of education- life-wide learning habits. It is also aimed to assess such habits regarding their genders, departments and socio-economic situations.

Research Methodology

The Scale Development Process

As the first step in the design of an instrument is to identify the potential content of habits and factors, an initial literature review was conducted in order to identify the most likely components on the basis of existing research on life-wide learning habits. The components of life-wide learning identified in other studies (Jackson, 2011) highlight the complex notion of the task of the research project. Life-wide learning comprises various dimensions: cognitive, physiological, affective, social, technical and cultural domains, which makes the research interdisciplinary in its scope. The existing literature indicated that there are at least six broad categories that can be identified as making a substantial contribution to life-wide learning. The identified categories seem to be inter-related, trans-disciplinary and cumulative. The categories can be identified as follows;

- Personal Development
- Communication Habits
- Professional Habits
- Care-based Habits
- Leisure Habits
- Language Learning Habits

In each component, an initial list of life-wide learning was generated by reviewing the literature from multiple sources, and 50 items were identified for the whole 5-point Likert-type scale. In order to determine the accuracy of the statements, seven educationalists controlled the scale and expressed their ideas about it depending on the theoretical framework outlined in the literature and scale development principles. Even though there is a range of studies which have identi-

fied variables that have an impact on life-long learning, few attempts have been made to explore the notions of life-wide learning. Therefore, this study made an attempt, from a certain perspective, to identify variables and relationships between them. It also shows that the components mentioned above are likely to influence each other in a dynamic way.

It was firstly necessary to conceptualize and restrict the broad notion of the life-wide learning concept so as to develop a holistic view of it. The term life-wide learning is a concept that requires a careful definition as it includes a lot of formal and informal discourse, which has been a challenging situation for the identification of the components of the scale. According to Clark (2005; 54), life-wide learning generally refers to the experiences that take place beyond the classroom. This interpretation of life-wide learning is about experiential learning in authentic environments. As such, it mainly concentrates on the formal and non-formal dimensions, rather than informal.

Jackson (2011) stated that a life-wide curriculum is the most appropriate concept for a higher education experience, which sets out to help students develop themselves for a lifetime of learning in an infinitely complex ever changing world. He also emphasized that a life-wide curriculum seems to be in line with the complexity of learning experiences required to prepare people for a very uncertain world.

The draft instrument was designed with 50 items, and piloted with a cohort of 320 university students studying at the Faculty of Education. The respondents were students from different departments and socio-economic conditions. Following piloting, a factor analysis was identified as an appropriate means of analysing the responses to the scale, as it makes it possible to reduce a large set of items to a smaller set of components. Then it would be advisable that these factors could be used to determine subscales of items for the assessment of those components.

The factor analysis statistics indicated the presence of eleven factors that were theoretically coherent. In order to get a more coherent data set, the second phase of the study was performed with a cohort of 645 students. Then it was possible to eliminate items that were proved to be unclear for serving the purpose of the scale. While the KMO value of the scale was found as .92, the result of Barlett's test was found significant (.000). After Varimax rotation was carried out, the scale was reduced to 40, items which emerged as statistically significant from the factor analysis. Moreover, a small number of others were eliminated as they were found to have statistical usefulness. The total experienced variance of the scale in question was calculated as 62.839%, which is a valid value in most social studies. Furthermore, the rotated factor matrix indicated that the scale had 4 sub-scales, as can be seen in Table 1.

Table 1. Rotated Factor Matrix of the Developed Scale

Keywords of Items	Personal Development	Care-Based Habits	Professional Habits	Leisure Habits
Transferring knowledge	.862	.180	.069	-.097
Obeying ethical rules	.861	.160	.068	-.043
Improving self-management	.838	.182	.024	-.100
Entrepreneurship	.838	.231	.030	-.161
Improving self-assessment	.834	.142	.073	-.090
Controlling emotions	.834	.199	.018	-.044
Coping with challenges	.834	.168	.020	-.089
Improving self-confidence	.815	.335	.024	-.071
Using analytical skills	.805	.334	.013	-.130
Using synthetizing skills	.796	.111	.144	.033
Using evaluation skills	.765	.016	.064	-.097
Problem-solving	.762	.169	.066	.120
Questioning	.754	.320	.036	.063
Doing research	.750	.244	-.034	-.263
Improving written communication	.744	.175	.018	-.103
Improving verbal communication	.711	.297	.095	.003
Active listening	.706	.357	.097	-.061
Group work	.682	.280	.131	-.012
Convincing others	.676	.400	-.010	-.228
Leadership	.634	.527	-.009	-.295
Travelling	.628	.439	.002	-.131
Coping with personal matters	.590	.448	-.005	-.001
Organization	.553	.498	.118	.043
Managing others	.542	.468	.059	-.122
Looking after herself/himself	.431	.691	.042	-.145
Taking responsibility as a parent	.364	.669	.031	.065
Taking care of someone	.165	.633	.251	-.107
Volunteering	.268	.477	.267	.156
Having experience in authentic atmosphere	.016	.014	.872	.010
Interviews	.089	.073	.820	.020
Improving work experience	-.071	-.041	.771	.255
Gaining experience in teaching	.065	.061	.743	.101
Getting professional competence	.122	.143	.705	-.084

Keywords of Items	Personal Development	Care-Based Habits	Professional Habits	Leisure Habits
Part-time job experience in teaching	.017	.083	.678	.140
Part-time job experience in any job	.082	.102	.628	.035
Playing a musical instrument	-.093	-.071	.174	.708
Drama activities	-.018	.108	.055	.707
Student clubs	-.338	-.158	.221	.706

The successive statistical operations made it possible to identify four key components of life-wide learning. It should be emphasized that life-wide learning is a broad and developing concept, which makes it difficult to set certain borders between its main scopes. However, in this study it was possible to determine four basic components by detailed scrutiny of items on four factors. Regarding the statistical analysis and item scrutiny, the four components were subsequently titled: “Personal Development”, “Care-Based Habits”, “Professional Habits” and “Leisure Habits”.

Personal Development: It refers to the activities related to personal development of undergraduate students studying at faculties of education.

Care-Based Habits: It deals with activities related to taking care of oneself and others.

Professional Habits: It concerns job-related facilities.

Leisure Habits: It includes social, cultural and sports activities.

In order to determine the reliability of the developed scale, Cronbach's alpha internal consistency was calculated as .95. Another analysis was conducted to determine the reliability of the scale based on the difference between top and bottom groups of 27%. Therefore, it was supposed to remove the items that were not significant according to *t* value scores. However, no items were identified with such a value. In addition, items analysis was also performed for the reliability of the scale and correlation coefficients between item scores, and items with the item-total correlation below .30 were removed from the scale.

Application of the Scale

In this study, the developed scale was used to examine 296 undergraduate students studying at the Faculty of Education at Mersin University in the 2012/2013 academic year in order to identify the life-wide learning habits of teacher candidates and to determine the effects of some variables on such habits (gender, department,

socio-economic situation). The population of the research consisted of 203 females and 93 males studying at the departments of Turkish Language Teaching, Science Education, Maths Education, Primary Education, English Language Teaching, Preschool Education, Psychological Counselling and Guidance.

The analysis of the presented study was carried out with the statistical program “Spss 16.0 for Windows”. For the examination of the data, the “descriptive analysis” method was used, and the data obtained in this study was analysed with the use of Kolmogorov-Smirnov, Levene’s test of homogeneity, independent *t*-test and one way ANOVA. The data obtained accordingly were summarized and interpreted.

Findings and Discussion

Table 2 indicates the minimum and maximum scores, means and standard deviations of the students for the whole scale and its dimensions.

Table 2. Minimum and Maximum Scores, Means and Standard Deviations of Students

	N	Min.	Max.	\bar{x}	Sd
The Whole Scale	296	58.00	188.00	141.21	18.21
1. Dimension: Personal Development	296	35.00	130.00	103.17	13.77
2. Dimension: Care-Based Habits	296	4.00	20.00	14.17	3.03
3. Dimension: Professional Habits	296	7.00	35.00	17.37	6.31
4. Dimension: Leisure Habits	296	3.00	14.00	6.50	2.49

As can be seen in Table 2, the minimum score is 58 and the maximum score is 188. The mean of the students’ scores is 141.21, which means that the students have high levels of life-wide learning habits as their mean is higher than the scale’s mid-point.

Based on the data gathered from the Kolmogorov-Smirnov test, the data of the study was found normally distributed for both the females and males ($p = .601$). Moreover, the homogeneity of variances assessed by Levene’s Test for Equality of Variances was calculated as .443. As these values were over .05, the data was accepted as normally distributed and homogeneous. As such, independent *t*-test as a parametric test was applied to the data in question. Regarding the independent *t*-test results, no significant difference was observed in the participants’ life-wide learning habits with respect to their gender variables. Table 3 shows the independent *t*-test

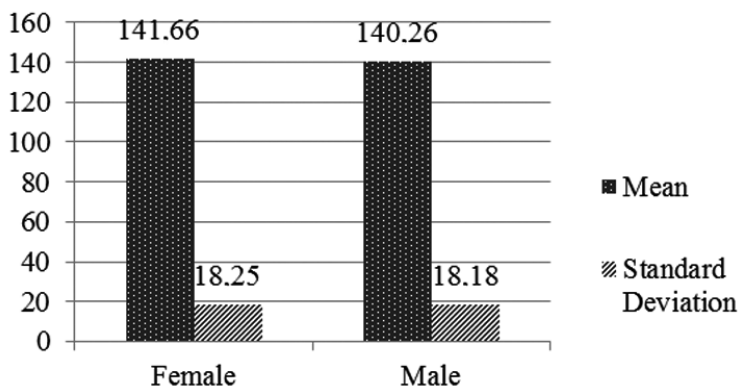
results showing the difference of the students' life-wide learning habits regarding their genders.

Table 3. Independent *t*-Test Results
Showing Gender Difference

Gender	N	\bar{x}	Sd	T	P
Female	203	141.66	18.25	.616	.539
Male	93	140.26	18.18		

While the female students tended to have such habits slightly more than the male students, there was no significant gender difference in the average scores on the life-wide learning habits ($t=.616$, $p>.05$). It is also possible to see the same results when examining Figure 1.

Figure 1. Means and Standard Deviations
of Life-Wide Learning Habits of Genders



Based on the data gathered from the Kolmogorov-Smirnov test, the data of the study was found normally distributed for all the departments ($p>.05$). Moreover, the homogeneity of variances assessed by Levene's Test for Equality of Variances was calculated as .053. As these values were over .05, the data was accepted as normally distributed and homogeneous. As a result, one way ANOVA as a parametric test was applied to the related data. The ANOVA results showed that no significant difference was found in the participants' life-wide learning habits with respect to their departments.

Table 4. ANOVA Results Showing the Department Difference

ANOVA	Sum of Squares	sd	Mean Square	F	P
Between Groups	1905.082	6	317.514	.956	.455
Within Groups	96294.554	290	332.050		
Total	98199.636	296			

p<0.05

As can be seen in Table 4, no significant difference was found between the departments of the students filling the instrument ($p=.455$). Concerning the data gathered from the Kolmogorov-Smirnov test, the data of the study was found normally distributed for the socio-economic situations of the undergraduate students ($p>.05$). Moreover, the homogeneity of variances assessed by Levene's Test for Equality of Variances was calculated as .839. As a result of ANOVA analysis, no significant difference was found in the participants' life-wide learning habits with respect to their socio-economic situations. Table 5 shows the ANOVA results concerning the socio-economic difference.

Table 5. ANOVA Results Showing the Socio-Economic Difference

ANOVA	Sum of Squares	sd	Mean Square	F	P
Between Groups	187.601	2	93.801	.281	.755
Within Groups	98012.035	294	333.374		
Total	98199.636	296			

p<0.05

Table 5 shows that there is no significant difference between the socio economic situations of the undergraduates. In the study, there were three predetermined income levels to be examined – low, average, and high. However, the analysis indicated that the undergraduates from these socio-economic backgrounds have similar life-wide learning habits.

Conclusions

The aim of this research was to develop a scale in order to determine undergraduate students' life-wide learning habits. The pre-trial form of the scale was applied to 645 undergraduate students and explanatory factor analysis was conducted to identify the construct validity of the collected data. In consequence, 40 items of

the scale had four basic sub-dimensions of “Personal Development”, “Care-Based Habits”, “Professional Habits”, and “Leisure Habits”. There were similarities in the definitions that had been put forward in previous research done by Jackson (2011) in relation to the components. Based on the findings concerning the reliability and validity analyses, the scale can be suggested as valid and reliable in order to determine undergraduate students’ life-wide learning habits. Using or adapting this scale is believed to contribute greatly to the future of higher education institutions and their students.

In order to conceptualize the multidimensional and complex notion of life-wide learning, a scale for the life-wide learning habits of students was developed, especially for pre-service teachers studying at faculties of education. After this process, the scale was applied to 296 participants in one of the leading universities in Turkey. Depending on the data assessed by comparing the mean scores of the participants, it can be identified that the participants take part in activities related to life-wide learning. In this research, it has been found that the average scores of the students obtained in the “Life-wide learning habits scale” are a bit higher than the scale’s medium scores. Thus, the life-wide learning habits of the undergraduate students are average. It can be suggested that by providing students with various activities or facilitating them, their interests and habits can be encouraged in all the components of life-wide learning. As the whole development of higher education students is an indispensable principle for life-wide education, students should be given opportunities in all domains of life.

The results of the analysis presented in the study confirm the hypothesis that gender does not have a significant or positive impact on life-wide learning habits of pre-service teachers. However, it appears that gender can have an effect on the life-wide learning habits of the participants in the component of activity. This finding illustrates the significance of considering multiple dimensions of learning for both genders when investigating the benefits of learning in various settings. Moreover, there was no significant difference among the students in relation to their departments. Such a finding shows that the departments of the faculty have similar student profiles, so the scale can be applied to different departments of various faculties.

The study also tried to highlight the significance of empirical investigation on the effects of well-being on life-wide learning habits of pre-service teachers. It is perhaps not surprising that there is no significant difference among the participants in line with their life-wide learning habits, since the concept of life-wide education consists of various activities in its all dimensions. However, by considering a broader notion it can be accepted that apart from the participants’ levels of

income, the social behaviour of the students can have an important effect on their habits.

All these findings signal the need for further empirical research on the causal relationships among the multiple dimensions of life-wide learning, since learning is a dynamic and continuous process. Research that can be conducted among students from different departments can be suggested in order to get hold of an overview of higher education students' life-wide learning habits.

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