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Self-Regulated Learning Skills of Undergraduate Students and the Role of Higher Education in Promoting Self-Regulation*

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ABSTRACT

Purpose: This research aims to examine self-regulated learning (SRL) skills of undergraduate students (USs) and reveal the role of higher education programs in promoting SRL skills.

Research Methods: In this mixed-method research, the participants consisted of 1411 freshmen and senior students and 17 senior-year interviewees. Data collection tools included Personal Information Form, Self-Regulatory Learning Scale and semi-structured interview form.

Findings: The findings obtained in this study showed that SRL skills of USs were moderate. SRL skills of USs significantly differed in accordance with gender, grade level, foreign language preparatory education, the high school type students graduated from and the motive for choosing the program. The qualitative findings of the study revealed that a wide range of elements regarding curriculum, instruction, instructors and other components of higher education programs were substantially significant in enhancing SRL.

Implications for Research and Practice: As a result of this research, it can be suggested that higher education programs in the sample do not adequately promote SRL skills of undergraduate students. The inclusion of SRL-promoting-elements in the curriculum and instructional processes are bound to the instructors who design their own courses. Considering most of the faculty members have not received a comprehensive pedagogical and andragogical education, SRL might have a long way to get in to the agenda of tertiary instructors. Therefore, the tertiary instructors are highly suggested participating in a continuous and comprehensive pedagogical training focusing on the good teaching practices that can foster SRL and desirable learning outcomes.

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Introduction

A significant predictor of academic achievement and an indicator of lifelong learning disposition, the development of self-regulated learning skills should be one of the main pillars of any school curriculum from elementary to tertiary education. As Bembenutty (2011) stated, postsecondary education is -in nature- much more challenging and demanding than the elementary and secondary education and requires a higher level of SRL skills. However, many students starting their tertiary education lack basic self-regulatory skills, such as setting academic goals, the ability to delay gratification or choose the appropriate learning strategy, which eventually undermines academic success (Bembenutty, 2011). The most prominent rationale behind this study is to find out whether the undergraduate students possess a sufficient level of SRL skills and to identify the elements of higher education curricula and instruction that promote the SRL skills of the USs. Moreover, it is still unknown whether the undergraduate programs enhance the SRL skills of the USs and how higher education programs support SRL skills. Therefore, this study aims to examine the SRL skills of the USs and reveal the role of higher education programs in enhancing SRL skills of the USs. Based on the aims, this research seeks to answer these questions: (1) How self-regulated are the USs? (2) Do the SRL skills of the USs differ concerning their gender, grade level, foreign language preparatory education, high school type they graduated from and the motive for choosing the undergraduate program? (3) Based on the views of undergraduate students, which elements of the undergraduate programs promote SRL skills? (4) Based on the views of undergraduate students, do undergraduate programs promote SRL skills sufficiently?

Literature Review

Self-regulated learning (SRL) is defined by Zimmerman (1989, p. 329) as a learning process in which the learners "are metacognitively, motivationally and behaviorally active participants". Self-regulated learners (SRLs) set learning goals, make plans, and actively organize the environment in a way to maximize their learning by monitoring and regulating their cognition, motivation and behaviors during learning; and they also reflect on the process (Pintrich, 2004; Pintrich & Zusho, 2002; Zimmerman, 1990). SRLs utilize cognitive strategies for remembering and comprehension, metacognitive strategies for planning, monitoring, evaluating and regulating their cognitive processes, and take actions to control and manage their performance in academic tasks (Gundogan-Cogenli & Guven, 2015; Pintrich, 2000; Pintrich & DeGroot, 1990; Zimmerman & Martinez-Pons, 1986). SRLs also have a relatively high level of self-efficacy and motivation, which function as catalysts for goal setting and strategy use (Bandura, 2015). SRLs are strategic, autonomous and proactive learners who can control their learning and try to overcome the difficulties in the learning process (Goulão & Menedez, 2015; Pintrich et al., 1991; Winne, 2015), which eventually increases the possibility of a high level of academic achievement.

For the last 30 years, many studies examining the relationship between SRL and achievement have been conducted, which revealed that SRL is a significant predictor of academic success (Bempechat, Li & Ronfard, 2018; Caughy et al., 2018; Pei-Ching & Min-Nin, 2012; Skibbe et al., 2018; Zimmerman & Schunk, 2011). Moreover, SRLs were

high achievers not only in school but also in life (Lau, 2013). Zimmerman (2002) suggested that SRLs are likely to succeed more in academic studies and view their futures optimistically because of their superior motivation and adaptive learning methods. In fact, the use of the adaptive strategies of SRLs might have a positive effect on their professional career. Cox's research in 2000 revealed that employees who have a higher level of SRL skills were trusted and evaluated more positively than those who have poorer SRL skills. Along with the studies focusing on achievement in and beyond school, there have been many studies which regard SRL skills as lifelong learning skills (Betsy, 2016; De La Harpe & Radloff, 2006; Garcia-Martin, 2012; Luftenegger et al., 2016; Luftenegger et al., 2012; Schmidt & Schmitz, 2008). As SRL skills increase the possibility of being a lifelong learner along with higher academic achievement and success in the business world, it can be said that SRL skills are indispensable for each individual.

Although the SRL concept draws attention to the individual, SRL skills can systematically be acquired through educational processes (Kitsansas, Winsler & Huie, 2008; Luftenegger et al., 2016). To enhance student self-regulation, curriculum and instructional processes should be organized in a way to allow students to use self-regulatory skills (Paris & Winograd, 2003; Randi & Corno, 2000; Zimmerman, 1990). A curriculum-embedded approach proposed by Randi and Corno (2000) suggests that curricular content and other elements of the curriculum, such as the teaching-learning process and instructional aims should be designed to provide students with self-regulation possibilities. However, most research on the enhancement of SRL usually focuses on the instructional processes and sometimes on teacher-related variables, while curricular elements are often disregarded (Alvi & Gillies, 2015; Butler, 2002; Clark & Zimmerman, 1990; Lau, 2013; Uredi & Uredi, 2007; Whitebread et al. 2012). A review on the literature related to the enhancement of SRL skills has resulted in many elements regarding the planning and conducting the instruction, classroom management and learning atmosphere and testing-evaluation (Alvi & Gillies, 2015; Butler, 2002; Clark & Zimmerman, 1990; Eshel & Kohavi, 2003; Lau, 2013; Ley & Young, 2001; Paris & Winograd, 2003; Pino-Pasternak et al., 2014; Pintrich, 2004; Uredi & Uredi, 2007). These elements are listed in Table 1:

Table 1.

Instructional Principles and Practices that Promote SRL Skills of Students

Elements regarding the planning and conducting the instruction	To inform students about the instructional objectives
	To relate real life and the needs/interests of the students to learning tasks
	To present students multi-dimensional, authentic and complicated learning content and tasks that allow flexibility
	To present knowledge in diverse ways
	Strategy instruction
	To be a model for students in strategy use
	To conduct problem-based learning activities
	To teach problem solving skills
	To conduct collaborative learning activities
	To allocate time for peer instruction

Table 1 Continue

Elements regarding classroom management and learning atmosphere	Having positive, supportive and respectful attitudes toward students
	To increase student control in instructional processes
	To enhance social interaction
	To encourage students to help and seek help
Elements regarding testing and evaluation	To use formative assessment tools
	To provide students with opportunities for self and peer evaluation
	To accept students' mistakes as a part of the learning process
	To value and reward students' success and progress
	To provide effective feedback regarding students' performance

As seen in Table 1, many instructional principles and practices that can support the development of SRL skills were identified by previous studies. However, these elements are only related to the planning, implementation and evaluation of instruction and neglect the role of the curriculum and other components of the educational contexts, such as extracurricular activities or the characteristics of the instructors. Moreover, the studies focusing on how to promote SRL are often conducted in elementary and secondary classrooms and students (Abar & Loken, 2010; Alvi & Gillies, 2015; Brown et al., 1996; Cleary & Chen, 2009; Dignath, Buettner & Langfeldt, 2008; Florez, 2011; Leidinger & Perels, 2012); thus, they do not provide sufficient theoretical background for tertiary instructors about how to promote SRL skills of their students.

Method

Research Design

In this research, a mixed method research design was utilized. Johnson, Onwuegbuzie and Turner (2007) stated that mixed method research is a research design in which the quantitative and qualitative research methods are used together to obtain a comprehensive and deep understanding and verification. The nature of the research question was the primary rationale for researchers to adopt a mixed method approach towards collecting the data. Therefore, the convergent parallel design was utilized. A diagram that shows the research design and process can be seen in Figure 1 below:

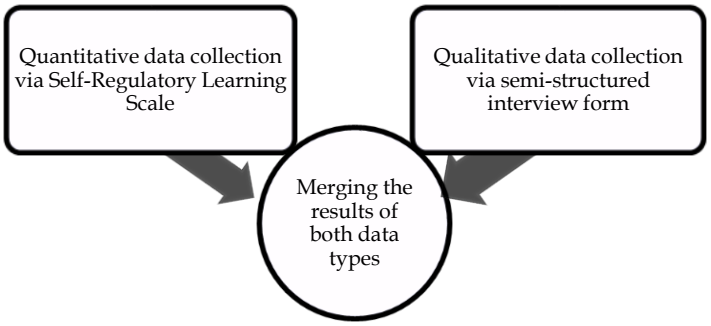


Figure 1. *Research Design.*

To examine the SRL skills of USs, the survey method was employed. Examining the curricula of higher education programs was initially thought to be appropriate to reveal the curricular elements that can foster SRL. However, the tertiary curricula in Turkey are mostly comprised of a list of the course content that may change from one instructor to another. Therefore, a document analysis method might have resulted in fallacious findings or been inconclusive. For this reason, researchers decided that it was more sensible to gather information about the actual teaching-learning process and curricula from the actual participants of the process, namely the undergraduate students. With this rationale in mind, 17 senior-year-students were interviewed. The reason why senior students were interviewed was that they had quite many experiences regarding tertiary education during their 4-year-study, which freshmen students might lack.

Research Sample

The participants were chosen by stratified sampling method based on their faculties and class level from a-10779-student-population studying in a public university located in the central part of Turkey. The participants in the quantitative part included 1411 undergraduate students enrolled in 14 different faculties within the same university. Information about the population and sample can be seen in Table 2:

Table 2.

Population and Sample of the Study in the Quantitative Part

Faculties	**Freshman Population**	**Freshman Sample**	**Senior Population**	**Senior Sample**	**Population in Total**	**Sample in Total**
Faculty of Pharmacy	146	61	152	56	298	117
Faculty of Humanities	408	51	761	65	1169	116
Faculty of Education	871	95	1110	114	1981	209
Faculty of Science	174	34	353	39	527	73
Faculty of Fine Arts	96	11	348	31	444	42
F. of Aeronautics & Astronautics	145	38	127	41	272	79
Faculty of Law	458	60	264	62	722	122
F. of Econ. & Administrative Sci.	812	80	1220	118	2032	198
Faculty of Communication Sci.	187	32	324	39	511	71
F. of Architecture and Design	246	27	536	52	782	79
Faculty of Engineering	466	47	504	50	970	97

Table 2 Continue

Faculties	Freshman Population	Freshman Sample	Senior Population	Senior Sample	Population in Total	Sample in Total
Faculty of Health Sciences	87	23	72	25	159	48
Faculty of Sport Sciences	162	32	323	66	485	98
Faculty of Tourism	115	23	312	39	427	62
Total	**4373**	**614**	**6406**	**797**	**10779**	**1411**

Seven hundred ninety of the participants were female and 621 of them were males. Besides, 614 participants were freshmen, while 797 of them were senior students. The participants in the qualitative part included 17 senior students chosen by purposeful sampling method. The primary criterion to be chosen for the interview was to be an undergraduate student for at least seven semesters in the university where the study was carried out. Voluntary participation was also a major concern in the selection of the interviewees. Finally, the participants in the qualitative part consisted of nine male and eight female senior students. The interviews were held with 17 students lasted approximately 40 to 65 minutes.

Research Instruments and Procedures

To be able to answer the research questions, researchers collected data using Personal Information Form, Self-Regulatory Learning Scale developed by Turan (2009) and a semi-structured interview form.

Personal information form: The form was designed by the researchers to gather information about the participants, such as their faculty, their reasons to choose their department, the high school type that they graduated from.

Self-regulatory learning scale: The Likert-type scale consisted of 41 items under four factors (motivation and taking action for learning, planning and goal setting, strategy use and evaluation, autonomy in learning) and response options ranged from 1 (I strongly disagree) to 5 (I strongly agree). Proven to be valid based on the exploratory and confirmatory factor analyses, Cronbach's α was calculated as 0.82 for motivation and taking action for the learning subscale, 0.82 for the planning and goal setting subscale, 0.90 for strategy use and evaluation subscale, 0.73 for autonomy in learning subscale and 0.92 for all the items in the scale. The least score that can be obtained from the scale is 41, while the highest score is 205. Higher scores can be interpreted as higher levels of self-regulated learning.

Semi-structured interview form: In an attempt to answer the third and fourth research questions, researchers developed a semi-structured interview form that included 14 questions before the data collection process. The interview form was examined by two

experts who hold a PhD in Curriculum and Instruction and have conducted many qualitative studies. The form was revised in the light of expert opinions, and two pilot interviews were held. Sample questions from the final form were as the following: *"How does your program motivate you? If not, how can it motivate you?", "Has your university education provided you with new learning strategies? If yes, how?"*

Data Analysis

Firstly, the researchers analyzed the distribution of quantitative data by conducting Kolmogorov-Smirnov test analysis and examining the histograms as well as skewness-kurtosis values. After it was found out that the data showed normal distribution according to each independent variable and homogeneity of variances was proven through Levene's test, the researchers utilized the means of the scores taken from the scale and subscales, t-test for independent samples and one-way ANOVA at a confidence interval at .05. The qualitative data were analyzed inductively. The transcription of the data was firstly coded by the researchers in the light of the literature, and the codes obtained were placed under the relevant themes decided by the researchers. To ensure the reliability, two other field experts (who hold a PhD and have experience with qualitative data analysis) coded 30% of the data and revised the themes. When the reliability formula of Miles and Huberman (1994) was applied, the intercoder reliability was calculated as 87%.

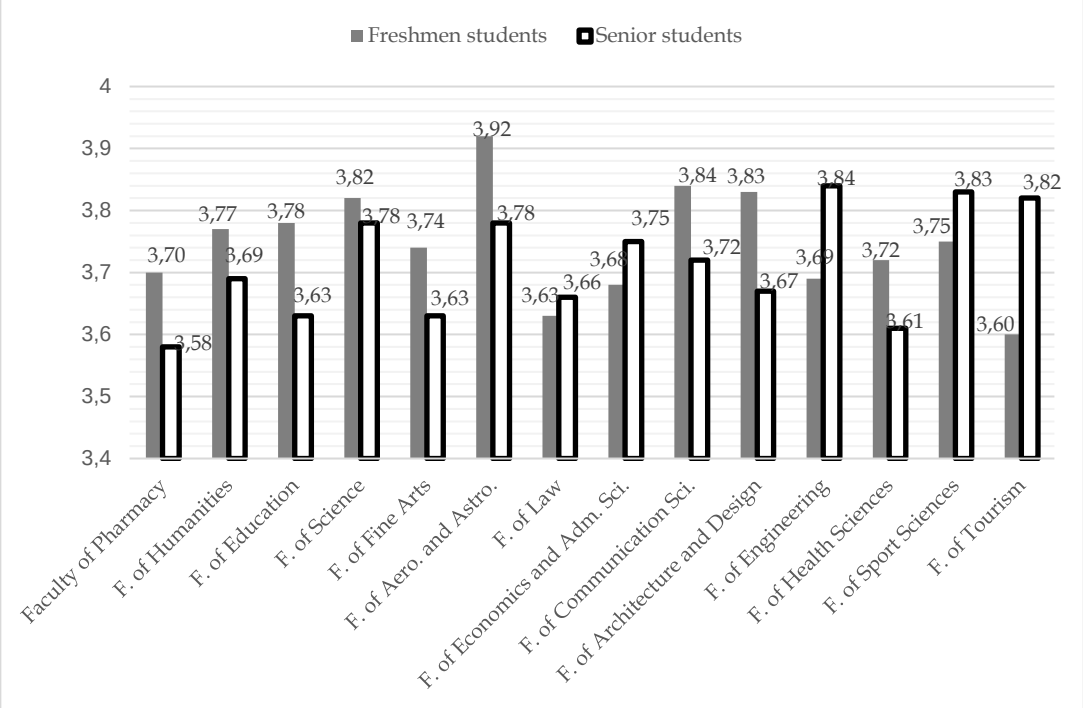
Results

Self-Regulated Learning Skills of Undergraduate Students

The preliminary analysis of the data showed that the SRL skills of undergraduate students (USs) were moderate ($\bar{x}$=3.72; SD=.44). The USs got the highest mean from the *motivation and taking action for learning* subscale ($\bar{x}$=3.97; SD=.57) and got the lowest mean from the *autonomy in learning* subscale ($\bar{x}$=3.29; SD=.68). The means taken from the scale by the USs based on their faculties and grade levels are shown in Graphic 1.

Graphic 1 shows that the highest mean obtained from the scale by the freshmen belonged to the USs who study in the Faculty of Aeronautics and Astronautics ($\bar{x}$=3.92; SD=.34) while the students from the Tourism Faculty got the lowest mean ($\bar{x}$=3.60; SD=.52). The highest mean obtained from the scale by the senior students belonged to the engineering students ($\bar{x}$=3.84; SD=.48), while senior pharmacy students got the lowest mean ($\bar{x}$=3.58; SD=.47) from the scale.

Graphic 1. *Scores Taken From Self-Regulatory Learning Scale by Freshmen and Senior Students*



Based on Graphic 1, it can be inferred that freshmen from nine faculties got higher means than senior students enrolled in the same faculty. In the remaining five faculties, senior students got higher means than the freshmen. However, independent samples t-tests showed that there were statistically significant differences between the means of freshmen and senior students in just five faculties out of 14 faculties. According to the results of the t-test, freshmen in the Faculty of Education ($\bar{x}$=3.94; SD=.68) outperformed the senior students of the same faculty ($\bar{x}$=3.76; SD=.54) in the *motivation and taking action for learning* subscale, ($t_{(207)}$=2.238; p<.02; η^2=.022). Freshmen teacher candidates ($\bar{x}$=3.85; SD=.44) also outperformed senior teacher candidates ($\bar{x}$=3.67; SD=.55) in the *strategy use and evaluation* subscale ($t_{(207)}$=2.533; p<.01; η^2=.030). Freshmen teacher candidates ($\bar{x}$=3.78; SD=.37) got a higher mean from the scale than the senior teacher candidates ($\bar{x}$=3.63; SD=.50), ($t_{(207)}$=2.440; p<.01; η^2=.026). Another statistically significant difference regarding the grade level was found between the freshmen and senior students of the Faculty of Fine Arts. The freshmen in the Faculty of Fine Arts ($\bar{x}$=4.06; SD=.35) got a higher mean from the *planning and goal setting* subscale than the senior students ($\bar{x}$=3.62; SD=.36), ($t_{(40)}$=3.503; p<.001; η^2=.23). Similar to those in Faculty of Education, freshman-year-students in the Faculty of Aeronautics and Astronautics ($\bar{x}$=4.23; SD=.36) got a higher mean from the *motivation and taking action for learning* subscale than the senior students of the same faculty ($\bar{x}$=3.95; SD=.61), ($t_{(77)}$=2.454; p<.01; η^2=.07). According to the independent samples t-test results, senior students outperformed freshmen in two faculties. The senior engineering students

($\bar{x}$=3.44; SD=.66) got a higher mean from *autonomy in learning* subscale than the freshmen ($\bar{x}$=3.13; SD=.59), ($t_{(95)}$=2.402; p<.01; η^2=.05). Also, senior students of the Faculty of Tourism ($\bar{x}$=3.89, SD=.50) got a higher mean from *the strategy use and evaluation* subscale than the freshmen of the same faculty ($\bar{x}$=3.60; SD=.59), ($t_{(60)}$=2.034; p<.04; η^2=.06).

The motive of choosing the undergraduate program was another variable that was examined in relation to the SRL skills of the USs. One-way ANOVA results showed that the motive of the USs while choosing the undergraduate program was a significant predictor of their SRL skills ($F_{(7,1403)}$=5.308; p<.00; η^2=.026). Regarding the mean scores taken from the scale, multiple comparisons with the Tukey test indicated that there were significant differences with those who chose the program because of their own interests ($\bar{x}$=3.77; SD=.43), families' guidance ($\bar{x}$=3.68; SD=.43) or the advantages of the program ($\bar{x}$=3.69; SD=.47) and those who chose the program because he/she was not accepted to any other program ($\bar{x}$=3.43; SD=.44). As the same pattern was repeated in all the subscales, the results regarding the subscales were not mentioned.

Another variable that interfered with the SRL skills of the USs is the secondary school type that the USs graduated from. Tested with one-way ANOVA, the secondary school type USs graduated from resulted in statistically significant differences between the means taken from all the subscales and the scale in general ($F_{(6,1404)}$=4.694; p<.00; η^2=.020). Tukey HSD test results revealed that the mean of the scores taken from the scale by the USs who graduated from general high schools ($\bar{x}$=3.76; SD=.44), vocational/technical high schools ($\bar{x}$=3.79; SD=.41) and Anatolian high schools ($\bar{x}$=3.74; SD=.44) were higher than those who graduated from Anatolian Teacher Trainer high schools ($\bar{x}$=3.59; SD=.43) and science high schools ($\bar{x}$=3.55; SD=.44). As to the subscales, graduates of general high schools ($\bar{x}$=4.04; SD=.55) and vocational/technical high schools ($\bar{x}$=4.11; SD=.51) were statistically more motivated than the graduates of Anatolian Teacher Trainer high schools ($\bar{x}$=3.76; SD=.56) and science high schools ($\bar{x}$=3.79; SD=.68). In the *planning and goal setting* subscale, graduates of general high schools ($\bar{x}$=3.87; SD=.61), vocational/technical high schools ($\bar{x}$=3.85; SD=.58) and Anatolian high schools ($\bar{x}$=3.80; SD=.64) outperformed the graduates of Anatolian Teacher Trainer high schools ($\bar{x}$=3.66; SD=.65) and science high schools ($\bar{x}$=3.47; SD=.60). Post-hoc test also revealed that graduates of general high schools ($\bar{x}$=3.80; SD=.51), vocational/technical high schools ($\bar{x}$=3.87; SD=.52) and Anatolian high schools ($\bar{x}$=3.77; SD=.50) were using more strategies than the graduates of Anatolian Teacher Trainer high schools ($\bar{x}$=3.62; SD=.47). Although the graduates of science high schools got the same mean ($\bar{x}$=3.62; SD=.49) with the graduates of Anatolian Teacher Trainer high schools from the strategy use and evaluation subscale, the Tukey HSD test did not find a statistically significant difference between the graduates of science high schools and others. Another difference was found in the autonomy in learning subscale. Graduates of Anatolian high schools ($\bar{x}$=3.34; SD=.67) got a higher mean from the *autonomy in learning* subscale than the graduates of vocational/technical high schools ($\bar{x}$=3.18; SD=.66) and sports high schools ($\bar{x}$=2.95; SD=.59).

In the university where the data obtained, English preparatory school is compulsory for some students and optional for the others. Independents samples t-test results

showed that the USs who had attended English preparatory school ($\bar{x}$=4.03; SD=.50) had a higher mean than those who had not ($\bar{x}$=3.94; SD=.60) in the *motivation and taking action for learning* subscale ($t_{(1409)}$=3.079; p<.00; η^2=.077). Although the USs attended the English preparatory school had higher means than those who did not in all the other subscales, the differences were not statistically significant; therefore, not mentioned.

Based on the results of the t-test for independent samples, gender was another variable that interfered with the SRL skills of the USs. Female USs ($\bar{x}$=3.76; SD=.41) got a higher mean from all the items in the scale than male students ($\bar{x}$=3.68; SD=47), ($t_{(1409)}$=3.420; p<.00; η^2=.092). Females ($\bar{x}$=3.87; SD=59) outperformed males ($\bar{x}$=3.69; SD=66) in the *planning and goal setting* subscale ($t_{(1409)}$=5.115; p<.00; η^2=.137). Females ($\bar{x}$=3.34; SD=.67) also got a higher mean than males ($\bar{x}$=3.22; SD=.69) in autonomy in learning subscale ($t_{(1409)}$=3.362; p<.00; η^2=.089). In conclusion, it can be claimed that female USs in the sample are more self-regulated than male USs.

The Elements of the Undergraduate Programs that Foster SRL Skills of the USs

The quantitative data showed that there were differences between faculties regarding their students' SRL skills. However, it was not clear whether undergraduate programs fostered SRL or not. Moreover, it was not known which elements in these programs promoted SRL skills of the USs. By analyzing the qualitative data obtained from the interviews, the elements of the undergraduate programs that enhanced SRL skills of the USs were identified through content analysis of the interviews held with 17 USs. These elements and their frequencies are listed in Table 3 below:

Table 3.

The Elements of Undergraduate Programs that Promote SRL Skills

Themes	Subthemes
Elements regarding curriculum	Educational aims and content that comply with the USs' needs and interests (*f*=10)
	Alternative testing and evaluation methods (*f*=8)
Elements regarding instruction	Using practice to support theoretical knowledge (9)
	Utilizing collaborative learning activities (*f*=9)
	Providing ample social interaction during classes (*f*=7)
	Building a bond between the teaching-learning process and real-life (*f*=6)
	Strategy instruction (*f*=6)
	Providing effective feedback (*f*=4)
	Effective material use (*f*=3)
	Providing students with a flexible learning environment (*f*=2)
	Assigning students with challenging learning tasks (*f*=2)
Elements regarding faculty members	A high level of teaching skills (*f*=10)
	Providing students with guidance in learning (*f*=10)
	Personality characteristics (*f*=4)
	Field knowledge (*f*=3)
	Sector experience (*f*=3)
	Positive attitudes towards students (*f*=2)
	Being a good role model for the students (*f*=2)
	Rewarding students' success (*f*=2)
	Encouraging the students (*f*=2)

Table 3 Continue

Themes	Subthemes
Other elements	Facilities and physical environment that supports and/or eases learning (*f*=11)
	Field trips (*f*=3)
	Contests (*f*=3)
	Activities, such as symposiums and conferences(*f*=3)
	Career days (*f*=1)
	Student clubs (*f*=1)
	The prestige of the university in the related sector (*f*=1)

As we can see from Table 3, all dimensions of an undergraduate curriculum, namely aims, content, learning-teaching processes and evaluation, played a significant role in enhancing the SRL skills of the students. Moreover, the findings showed that the instructors and contextual or extracurricular elements had a crucial role in promoting SRL. Based on the views of the participants, when the aims and content of a course related to the needs and interests of the students, student capacity for self-regulation increased mainly because of an increase in student motivation and engagement. For instance, Participant 1 (Male, Faculty of Health Sciences) stated, "*as I am studying in the field of health, anatomy, physiology or rehabilitation attracts my attention more. It has been like this, I mean, for years. These courses draw my attention and motivate me because I need to learn them and I like them.*" This statement suggests that when students were engaged in a course that was relevant to their needs and interests, they tend to motivate more, which eventually increased the capacity to self-regulate. In addition to aims and content, evaluation methods are also significant in enhancing SRL. Participants stated that when alternative testing methods, such as portfolios or peer evaluation, were used, students were able to obtain a detailed evaluation of their performance and they were given a chance to use metacognitive strategies that are of the key components of SRL. In addition, alternative testing methods build up self-efficacy perception and encourage students to aim higher. For example, Participant 2 (Female, Faculty of Architecture and Design) stated that:

> "*In our department, we have a lot of peer and self-evaluation. For instance, my best friend […] Getting her opinion about my project both expands my horizon and gives me the opportunity to improve my work. Makes it better. Makes me feel to do more, I can do more. And I say then I will do more.*"

Teaching-learning process, in other words, instruction also plays a significant, maybe the most significant role in promoting SRL skills of undergraduate students. Using practice to support theoretical knowledge was identified as a primary instructional principle to be followed to enhance SRL based on the students' views. The findings suggest that when theory was supported with practice, students were more motivated, learn more and had the opportunity to utilize cognitive and metacognitive learning strategies. For example, Participant 3 (Male, Faculty of Law) stated that "*I am motivated more when instructors make us practice […] and we need practice to learn*", while Participant 4 (Male, Faculty of Science) emphasized the importance of practical work in using self-regulatory strategies by saying "*in our lab courses, we conduct experiments and we see what happens when we do this or that. We see what could*

happen if we make a mistake. Gives me the chance to monitor myself." This statement suggests that engagement in practical work lets him use cognitive and metacognitive learning strategies by planning and monitoring his actions during an experiment. Another key component of instruction that promoted SRL was the inclusion of collaborative learning activities that motivated students and ease the learning process by allowing students to learn via peer instruction. An exemplary view by Participant 5 (Female, Faculty of Health Sciences) is presented below:

> "*Information is filtered by students and coded course. When you learn from a peer, you directly get the coded knowledge. It's like the instructor gives us the Bingo chips and we try to complete our scorecards. […] and when we study with a friend, it's like s/he gives us the missing chip, which completes our scorecard. It's more efficient that way*."

The findings suggest that along with collaborative learning activities, providing a strong social interaction during classes also supported SRL skills by increasing student motivation, engagement and persistence. Participant 6 (Male, Faculty of Tourism) stated that "*I am motivated and engaged [….] when instructors draw our attention to the lesson. In the least expected moment or when you are distracted, there comes a question from the instructor. It's impossible not to participate.*" Participant 7 (Male, Faculty of Aeronautics and Astronautics) emphasized the significance of social interaction, especially concerning motivation and persistence by saying, "*If a lesson in which the instructor just gives a lecture, I don't wake up even if the class starts at 11.00 a.m. But if an interactive course starts as early as 9.00 a.m., I always attend it. That's the difference."* Building a bond between the learning-teaching process and real-life contributes to the motivation and strategy to use components of SRL based on the data. Participant 8 (Female, Faculty of Communication Sciences) stated that "*Sometimes we work on the real briefs sent from real advertising agencies. When that happens, you feel like you have to do a good job because you are going to work with them in a couple of years. It's challenging, but you study enthusiastically*." Participants reported that strategy instruction also enhances SRL skills. Participants mainly suggested that when the instructors model the strategies they use or explicitly instruct how to use a strategy to learn, it helps the students to use strategies that are more effective. Participant 9 (male, Faculty of Communication Sciences) stated that "*We have an instructor in the Photography class who especially helps us adopt new strategies. He always shows and explains how he shoots a photo, then lets us use this strategy in our own ways, which gives better results for learning*." Providing effective feedback and learning materials was crucial in promoting SRL as effective feedback allows students to monitor their learning and effective materials optimize learning and increase perceived student self-efficacy. Based on the views of the participants, flexible learning environments were also helpful concerning enhancing the SRL skills of the students. Participant 10 (Male, Faculty of Sport Sciences) stated that:

> "*In our Squash course, which is mostly based on practice, the instructor provides you free space and time. You can practice with your friends in that period or try new stuff about the course. It at least motivates you towards the course.*"

It is understood that flexible learning environments not also motivate students but also provide them with opportunities to pursue new ways to learn. Assigning students with challenging learning tasks was determined to be functional in promoting SRL by motivating and helping students to improve their planning skills and cognitive

strategies. For example, Participant 11 (Female, Faculty of Economics and Administrative Sciences) stated that:

> "*Once I had an assignment about stock markets. I developed planning skills during the preparation of that assignment. I consulted with my instructor and searched for resources […] When you ask the right questions and get sufficient answers, it (assignment) also motivates you.*"

Another key component of higher education programs that promote SRL was the instructors. Based on the views of the participants, instructors who had a high level of teaching skills, field knowledge, sector experience, positive attitudes, and who reward and encourage students were highly motivating. Participant 12 (Female, Faculty of Humanities) stated that she was motivated more when the instructor

> "*[…] is energetic and funny. When an instructor who really loves his/her job gives the lecture, you can't forget a single word s/he says. If the instructor generates excitement, we focus more and have fun while learning.*"

Participants also stated that instructors who provided guidance helped them to develop functional planning skills and set higher goals for themselves. Participant 12 (Female, Faculty of Humanities) stated that "*When you set a goal, you have to make a plan and find sources. That's when the instructors step in. They guide us about the resources, teach us how to find these resources*."

The participants also stated that the facilities of the university and physical environment also had an impact on their SRL, mostly by increasing their motivation and providing them an environment that makes self-regulation possible. For example, Participant 13 (Male, Faculty of Aeronautics and Astronautics) stated that

> "*We have a plane to conduct procedures on it. We have simulation labs for both pilot candidates and air traffic controllers. These things get us ahead of all the other faculties (in other universities) and motivate us to do more.*"

Based on the views of the participants, field trips, contests, symposiums, conferences, career days and student clubs had positive impacts on SRL skills, especially in motivation, goal setting and planning components of self-regulation. The prestige of the university in the related sector was motivating for students. Participant 14 (Male, Faculty of Engineering) stated that "*I attend to the symposiums, conferences and seminars held by or university. These educational events helped me to find new topics or projects to work on*." This statement suggests that extracurricular activities in higher education can promote students' SRL skills by introducing them new topics that can stimulate students' intrinsic motivation.

As we can see above, higher education can enhance students' SRL skills with its curricula, instruction, instructors, the physical environment and extracurricular activities. However, all participants stated that the elements that supported SRL did not take place enough in higher education except for the physical environment and facilities. Therefore, participants suggested that higher education programs should be revised to include SRL-promoting elements more. These suggestions are listed below:

- Using alternative testing and evaluation methods more frequently
- Revising the aims and content of the courses to make them more related to the needs and interests of the students
- Allocating more time for practical studies
- Allocating more time for collaborative learning activities
- Proving effective feedback and learning materials in a sufficient manner
- Enhancing social interaction and flexible learning environments in learning-teaching processes
- Obtaining feedback from the students
- More guidance from the instructors
- Developing teaching skills of the instructors
- Increasing extracurricular activities
- Delivering more strategy instruction

As we can see from the suggestions listed above, higher education programs can be improved in a way to include the SRL-promoting elements more frequently and effectively to educate the lifelong learners of the future.

The Story that the Quantitative and Qualitative Results Tell

The quantitative results show that the SRL skills of USs differ according to gender, the secondary school type, the motive behind the program choice, which is all independent from tertiary education itself. In 9 faculties, freshmen students were more self-regulated than senior students. The only prominent variable related to tertiary education that interfered with SRL was to be English preparatory education. Although this study is not conducted longitudinally, these findings may imply that tertiary education fails to promote SRL; in fact, it may have an undermining effect. Moreover, the views of the interviewees support this argument as they frequently told that SRL-promoting elements–although they were many- had rarely taken place throughout four years of university education. All participants put forward many suggestions for SRL to be enhanced by the institution and tertiary instructors, especially about how to motivate the students. All in all, both types of data concluded the same result that although tertiary education can and should improve SRL skills of the USs, it usually fails to do so in the tertiary education institution where the study was conducted.

Discussion, Conclusion and Recommendations

Based on the quantitative and qualitative findings obtained in this study, the findings showed that the SRL skills of the undergraduate students were relatively moderate and that there was a wide range of educational practices that could support SRL at the tertiary level. However, these practices are not sufficiently implemented in higher education programs. Therefore, SRL skills of tertiary students remain –more or less- the same or become poorer from freshmen year to the senior year.

In this study, the findings showed that the undergraduate students obtained the lowest scores from the *autonomy in learning* subscale. Severiens et al. (2001) found that students at higher education level were more dependent on others than themselves. According to this, it can be said that undergraduate students need to gain a higher level of independence and autonomy in learning, which could increase their success in and beyond school (Cox, 2000; Lau, 2013).

Within the scope of the research findings, the findings showed that the average score of female students in *planning and goal setting* and *autonomy in learning* subscales and their scores from the overall scale were significantly higher than that of male students. The relationship between SRL learning and gender is handled by many researchers and contradictory research findings are available in the related literature. Caprara et al. (2008) found that female students had higher self-efficacy perceptions, while Zimmerman and Martinez Pons's (1990) study showed that female students used more SRL strategies than males. Turan (2009) stated that there was a meaningful difference in favor of females in the planning and goal setting subscale, while Celik (2012) found a significant difference in favor of men in this subscale. Wolters and Pintrich (1998) found that gender did not lead to a difference in SRL. Pintrich and de Groot (1990) found that male students had higher self-efficacy perceptions than females, whereas Zhao, Chen and Panda (2014) found that male students were more self-regulated than females. In this context, the findings of this study are consistent with the findings of Turan (2009), Caprara et al. (2008) and Zimmerman and Martinez Pons (1990). Pintrich and de Groot (1990) reported that female students are prone to perceive themselves as less capable. In this context, the difference between males and females might have stemmed from that females set more and higher goals for themselves to overcome their insufficient self-efficacy perception.

As a result of this study, it was found that the class variable led to a significant difference in SRL skills. The freshmen from nine faculties in the sample had higher averages, while the senior students from five faculties got higher scores than the freshmen. Accordingly, it can be said that the curriculum, the instructional processes and the learning environments that the students are exposed to might have a fostering or undermining effects on the SRL skills. This result may also suggest that higher education programs fail to support SRL skills sufficiently. Qualitative findings also support the same inference. All participants frequently emphasized that the SRL-promoting elements are not salient in tertiary programs and put forward numerous suggestions.

The findings showed that the undergraduate students who had taken foreign language preparatory education had significantly higher scores on *motivation and taking action for learning* subscale than the students who had not. Foreign language proficiency is especially important for the students who study in faculties whose medium of instruction is English. Therefore, foreign language preparatory education may have positively altered the undergraduate students' motivation by nurturing their self-efficacy perception regarding learning.

It was also determined that the type of secondary education institution graduated from caused a significant difference in all subscales of the Self-Regulatory Learning Scale. As can be seen from the study of Celik (2012), it was found out that the prospective teachers who graduated from general high schools were more self-regulated than the ones graduated from Anatolian Teacher Trainer High Schools, which was also a result of this study. In line with our findings, Zhao, Chen and Panda (2014) determined that graduates of vocational secondary education institutions were more self-regulated than other high school graduates. The reasons behind these differences among secondary education institutions are beyond the scope of this research; therefore, further studies regarding this issue can be conducted.

Another finding was that USs differed in their SRL skills according to the reasons for choosing the program they attend. Since the interests and needs are the basis of motivation (Wlodkowski, 1985) and thus SRL, it is quite natural and expected that the students who make their choice based on their interests would perform more self-regulation than the ones who have to study in the current program because they were not admitted to another program that they preferred in the first place. This result reveals the necessity of directing students to higher education programs that are appropriate to their interests.

The findings from the qualitative data concluded that the elements related to the curriculum, the elements related to teaching, the elements related to the instructors and context are important in promoting SRL in higher education. This study is of significance concerning demonstrating that SRL can be supported not only by teaching but also by curriculum, teaching staff and contextual elements in higher education.

As Paris and Winograd (2003) stated, there are diverse ways for SRL to be taught. Among the elements related to the curriculum that support SRL, the objectives and contents of the courses complying with the interests and needs of the students were significant. Pino-Pasternak et al. (2014) stated that SRL could be supported by relating learning tasks to students' interests, needs and real-life. In addition, Uredi and Uredi (2007) and Ley and Young (2001) stated that it is necessary to employ various alternative testing and evaluation methods, such as self-assessment and peer assessment, to support SRL, which was also a result of this study. Planning and conducting an effective learning process is one of the basic principles to be followed in promoting SRL (Ley & Young, 2001). Collaborative learning practices have been reported to be effective in promoting SRL (Pino-Pasternak et al., 2014), and these practices help students improve their social interaction by creating opportunities for peer teaching and peer modeling of strategy. Interaction in the learning-teaching process promotes SRL by increasing the students' social interaction with each other and with instructors (Alvi & Gillies, 2015) and teaching learning strategies is key to supporting SRL (Clark & Zimmerman, 1990; Zumbrunn et al., 2011). In this study, it was determined that strategy instruction also encouraged SRL. Effective feedback is of considerable importance in supporting SRL as it allows students to control how much they have achieved and to reorganize their goals or efforts (Ley & Young, 2001; Zumbrunn et al. 2011). This study also suggests that effective feedback encourages SRL based on the view of participants.

Flexible learning environments can allow students to choose their own learning paths and plan and implement these plans on their own. According to Eshel and Kohavi (2003) and Pintrich (2004), increasing student control contributes to the promotion of SRL. In this context, it can be said that providing flexible learning environments is significant in increasing student control. Besides, giving students complex, multi-dimensional and authentic learning tasks encourage students to use cognitive strategies at different levels (Cohen, 1994; Pino-Pasternak et al., 2014; Uredi & Uredi, 2007). Therefore, the provision of complex and multi-dimensional learning tasks, such as projects, is one of the instructional elements that can be considered when encouraging SRL.

In support of SRL, the instructors' teaching skills, guidance, personality traits, field knowledge, sector experience and positive attitudes were crucial. When the literature

is examined, it is seen that little emphasis has been given to the teacher behaviors and traits that encourage SRL (Alvi & Gillies, 2015; Uredi & Uredi, 2007). According to Alvi and Gillies (2015), a teacher who encourages SRL provides constructive social interaction in classroom activities promotes socialization rather than individuality, encourages reflection and evaluation on learning. Uredi and Uredi (2007) stated that teachers who want to support SRL should create a learning environment that is connected with real life and should be a model for SRL.

When the subthemes in the qualitative part are examined, it can be seen that almost all of these subthemes are the indicators or requirements of good teaching practice and effective educational process. Although the questions in the interview form were organized around motivation, planning, strategy use and autonomy, interviewees mostly reported the elements that motivated them. Even when they were answering the questions about planning or strategy use, they tended to report more on the motivational, educational elements that helped them plan better. This phenomenon might occur because motivation is the key to and the first step of student self-regulation as it is in Zimmerman's (2000) and Pintrich's (2004) SRL models. Thus, the curricular and instructional elements that motivated the students might help them improve their planning and strategies by increasing their resilience and efforts.

As a result of this research, it can be suggested that higher education programs in the sample do not adequately promote SRL skills of undergraduate students. In his work in 2002, Zimmerman stated that:

> *"[…] few teachers effectively prepare students to learn on their own. Students are seldom given choices regarding academic tasks to pursue, methods for carrying out complex assignments [...] Few teachers encourage students to establish specific goals [...] or teach explicit study strategies. Also, students are rarely asked to self-evaluate [...]"* (Zimmerman, 2002, p. 69)

The findings of this study, especially the views of the students, confirmed the statement above. Although the significance of SRL has been profoundly emphasized, tertiary programs and instructors in the sample have not been quite successful concerning organizing and conducting SRL-promoting instructional processes. All of the participants in this study emphasized that SRL-promoting elements were not common in undergraduate programs. Considering most of the faculty members have not received a comprehensive pedagogical and andragogical education, SRL may have a long way to get to the agenda of tertiary instructors. Therefore, the tertiary instructors are highly suggested participating in a continuous and comprehensive professional development programs focusing on the good teaching practices that can foster SRL and desirable learning outcomes.

The main limitations of this study were the study group and the study design. Given that this is a cross-sectional study carried out in a single university, further research can be conducted longitudinally or future researchers may prefer to collect data from various tertiary settings to portray a more detailed picture of SRL in higher education. Another suggestion to further studies is to focus on a single department and make in-class observations to find out which SRL-promoting elements actually take place in a specific context using case study design.

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Lisans Öğrencilerinin Öz Düzenlemeli Öğrenme Becerileri ve Öz Düzenlemeyi Desteklemede Yükseköğretimin Rolü

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Özet

Problem Durumu: Öz düzenlemeli öğrenme becerisi öğretim yoluyla geliştirilebilen ve akademik başarıyı yordayan önemli bir faktördür. Öte yandan, öz düzenlemeli öğrenme becerisinin yaşamboyu öğrenme becerisini de desteklemesi bu beceriyi oldukça önemli kılan bir diğer unsurdur. Bu nedenle bireylerin yaşamboyu öğrenmelerini sağlayabilmesi için önem arz eden öz düzenlemeli öğrenme becerisinin geliştirilmesine okulöncesi basamağından yükseköğretim basamağına dek ağırlık verilerek bireylerin öz düzenlemeli ve yaşamboyu öğrenenler olması amaçlanmalıdır. İlköğretim ve ortaöğretime kıyasla yükseköğretim basamağı öğrencilerin daha etkin ve öz disiplinli olmalarını gerektiren bir yapıya sahip olmasına rağmen, birçok öğrenci yükseköğretim basamağına amaç belirleme veya uygun öğrenme stratejisini seçme gibi temel öz düzenleme becerilerinden yoksun olarak gelmekte ve bu nedenle yükseköğretimde dezavantajlı duruma düşmektedirler. Öz düzenlemeli öğrenme becerisinin öğretim ve eğitsel yaşantılar yoluyla geliştirilebilen ve dolayısıyla 'öğretilebilir' bir beceri olduğu da göz önünde bulundurulduğunda yükseköğretim programlarının öz düzenlemeli öğrenme becerisini geliştirmede önemli bir rolü olduğu söylenebilir. Ancak yapılan alanyazın taraması sonucunda, lisans öğrencilerinin öz düzenlemeli öğrenme becerilerinin ne düzeyde olduğuna ilişkin kapsamlı bir çalışma yapılmadığı, sınıf düzeyi ve cinsiyet değişkenine ilişkin çelişkili bulguların olduğu, fakülte türü, yabancı dil hazırlık eğitimi ve devam ettiği programı tercih nedeni değişkenlerinin öz düzenlemeli öğrenme ile ilişkisinin ele alınmadığı, yükseköğretim programlarının hangi unsurlarının bu beceriyi desteklediğinin ise araştırmacılar tarafından yeterince ele alınmadığı görülmektedir.

Araştırmanın Amacı: Bu araştırmanın amacı lisans öğrencilerinin öz düzenlemeli öğrenme becerisi düzeyini belirlemek ve yükseköğretim programlarının lisans öğrencilerinin öz düzenlemeli öğrenme becerisini geliştirmedeki rolünü ortaya çıkarmaktır. Bu bağlamda, lisans öğrencilerinin öz düzenlemeli öğrenme becerisinin cinsiyet, sınıf düzeyi, yabancı dil hazırlık eğitimi alıp almama durumu, mezun olunan ortaöğretim kurumu ve devam ettikleri programı tercih etme nedenine göre anlamlı bir farklılık gösterip göstermediği incelenmiştir. Bununla birlikte, lisans öğrencilerinin görüşlerine göre yükseköğretim programlarının öz düzenlemeli öğrenme becerisini geliştiren unsurları ve öz düzenlemeli öğrenmenin yükseköğretim programlarında teşvik edilmesine ilişkin önerileri belirlenmiş ve öğrencilerden yükseköğretimin öz düzenlemeli öğrenmeyi ne denli teşvik ettiğine yönelik görüşleri alınmıştır.

Araştırmanın Yöntemi: Karma araştırma yönteminin benimsendiği bu araştırmanın deseni yakınsayan paralel desendir. Araştırmada veri toplama aracı olarak Kişisel Bilgi Formu, Öz Düzenleyici Öğrenme Ölçeği (Turan, 2009) ve araştırmacılar tarafından oluşturulan Yarı Yapılandırılmış Görüşme Formu kullanılmıştır. Araştırmanın nicel boyuttaki örneklemi seçkisiz ve tabakalı örnekleme yoluyla belirlenen 1411 lisans öğrencisinden oluşmakta olup nitel boyutta ise 9'u erkek 8'i kadın toplam 17 lisans dördüncü sınıf öğrencisiyle görüşmeler yapılmıştır. Nicel verilerin analizinde betimsel istatistikler, bağımsız örneklemler t-testi ve tek yönlü ANOVA kullanılırken nitel verilerin analizinde içerik analizi yöntemi kullanılmıştır.

Araştırmanın Bulguları: Araştırmanın bulgularına göre lisans öğrencilerinin öz düzenlemeli öğrenme becerisinin orta düzeyde olduğu görülmüştür. Lisans öğrencileri Öz Düzenleyici Öğrenme Ölçeği'nden en yüksek puanı güdülenme ve öğrenme için harekete geçme boyutundan elde ederken, en düşük puanı ise öğrenmede bağımsızlık boyutundan elde etmişlerdir. Ayrıca, öz düzenlemeli öğrenme becerisinin lisans öğrencilerinin cinsiyetlerine, sınıf düzeyine, yabancı dil hazırlık eğitimi alıp almama durumlarına, mezun olunan ortaöğretim kurum türüne ve devam ettikleri programı tercih etme nedenlerine göre anlamlı bir farklılık gösterdiği belirlenmiştir. Nicel bulguların sonucunda lisans öğrencilerinin öz düzenlemeli öğrenme becerilerinin genel olarak birinci sınıfta dördüncü sınıfa oranla daha yüksek olduğu belirlenmiştir. Öz düzenlemeli öğrenme becerisinin üzerinde, sınıf düzeyinden çok öğrencilerin geçmişinden getirdiği mezun olunan ortaöğretim kurum türü, tercih nedeni gibi bağımsız değişkenlerin daha önemli rol oynadığı görülmüştür. Bu durum ise yükseköğretimin bu becerinin gelişiminde yeterince işlevini yerine getiremediğini düşündürmektedir. Öte yandan araştırmanın nitel bulgularına göre, yükseköğretim programlarında öz düzenlemeli öğrenmenin teşvik edilmesinde eğitim programlarına ilişkin unsurlar, öğretime ilişkin unsurlar, öğretim elemanlarına ilişkin unsurlar ve diğer unsurlar önem taşımaktadır. Bu unsurlar arasında derslerin amaç ve içeriklerinin öğrencilerin ilgi ve gereksinimleri ile örtüşmesi, alternatif ölçme-değerlendirme yöntemlerinin işe koşulması, öğretimde kuramsal bilgiden çok uygulamaya yer verilmesi, işbirlikli öğrenme ortamlarının sağlanması, öğrenme-öğretme sürecinde etkileşim sağlanması, derslerle gerçek hayat arasında bağ kurulması, öğretim elemanlarının öğreticilik becerileri, amaç belirleme, planlama ve kaynaklara ulaşmada rehberlik etmeleri önemli bir yer tutmuştur. Yükseköğretim programlarında öz düzenlemeli öğrenme becerisinin daha fazla desteklenebilmesine ilişkin lisans öğrencileri ağırlıklı olarak alternatif ölçme-değerlendirme yöntemlerinin

işe koşulması, program değerlendirme ve geliştirme çalışmalarının yürütülmesi, öğrenme-öğretme sürecinde uygulamaya daha fazla yer verilmesi, verilen dönütlerin ve ders materyallerinin niteliğinin ve niceliğinin artırılması, strateji öğretimine yer verilmesi, işbirlikli öğrenme ortamlarının artırılması ve öğretim elemanlarının öğreticilik becerilerinin geliştirilerek öğrencilere daha fazla rehberlik etmeleri önerilerini sunmuşlardır. Nitel boyuttaki katılımcılar, öz düzenlemeyi geliştirebilecek unsurların yükseköğretimde yeterince yer bulmadığını sıklıkla vurgulamış ve özellikle güdülenmeyi artırabilecek unsurların artırılmasını önermişlerdir.

Araştırmanın Sonuçları ve Öneriler: Araştırmanın sonucunda, nitel ve nicel bulgulara dayalı olarak, öz düzenlemeli öğrenme becerisinin yükseköğretim programlarında yeterince teşvik edilemediği sonucuna ulaşılmıştır. Yükseköğretim programlarının öğretim programı bağlamında neredeyse sadece ders içerik listelerinden oluşuyor olması, öğretim elemanlarının derslerin amaç ve içeriklerinin oluşturulmasında önemli bir rol oynaması ancak pedagoji ya da program geliştirme eğitimi almamış olması bu durumun ortaya çıkmasında etkili olmuş olabilir. Bu araştırmanın bulgularına dayalı olarak, öğretim elemanlarının pedagoji ve program geliştirme konularına yönelik mesleki gelişim etkinliklerine katılmaları önerilebilir. Böylelikle öğrencilerin öz düzenlemeli öğrenme becerisini destekleyebilecek öğretimsel unsurlara derslerinde daha fazla yer vermeleri ve daha etkili bir eğitim süreci yürütmeleri mümkün olabilir. Araştırmanın kesitsel olarak tasarlanmış ve tek bir üniversiteye odaklanmış olması bir sınırlılık olarak değerlendirilebilir. İlerideki araştırmaların boylamsal olarak tasarlanması ve birçok farklı üniversiteye odaklanması yoluyla öz düzenlemeli becerisinin yükseköğretim bağlamındaki yeri ve durumuna ilişkin daha detaylı bir tablo ortaya çıkarılabilir. Ayrıca, durum çalışmaları ve gözlemler yoluyla yükseköğretimde belirli bir eğitsel ortamda öz düzenlemeli öğrenmeyi teşvik edebilecek unsurlara nasıl yer verildiği ortaya konabilir.

Anahtar Sözcükler: Öz düzenleme, öz düzenlemeli öğrenme, yükseköğretim, üniversite öğrencileri.