

19. Evaluation of the Learning to Learn Processes of Secondary Students¹**Nihat KAVAN²****Mürşet ÇAKMAK³****Engin KARADUMAN⁴****Serkan ÇAKIR⁵**

APA: Kavan, N., & Çakmak, M., & Karaduman, E. & Çakır, S. (2024). Evaluation of the Learning to Learn Processes of Secondary Students. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*, (40), 312-332. <https://doi.org/10.29000/rumelide.1502872>.

Abstract

The aim of this research is to evaluate the learning to learn processes of secondary school students. The research was conducted using the descriptive survey model of quantitative research method. The sample of the study consists of 681 secondary school students selected by simple random sampling technique. The primary instrument used was the Learning to Learn Scale, which encompasses 21 items across five sub-dimensions: Learning/Thinking Style, Integrity in Theory and Practice in Learning, Personal Awareness in Learning, Willingness to Learn, and Affective in Learning. Data analysis incorporated t-tests, one-way ANOVA, and Scheffe tests. Key findings revealed gender-based differences: male students showed significantly higher scores in Learning/Thinking Style and Personal Awareness in Learning. School type also influenced results, with Anatolian high school students excelling in Personal Awareness in Learning. No notable differences were observed across different grade levels. However, study habits significantly impacted outcomes. Students dedicating 5 or more hours daily to study outperformed their peers in Integrity in Theory and Practice in Learning, Personal Awareness in Learning, Willingness to Learn, Affectivity in Learning, and overall scale

¹ **Statement (Thesis / Paper):** It is declared that scientific and ethical principles were followed during the preparation process of this study and all the studies utilised are indicated in the bibliography.

Conflict of Interest: No conflict of interest is declared.

Funding: No external funding was used to support this research.

Copyright & Licence: The authors own the copyright of their work published in the journal and their work is published under the CC BY-NC 4.0 licence.

Ethics Statement: Ethical permission was granted by Mardin Artuklu University Ethics Commission with the decision dated 16.03.2022 and numbered E-79906804-050.06.04-48448.

Source: It is declared that scientific and ethical principles were followed during the preparation of this study and all the studies used are stated in the bibliography.

Similarity Report: Received –Ithenticate, Rate: 13

Ethics Complaint: editor@rumelide.com

Article Type: Research article, Article **Registration Date:** 15.05.2024-**Acceptance Date:** 20.06.2024-**Publication Date:** 21.06.2024; DOI: 10.29000/rumelide.1502872

Peer Review: Two External Referees / Double Blind

² Bilim Uzmanı, Milli Eğitim Bakanlığı, / Teacher, Ministry of National Education (Şırnak, Türkiye), nihatkavan@gmail.com, **ORCID ID:** <https://orcid.org/0000-0003-4872-1002> **ROR ID:** <https://ror.org/oojga9g46>, **ISNI:** 0000 0001 2179 4856, **Crossreff Funder ID:** 501100013898

³ Dr. Öğr. Üyesi, Mardin Artuklu Üniversitesi, Fen-Edebiyat Fakültesi, Eğitim Programları ve Öğretim ABD / Dr., Mardin Artuklu University, Faculty of Arts and Sciences, Department of Curriculum and Instruction (Zonguldak, Türkiye), mursetcakmak@artuklu.edu.tr, **ORCID ID:** <https://orcid.org/0000-0001-9472-8200> **ROR ID:** <https://ror.org/0396cd675>, **ISNI:** 0000 0004 0399 5891

⁴ Dr. Öğr. Üyesi, Zonguldak Bülent Ecevit Üniversitesi, Eğitim Fakültesi, Özel Eğitim ABD / Dr., Zonguldak Bülent Ecevit University, Faculty of Education, Department of Special Education (Zonguldak, Türkiye), engin.karaduman@beun.edu.tr, **ORCID ID:** <https://orcid.org/0000-0001-7672-5823> **ROR ID:** <https://ror.org/oidvabv26>, **ISNI:** 0000 0001 2033 6079, **Crossreff Funder ID:** 501100006002

⁵ Öğretmen, Milli Eğitim Bakanlığı / Teacher, Ministry of National Education (Zonguldak, Türkiye), serkan1622@gmail.com, **ORCID ID:** <https://orcid.org/0000-0001-8543-2950> **ROR ID:** <https://ror.org/oojga9g46>, **ISNI:** 0000 0001 2179 4856, **Crossreff Funder ID:** 501100013898

scores. Additionally, the use of printed resources correlated with higher scores in Personal Awareness in Learning. These findings highlight the importance of gender, school type, study habits, and resource types in learning processes among secondary school students.

Keywords: Learning, learning to learn, high school, science and art centers

Ortaöğretim Öğrencilerinin Öğrenmeyi Öğrenme Süreçlerinin Değerlendirilmesi⁶

Öz

Bu araştırmanın amacı ortaöğretim öğrencilerinin öğrenmeyi öğrenme süreçlerini değerlendirmektir. Araştırma, nicel araştırma yönteminin betimsel tarama modeli kullanılarak yürütülmüştür. Araştırmanın örneklemini basit tesadüfi örnekleme tekniği ile seçilen 681 ortaöğretim öğrencisi oluşturmaktadır. Araştırmada veri toplama aracı olarak Öğrenmeyi Öğrenme Ölçeği kullanılmıştır. Öğrenmeyi Öğrenme Ölçeği; Öğrenme/Düşünme Stili, Öğrenmede Teori ve Pratikte Bütünlük, Öğrenmede Kişisel Farkındalık, Öğrenmede İsteklilik ve Öğrenmede Duyuşsallık olmak üzere beş alt boyut ve 21 maddeden oluşmaktadır. Verilerin analizinde parametrik testlerden t-testi, tek yönlü varyans analizi (ANOVA) ve Scheffe testleri kullanılmıştır. Araştırma bulguları sonucunda cinsiyet açısından Öğrenme/Düşünme Stili ve Öğrenmede Kişisel Farkındalık alt boyutlarında erkek öğrenciler lehine anlamlı fark olduğu tespit edilmiştir. Okul türü açısından Öğrenmede Kişisel Farkındalık alt boyutunda Anadolu lisesinde okuyan öğrenciler lehine anlamlı fark olduğu tespit edilmiştir. Sınıf seviyesi açısından hiçbir alt boyutta ve ölçek genelinde anlamlı fark tespit edilmemiştir. Günlük ortalama ders çalışma süresi açısından Öğrenmede Teori ve Pratikte Bütünlük, Öğrenmede Kişisel Farkındalık, Öğrenmede İsteklilik, Öğrenmede Duyuşsallık alt boyutlarında ve ölçek genelinde günlük ortalama 5 saat ve daha fazla ders çalışan öğrencilerin lehine anlamında fark tespit edilmiştir. Öğrenme sürecinde kullanılan kaynak açısından Öğrenmede Kişisel Farkındalık alt boyutunda basılı kaynak kullanan öğrencilerin lehine anlamlı farklılık tespit edilmiştir.

Anahtar Kelimeler: Öğrenme, öğrenmeyi öğrenme, ortaöğretim, lise, BİLSEM

⁶ **Beyan (Tez/ Bildiri):** Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.

Çıkar Çatışması: Çıkar çatışması beyan edilmemiştir.

Finansman: Bu çalışmayı desteklemek için dış fon kullanılmamıştır.

Telif Hakkı & Lisans: Yazarlar dergide yayınlanan çalışmalarının telif hakkına sahiptirler ve çalışmalarını CC BY-NC 4.0 lisansı altında yayımlanmaktadır.

Etik İzni: Mardin Artuklu Üniversitesi Etik Komisyonu tarafından 16.03.2022 tarihi, E-79906804-050.06.04-48448 sayılı kararla etik izni verilmiştir.

Kaynak: Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.

Benzerlik Raporu: Alındı – Ithenticate, Oran: %13

Etik Şikâyeti: editor@rumelide.com

Makale Türü: Araştırma makalesi, **Makale Kayıt Tarihi:** 15.05.2024-**Kabul Tarihi:** 20.06.2024-**Yayın Tarihi:** 21.06.2024; DOI: 10.29000/rumelide.1502872

1. Introduction

For people and communities to thrive in the knowledge economy, they must be constantly learning, applying their knowledge in new settings and creating new knowledge whenever existing ways of doing and thinking are felt to be lacking (James & McCormick, 2009). Although it is important to learn content, it is equally important to learn how to learn. Learning how to learn involves gaining metacognitive skills that facilitate ongoing education throughout one's life (Brookhart, 2010). Education itself, and many curricula as well, have as a main objective developing in students the abilities (including the skills) that allow them to be successful learners throughout their lives. It is therefore essential to emphasize the importance of developing learners' understanding of the process of learning to learn (Fukuda et al., 2020). A comprehensive understanding of how to learn involves three components: an understanding of the process, an understanding of learning style, and a knowledge of how to improve learning ability (Smith, 1982). The first element of learning how to learn is knowledge of how to learn, with students needing to gain a general understanding of what learning is like, such as how memory works; they also need to gain an understanding of how to approach reading tasks individually (Stouch, 1993). The second element of learning how to learn is knowledge of learning style; once learners are informed about their learning style, they are able to seek out or ask for the instruction they require, and the third component is acquired skills for enhancing learning ability. (Stouch, 1993). There are specific strategies that learners use to achieve a specific learning objective, a collection of actions they perform in the process of learning, and a set of skills they acquire through experience (Klauer, 1988). During this process, the school should provide an environment where people are encouraged to be more self-aware and selective, foster their discovery of learning, and, crucially, instruct systematic methods for engaging with information. (Balay, 2004). Consequently, it is essential to provide a constructive and inclusive environment where all citizens can learn how to learn in life, even when they have fewer opportunities in schools, including gifted students. The aim of this research is to examine the learning-to-learn processes of secondary school students who took placement tests in order to be enrolled in high school, as well as gifted students.

2. Literature Review

2.1. The Importance of Learning to Learn

The 21st century society is going through a particularly difficult period, in which there are many socio-environmental problems and inequalities (Abril-López et al., 2021). The complexity of the world and its changing nature combine with new socio-scientific concerns, making it necessary to reinforce the education of our populace in these times (Hodson, 2014). Modern educational systems place a high amount of importance on the child's capability to autonomously control and regulate his or her own educational journey within the framework of educational objectives and essential skills required to manage daily life scenarios and challenges (Letina, 2020). Learning to learn has been described as the capacity and readiness to adjust to new circumstances through maintaining one's cognitively and affectively self-regulated approach, as well as maintaining one's perspective of hope (Hautamäki et al., 2002). As the premise of learning how to learn is concerned with the learners themselves, it must be understood that the learners themselves must desire to learn, that they must come to understand themselves as learners, and that they must be capable of taking full responsibility for their own learning and development whether they are in school or not (Crick, 2007). Learning to learn or self-regulated learning has become a significant concept in educational theory since it plays a pivotal role in improving the caliber of learning and student achievement both inside and outside the classroom (Boekaerts &

Cascallar, 2006). In their article, Black et al. (2006) contend that emphasizing teaching to learn and assessment for learning in schools is particularly crucial and is one of the keys to promoting 'autonomous learning'.

In the age of globalization, learning to learn is one of the most demandable competencies today. To maximize our ability to learn, we have to learn how to utilize all the physical stimulus that we are exposed to, combined with our mathematical and linguistic intelligence, so that we can take advantage of it all in the optimal way (Romero Ariza, 2014).

2.2. Learning Styles

The perception of academic control and achievement motivation are two concepts that have been identified as factors that affect learning-related performance in the literature (Cassidy & Eachus, 2000). Among the various concepts that have offered some useful understandings into learning, in both academic and non-academic environments, is the concept of learning style (Cassidy, 2004). Using cognitive theory as a basis for studying learning styles, learning style is characterized as the manner in which a person prefers to receive and process information in a learning-teaching process (Kolb, 1984). It is important to consider the students' cultures, abilities, disabilities, socio-economic levels, experiences, backgrounds, learning styles, and expectations in the lessons, and to reveal and develop the talents and interests of students from all backgrounds including gifted students (Alkan et al., 2020).

2.3. Gifted & Talented Students

Students who are gifted have unique traits rooted in their cognitive abilities, such as their ability to comprehend complex information quickly, recognize relationships with ease, pay attention to details, think creatively, synthesize comprehensively, and act independently (Clark, 2008). These characteristics make them unique individuals who look for challenges in education to challenge themselves. Gifted students make up a diverse group of individuals, so there is no intervention or strategy that can be implemented for them all (Adams-Byers et al., 2004). However, on a general basis, it can be said that effective learning environments should foster the students' ability to engage actively, to self-regulate and to set a goal for their performance (De Corte, 2013). For instance, an extensive research study has shown that gifted and talented learners are more inclined to choose instruction methods emphasizing independence, while general population learners are more likely to choose methods that emphasize structure (Stewart, 1981). The Self-Regulated Learning (SRL) framework identifies the motivational, metacognitive, and strategic processes that gifted students employ while engaging with tasks and offers a theoretical framework to explain how these students tailor their approaches to specific tasks (Ridgley et al., 2022).

2.4. High School Students and Self-Regulated Learning (SLR)

A scholar notes that autonomous learning involves the deliberate formulation of educational targets, the deployment of effective tactics, supervision of the educational journey, evaluation of educational results, and adjustments based on the individual's motivation to learn, all aimed at achieving these targets (Zimmerman, 2008). Four prevalent views on self-regulated learning include: 1) learners actively shape their learning experience rather than simply receiving information, setting their own interpretations, objectives, and methods; 2) learners possess the knowledge, motivation, and behavioral skills to self-monitor, manage, and regulate throughout the learning process; 3) learners will persist with or modify

their actions based on their objectives during the learning journey; and 4) learners will sustain or alter their behaviors to align with their goals throughout the educational process (Pintrich, 2004). Managing one's learning experience effectively is part of self-regulation, which is why self-regulation becomes an imperative component of student success. (Hidayat et al., 2020). In comparison to junior high school and elementary school pupils, high school students are in a different stage of cognitive and mental development (Kesuma et al., 2021). In order for students to cope successfully with life's challenges, such as uncertainty and instability, they need to acquire self-regulation learning skills to deal with problems in life, particularly in the world of education. It is necessary for students to learn independently, manage their time intelligently, and engage in intensive and targeted learning activities to be more productive, creative, and innovative in the future (Kesuma et al., 2021; Kormos & Csizér, 2014). The importance of creating a supportive atmosphere where all high school students can learn how to learn in the real world, even when they have less possibilities in schools, is widely acknowledged as being vital for self-regulated learning.

2.5. Purpose of the Study

The aim of this research is to assess the ability to learn how to learn processes of secondary school students. Rather than focusing on what knowledge is, today it is crucial to explore how to access knowledge, how to structure acquired knowledge, and how to develop new knowledge. Consequently, schools should place a high priority on actively learning, problem-solving, learning how to learn, cooperation, and communication skills. For the acquisition of 21st century skills, these learning skills are crucial (Louis, 2012; cited in Bozkurt & Akr, 2016). This context calls for a consideration of how learners experience the learning-teaching process. After reviewing the literature, it was found that there were no studies addressing the learning processes of students in secondary education in a comparative manner. Thus, the learning processes for students enrolled in secondary education institutions should be evaluated in a comparative manner. For this purpose, data were collected from students studying in public and private high schools affiliated to Zonguldak Provincial Directorate of National Education. The research aimed to address the following sub-issues.

1. Is there a distinction between secondary school students' learning to learn processes in terms of gender?
2. Is there a distinction between secondary education students' learning to learn processes regarding school type?
3. Is there a distinction between secondary education students' learning to learn processes regarding grade level?
4. Is there a distinction between secondary education students' processes of learning to learn regarding average daily study time?
5. Is there a distinction between secondary education students' learning to learn processes in terms of the resources used?

3. Method

3.1. Research Design

This study focuses on assessing the 'learning how to learn' processes among secondary school students. Utilizing the quantitative survey model as the primary research method, this approach involves describing and analyzing existing or past situations in their natural state (Karasar, 2012). The survey model is particularly adept at identifying specific characteristics within a group. This is achieved through data collection tools like questionnaires and scales, enabling a comprehensive understanding of the targeted group's traits (Christensen, Johnson, & Turner, 2015; Büyüköztürk, 2012).

3.2. Participants

The scope of this research is comprised of secondary school students currently enrolled in schools within the district of Zonguldak. The sample consists of 681 students attending secondary education during the 2021-2022 academic year. A basic random sampling technique was employed to choose the sample. This technique ensures that every individual within the universe has an equal and independent opportunity to be chosen (Balci, 2018), thus maintaining the principle that the probability of selection for all individuals is the same. A fundamental characteristic of this method is the high potential of the sample to represent the population accurately (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz & Demirel, 2012). The students in the sample were chosen using the simple random sampling technique across various secondary education institutions in Zonguldak. Details regarding the sample are presented in Table 1.

Table 1. Demographic Information on Participants

Variable Sub-variable	Variable Sub-variable	<i>f</i>	%
Gender	Male	392	57,6
	Female	289	42,4
Type of School	Science High School	355	52,1
	Anatolian High School	202	29,7
	Anatolian Imam Hatip High School	89	13,1
	Science and Art Center	35	5,1
Grade Level	Grade 9	207	30,4
	Grade 10	134	19,7
	Grade 11	222	32,6
	Grade 12	118	17,3
Average Daily Study Time	4 Hours and Less	617	90,6
	5 Hours and More	64	9,4
Resource Used in the Learning Process	Printed Source	379	55,7
	Digital Source	191	28
	Live Source	111	16,3

Upon examining the data presented in Table 1, it is apparent that the research sample included participation from 392 female students (57.6%) and 289 male students (42.4%). The distribution of

students across different types of schools was as follows: 355 students (52.1%) were from science high schools, 202 (29.7%) from Anatolian high schools, 89 (13.1%) from Anatolian religious vocational high schools (Imam Hatip), and 35 (5.1%) from Science and Art Centers (BİLSEM). Regarding class levels, the students were distributed as 207 (30.4%) in 9th grade, 134 (19.7%) in 10th grade, 222 (32.6%) in 11th grade, and 118 (17.3%) in 12th grade. In terms of study habits, 617 students (90.6%) reported studying an average of 4 hours or less daily, while 64 students (9.4%) studied for 5 hours or more. When considering the resources utilized during the learning process, 379 students (55.7%) used printed materials, 191 (28%) relied on digital resources, and 111 (16.3%) utilized live resources.

3.3. Data Collection Tool

The data collection instrument employed in this research was the Learning to Learn Scale, developed by Çakmak, Özdaş, and Akin (2020). This scale comprises five factors and 21 items. It includes 4 items (1-4) under the "Learning/Thinking Style" factor, 5 items (5-9) under the "Integrity in Theory and Practice in Learning" factor, 4 items (10-13) for the "Personal Awareness in Learning" factor, 4 items (14-17) for the "Willingness to Learn" factor, and 4 items (18-21) for the "Affectivity in Learning" factor. The items on the scale are rated using a five-point Likert-type scale ranging from "1. Never," "2. Rarely," "3. Sometimes," "4. Often," to "5. Always." The Cronbach's Alpha reliability coefficients for the data collection tool are shown in Table 2.

Table 2. Cronbach's Alpha Reliability Values

Contributing Factors	Number of Item	Cronbach's Alpha
The style of learning/thinking	4	.768
Integrity in Theory and Practice in Learning	5	.780
Personal Awareness in Learning	4	.779
Willingness to Learn	4	.833
Affectivity in Learning	4	.665
The overall scale	21	.904

Domino (1996) suggests that reliability values of .70 or higher are required to obtain reliable measurements. Learning to Learn Scale factors have reliability values exceeding .70, indicating that reliable measurements can be obtained.

3.4. Data Collection

This study employed the Learning to Learn Scale consisting of five dimensions to collect data. To use the Learning to Learn Scale, permissions were first obtained. To prepare the scale form, a personal data questionnaire was used to collect demographic information about the participants. Data were collected from the students using the scale form, which consists of 21 items.

For the study, data were collected from students by visiting schools affiliated to the Provincial Directorate of National Education in Zonguldak province. It was a volunteer-based research project. During The course of the study, no private information was collected from the students participants.

3.5. Data Analysis

Researchers examined the forms filled out by the students and transferred them to electronic media for analysis. Data transferred to electronic media were analyzed with the SPSS 26.00 package program. A normality analysis of the collected data was performed in order to determine which analyses should be conducted on the collected data. By looking at Skewness and Kurtosis values, we were able to detect whether the data displayed a normal distribution. Based on the analysis, Table 3 presents the normality test results for each dimension of the Learning How to Learn Scale.

Table 3. Analysis of the Learning to Learn Scale's Normality Ranges

Contributing Factors	N	X̄	Median	Skewness	Kurtosis
The style of learning/thinking	681	3,968	4,000	-.684	.964
Integrity in Theory and Practice in Learning	681	3,789	3,800	-.427	-.179
Personal Awareness in Learning	681	4,102	4,250	-.764	.679
Willingness to Learn	681	3,721	3,750	-.463	-.255
Affectivity in Learning	681	3,918	4,000	-.544	.271
The overall scale	681	3,894	3,904	-.398	.365

Büyüköztürk et al. (2012) suggest that if Skewness and Kurtosis values fall within the range of -1 to +1, the data demonstrate a normal distribution. According to Table 3, Skewness values range from -.768 to -.398 and Kurtosis values range from -.255 to +.964. The data were therefore analyzed using parametric tests. The data analysis phase included the usage of independent samples t-test and one-way analysis of variance (ANOVA) tests. An analysis of ANOVA was employed using the Scheffe test, one of the post-hoc tests.

4. Findings

4.1. Results and Interpretations Regarding Gender

Table 4 presents findings related to the initial sub-problem of the study "Is there a difference between the learning to learn processes of secondary school students in terms of gender?"

Table 4. Results of the T-test Based on Gender

The Subdimensions	Gender	N	X̄	SS	SD	T	p	Statistically Significant Differences
The style of learning/thinking	Female	392	3,88	.67	679	-3,565	.000*	Yes
	Male	289	4,07	.71				
Integrity in Theory and Practice in Learning	Female	392	3,78	.72	679	.003	.998	No
	Male	289	3,78	.80				
Personal Awareness in Learning	Female	392	3,99	.77	679	-4,640	.000*	Yes
	Male	289	4,25	.62				
	Female	392	3,72	.86	679	.020	.984	No

Willingness to Learn	Male	289	3,72	.92				
Affectivity in Learning	Female	392	3,91	.73	679	-.098	.922	No
	Male	289	3,92	.77				
The Overall Scale	Female	392	3,85	.59	679	-1,875	.061	No
	Male	289	3,94	.58				

*The mean difference is statistically significant at the .05 level. ($p < 0.05$).

As shown in Table 4, when the students' opinions on the Learning to Learn Scale sub-dimension are compared according to the t-test results, the following results are found:

The arithmetic mean of the Learning/Thinking Style sub-dimension opinion scores is $\bar{X}=3,88$ for female students and $\bar{X}=4,07$ for male students. The divergence in scores holds statistical significance [$t(679)=-3,565$; $p < .05$]. The difference in favor of males is statistically significant. The arithmetic mean of the Personal Awareness in Learning sub-dimension opinion scores is $\bar{X}=3,99$ for female students and $\bar{X}=4,25$ for male students. The divergence in scores holds statistical significance [$t(679)=-4,640$; $p < .05$]. The difference in favor of males is statistically significant.

The arithmetic mean of the opinion scores of the Integrity in Theory and Practice in Learning sub-dimension is $\bar{X}=3,78$ for female students and $\bar{X}=3,78$ for male students. In this case, the divergence in scores lacks statistical significance [$t(679) = .003$; $p > .05$]. The arithmetic mean of the Willingness to Learn sub-dimension opinion scores is $\bar{X}=3,72$ for female students and $\bar{X}=3,72$ for male students. The divergence in scores holds statistical significance [$t(679)= .020$; $p > .05$]. The arithmetic mean of the Affective in Learning sub-dimension opinion scores is $\bar{X}=3,91$ for female students and $\bar{X}=3,92$ for male students. The divergence in the two scores lacks statistical significance [$t(679)=-.098$; $p > .05$]. The arithmetic mean of the opinion scores for the whole scale is $\bar{X}=3,85$ for female students and $\bar{X}=3,94$ for male students. The divergence in the two scores lacks statistical significance [$t(679)= -1.875$; $p > .05$].

4.2. Results and Interpretations Regarding the Type of School

In Table 5, we present the findings relevant to the second sub-problem of the study "Are there differences between secondary school students' learning to learn processes based on the type of school?".

Table 5. The Results of the ANOVA Regarding the Type of School

The Sub-Dimensions	Type of School	N	\bar{X}	SS	F	p	Statistically Significant Differences
The style of learning/thinking	a. Science High School	355	4,00	.71			
	b. Anatolian High School	202	3,94	.63			
	c. Anatolian Imam-Hatip High School	89	3,85	.77	1,195	.311	No
	d. Science and Art Centers	35	3,99	.53			
	Total	681	3,96	.69			

Integrity in Theory and Practice in Learning	a. Science High School	355	3,75	.78			
	b. Anatolian High School	202	3,80	.73			
	c. Anatolian Imam-Hatip High School	89	3,82	.77	.859	.462	No
	d. Science and Art Centers	35	3,94	.57			
	Total	681	3,78	.75			
Personal Awareness in Learning	a. Science High School	355	4,17	.70			
	b. Anatolian High School	202	4,05	.71			
	c. Anatolian Imam-Hatip High School	89	3,96	.78	2,757	.042*	d > b
	d. Science and Art Centers	35	4,01	.70			
	Total	681	4,10	.72			
Willingness to Learn	a. Science High School	355	3,67	.93			
	b. Anatolian High School	202	3,77	.81			
	c. Anatolian Imam-Hatip High School	89	3,80	.86	.912	.435	No
	d. Science and Art Centers	35	3,66	.91			
	Total	681	3,72	.89			
Affectivity in Learning	a. Science High School	355	3,90	.75			
	b. Anatolian High School	202	3,95	.72			
	c. Anatolian Imam-Hatip High School	89	3,82	.82	1,353	.256	No
	d. Science and Art Centers	35	4,10	.58			
	Total	681	3,37	.75			
The Overall Scale	a. Science High School	355	3,89	.60			
	b. Anatolian High School	202	3,90	.57			
	c. Anatolian Imam-Hatip High School	89	3,58	.61	.251	.861	No
	d. Science and Art Centers	35	3,94	.51			

Total	681	3,89	.59
-------	-----	------	-----

*The mean difference is statistically significant at the .05 level. ($p < 0.05$).

As shown in Table 5, according to the ANOVA results of the students' Learning to Learn Scale sub-dimension opinions by school type;

The arithmetic mean of the Personal Awareness in Learning sub-dimension opinion scores is $\bar{X}=4.17$ for students studying at science high school, $\bar{X}=4.05$ for students enrolled at Anatolian high school, $\bar{X}=3.96$ for students enrolled at Anatolian imam-hatip high school, and $\bar{X}=4.01$ for students receiving education at (SACs). Differences between the two scores are statistically significant [$F(3,677)= 2,757$; $p < .05$]. An LSD test was administered to ascertain the origin of this disparity. Table 6 provides the results of the test.

Table 6. The Personal Awareness in Learning Subdimension Opinion Scores of the LSD Test

Type of School	Type of School	The Difference Between Means	The Standard Error	<i>p</i>
SACs	Anatolian high School	-.21046	.08542	.014

*The mean difference is statistically significant at the .05 level. ($p < 0,05$).

The LSD test result for the sub-dimension Personal Awareness in Learning in Table 6 demonstrated a notable difference between the students attending SACs and those enrolled in Anatolian high schools. Students attending Anatolian high schools exhibit a statistically significant divergence.

The arithmetic mean of the Learning/Thinking Style sub-dimension opinion scores is $\bar{X}=4,00$ for students studying at science high school; $\bar{X}=3,94$ for students enrolled at Anatolian high school; $\bar{X}=3,85$ for students enrolled at Anatolian imam-hatip high school; $\bar{X}=3,99$ for students receiving education at Science and Art Centers (SACs). The divergence in scores lacks statistical significance [$F(3,677) = 1,195$; $p > .05$]. The arithmetic mean of the opinion scores of the Integrity in Theory and Practice in Learning sub-dimension is $\bar{X}=3,75$ for students studying at science high schools, $\bar{X}=3,80$ for students enrolled at Anatolian high schools, $\bar{X}=3,82$ for students enrolled at Anatolian imam-hatip high schools, and $\bar{X}=3,94$ for students receiving education at (SACs). Statistically, the divergence in scores lacks statistical significance [$F(3,677)= .859$; $p > .05$]. The arithmetic mean of the Willingness to Learn sub-dimension opinion scores is $\bar{X}=3,67$ for students studying at science high school; $\bar{X}=3,77$ for students enrolled at Anatolian high school; $\bar{X}=3,80$ for students enrolled at Anatolian imam-hatip high school; $\bar{X}=3,66$ for students studying at SACs. Despite this difference, the divergence in scores lacks statistical significance [$F(3,677)= .912$; $p > .05$]. The arithmetic mean of the Affective in Learning sub-dimension opinion scores is $\bar{X}=3,90$ for students studying at science high school, $\bar{X}=3,95$ for students enrolled at Anatolian high school, $\bar{X}=3,82$ for students enrolled at Anatolian imam-hatip high school, and $\bar{X}=4,10$ for students receiving education at SACs. As a result, this difference in scores is not statistically significant [$F(3,677) = 1,353$; $p > .05$]. The arithmetic mean of the opinion scores for the whole scale is $\bar{X}=3,89$ for students studying at science high schools, $\bar{X}=3,90$ for students enrolled at Anatolian high schools, $\bar{X}=3,58$ for students enrolled at Anatolian imam-hatip high schools, and $\bar{X}=3,94$ for students receiving education at SACs. This difference in scores is not statistically significant [$F(3,677)= .251$; $p > .05$].

4.3. Results and Interpretations Related to Grade Level

Table 7 presents the results relating to the third sub-issue of the study, "Is there a difference between the learning to learn processes of secondary school students according to their grade levels?".

Table 7. ANOVA Results Regarding Grade Level

The Sub-Dimensions	Grade Level	N	X	SS	F	p	Statistically Significant Differences
The Style of Learning/ Thinking	Grade 1	207	4,02	.68	.699	.553	No
	Grade 2	134	3,92	.68			
	Grade 3	222	3,94	.72			
	Grade 4	118	3,95	.66			
	Total	681	3,96	.69			
Integrity in Theory and Practice in Learning	Grade 1	207	3,79	.74	.598	.617	No
	Grade 2	134	3,85	.76			
	Grade 3	222	3,74	.74			
	Grade 4	118	3,78	.80			
	Total	681	3,78	.75			
Personal Awareness in Learning	Grade 1	207	4,09	.72	1,133	.335	No
	Grade 2	134	4,19	.68			
	Grade 3	222	4,08	.76			
	Grade 4	118	4,04	.67			
	Total	681	4,10	.72			
Willingness to Learn	Grade 1	207	3,65	.90	1,071	.361	No
	Grade 2	134	3,74	.87			
	Grade 3	222	3,70	.93			
	Grade 4	118	3,83	.79			
	Total	681	3,72	.89			
Affectivity in Learning	Grade 1	207	3,88	.77	1,599	.188	No
	Grade 2	134	3,94	.73			
	Grade 3	222	3,86	.77			
	Grade 4	118	4,04	.66			
	Total	681	3,91	.75			
The Overall Scale	Grade 1	207	3,88	.61	.470	.704	No
	Grade 2	134	3,92	.56			
	Grade 3	222	3,86	.61			
	Grade 4	118	3,92	.55			
	Total	681	3,86	.59			

Considering the data from Table 7, according to the ANOVA results of the student opinions on the sub-dimensions of the Learning to Learn Scale,

The arithmetic mean of the Learning/Thinking Style sub-dimension opinion scores is $X=4,02$ for students enrolled in the 1st grade of high school; $X=3,92$ for students enrolled in the 2nd grade of high school; $X=3,94$ for students enrolled in the 3rd grade of high school; $X=3,95$ for students enrolled in the 4th grade of high school. Statistically, there is no significant divergence between the scores [$F(3,677)=.699$; $p>.05$]. The arithmetic mean of the opinion scores of the Integrity of Theory and Practice in Learning sub-dimension is $X=3,79$ for students enrolled in the first grade of high school; $X=3,85$ for students enrolled in the second grade of high school; $X=3,74$ for students enrolled in the third grade of high school; $X=3,78$ for students enrolled in the fourth grade of high school. Statistically, there is no significant divergence between the two scores [$F(3,677)=.598$; $p>.05$]. The arithmetic mean of the Personal Awareness in Learning sub-dimension opinion scores was $X=4.09$ for students enrolled in the first grade of high school; $X=4.19$ for students enrolled in the second grade of high school; $X=4.08$ for students enrolled in the third grade of high school; and $X=4.04$ for students enrolled in the fourth grade of high school. Statistically, there is no significant divergence between the two scores [$F(3,677) = 1,133$; $p>.05$]. The arithmetic mean of the Willingness to Learn sub-dimension opinion scores was $X=3,65$ for students enrolled in the first grade of high school; $X=3,74$ for students enrolled in the second grade of high school; $X=3,70$ for students enrolled in the third grade of high school; $X=3,83$ for students studying in the fourth grade of high school. The difference in scores between the two groups is not statistically significant [$F(3,677)= 1,071$; $p>.05$]. The arithmetic mean of the Affectivity in Learning sub-dimension opinion scores is $X=3,88$ for students enrolled in the first grade of high school; $X=3,94$ for students enrolled in the second grade of high school; $X=3,86$ for students enrolled in the third grade of high school; $X=4,04$ for students enrolled in the fourth grade of high school. The difference in scores between the two groups is not statistically significant [$F(3,677)= 1,599$; $p>.05$]. The arithmetic mean of the opinion scores for the whole scale is $X=3,88$ for students enrolled in the first grade of high school; $X=3,92$ for students enrolled in the second grade of high school; $X=3,86$ for students enrolled in the third grade of high school; and $X=3,92$ for students enrolled in the fourth grade of high school. The difference in scores between the two groups is not statistically significant [$F(3,677)= .470$; $p>.05$].

4.4. Results and Interpretations Regarding the Average Daily Study Time

Table 8 presents the findings regarding the fourth sub-problem of the study "Do secondary school students' learning to learn processes differ in terms of average daily study time?".

Table 8. Results of the T-test Regarding Average Daily Study Time

The Sub-Dimensions	Daily study time	N	X	SS	SD	T	p	Statistically Significant Differences																														
The Style of Learning/Thinking	Four Hours and Less	617	3,94	.69	679	-2,375	.018*	Yes																														
	Five hours and more	64	4,16	.70					Integrity in Theory and Practice in Learning	Four Hours and Less	617	3,78	.75	679	-.805	.421	No	Five hours and more	64	3,86	.79	Personal Awareness in Learning	Four Hours and Less	617	4,07	.73	679	-2,634	.009*	Yes	Five hours and more	64	4,32	.57		Four Hours and Less	617	3,67
Integrity in Theory and Practice in Learning	Four Hours and Less	617	3,78	.75	679	-.805	.421	No																														
	Five hours and more	64	3,86	.79					Personal Awareness in Learning	Four Hours and Less	617	4,07	.73	679	-2,634	.009*	Yes	Five hours and more	64	4,32	.57		Four Hours and Less	617	3,67	.88	679	-4,154	.000*	Yes								
Personal Awareness in Learning	Four Hours and Less	617	4,07	.73	679	-2,634	.009*	Yes																														
	Five hours and more	64	4,32	.57						Four Hours and Less	617	3,67	.88	679	-4,154	.000*	Yes																					
	Four Hours and Less	617	3,67	.88	679	-4,154	.000*	Yes																														

Willingness to Learn	Five hours and more	64	4,15	.80				
Affectivity in Learning	Four Hours and Less	617	3,89	.75	679	-2,405	.016*	Yes
	Five hours and more	64	4,13	.61				
The Overall Scale	Four Hours and Less	617	3,87	.59	679	-3,159	.002*	Yes
	Five hours and more	64	4,11	.52				

*The mean difference is statistically significant at the .05 level. ($p < 0.5$).

Based on the t-test outcomes concerning the students' Learning to Learn Scale sub-dimension opinions regarding average daily study time in Table 8,

The arithmetic mean of the Learning/Thinking Style sub-dimension opinion scores is $X=3.94$ for students who study 4 hours or less on average daily, and $X=4.16$ for students who study 5 hours or more on average daily. Statistically, there is a significant divergence between the two scores [$t(679) = -2.375$; $p < .05$]. There is a statistically significant divergence in favor of those students who study five or more hours on average per day. The arithmetic mean of the Personal Awareness in Learning sub-dimension opinion scores is $X=4.07$ for students who study 4 hours or less on average daily, and $X=4.32$ for students who study 5 hours or more on average daily. Statistically, this divergence between the two scores is significant [$t(679) = -2.634$; $p < .05$]. There is a statistically significant divergence in favor of those students who study five or more hours on average per day. The arithmetic mean of the Willingness to Learn sub-dimension opinion scores is $X=3.67$ for students who study 4 hours or less on average daily, and $X=4.15$ for students who study 5 hours or more on average daily. Statistically, there is a significant divergence between the two scores [$t(679) = -4.154$; $p < .05$]. There is a statistically significant divergence in favor of those students who study five or more hours on average per day. The arithmetic mean of the Affective in Learning sub-dimension opinion scores is $X=3.89$ for students who study 4 hours or less on average daily, and $X=4.13$ for students who study 5 hours or more on average daily. Statistically, there is a significant divergence between the two scores [$t(679) = -2.405$; $p < .05$]. There is a statistically significant divergence in favor of those students who study five or more hours on average per day. The arithmetic mean of the opinion scores for the whole scale is $X=3.87$ for students who study 4 hours or less on average daily, and $X=4.11$ for students who study 5 hours or more on average daily. Statistically, there is a significant divergence between the two scores [$t(679) = -3.159$; $p < .05$]. There is a statistically significant divergence in favor of those students who study five or more hours on average per day.

The arithmetic mean of the opinion scores of the Integrity of Theory and Practice in Learning sub-dimension is $X=3.78$ for students who study 4 hours or less daily, and $X=3.86$ for students who study 5 hours or more daily. Statistically, there is no significant divergence between the scores [$t(679) = -.805$; $p > .05$].

4.5. Results and Interpretations Regarding the Usage of Resources in the Learning Process

As presented in Table 9, the findings relevant to the fifth sub-problem of the study "Are there any differences between secondary school students' learning to learn processes in terms of resources used?" are provided.

Table 9. Results of An ANOVA Based on the Resource Used in the Learning Process

The Sub-Dimensions	Type of Source	N	X	SS	F	p	Statistically Significant Differences
The Style of Learning/ Thinking	a. Resources in print	379	3,99.67				
	b. Resources in digital form	191	3,88.73			2,009.135	No
	c. Human Resources	111	4,02.70				
	Total		6813,96.69				
Integrity in Theory and Practice in Learning	a. Resources in print	379	3,80.74				
	b. Resources in digital form	191	3,72.78			.916	.400 No
	c. Human Resources	111	3,83.76				
	Total		6813,78.75				
Personal Awareness in Learning	a. Resources in print	379	4,14.70				
	b. Resources in digital form	191	3,97.78				3,982.019*b→a
	c. Human Resources	111	4,17.66				
	Total		6814,10.72				
Willingness to Learn	a. Resources in print	379	3,74.90				
	b. Resources in digital form	191	3,70.83			.470	.625 No
	c. Human Resources	111	3,66.93				
	Total		6813,72.89				
Affectivity in Learning	a. Resources in print	379	3,95.70				
	b. Resources in digital form	191	3,83.80				1,562.210 No
	c. Human Resources	111	3,94.78				
	Total		6813,91.75				
The Overall Scale	a. Resources in print	379	3,92.57				
	b. Resources in digital form	191	3,82.60				2,027.133 No
	c. Human Resources	111	3,92.62				
	Total		6813,89.59				

*The mean difference is statistically significant at the .05 level. ($p < 0.5$).

As shown in Table 9, upon analysis of the data in Table 9 based on the ANOVA results of the students' opinions regarding the resources that were used in the learning process,

The arithmetic mean of the Personal Awareness in Learning sub-dimension opinion scores is $X=4.14$ for students using printed resources, $X=3.97$ for students using digital resources and $X=4.17$ for students using human resources. This divergence in scores holds a statistical significance [$F(2,678)= 3.982$; $p < .05$]. Using the Scheffe test, the source of this difference was determined. Table 10 presents the results of the test.

Table 10. Results of the Scheffe Test for Personal Awareness in Learning

Type of Source	Type of source	Statistically Significant Differences	Standard Error	p
Digital Resources *	Printed Resources	-.16408*	.06391	.038

*A significant difference in mean was found at the .05 level ($p < 0.05$).

The Scheffe test result for the Personal Awareness in Learning sub-dimension in Table 10 presented a statistically significant divergence among students who used digital resources and those who used printed resources. The statistically significant difference favors students who utilize printed resources.

The arithmetic mean of the Learning/Thinking Style sub-dimension opinion scores is $X=3,99$ for students using printed resources, $X=3,88$ for students using digital resources, and $X=4,02$ for students using human resources. Statistically, there is no significant divergence between the scores [$F(2,678)=2,009$; $p > .05$]. The arithmetic mean of the opinion scores of the Integrity in Theory and Practice in Learning sub-dimension is $X=3,80$ for students using printed resources, $X=3,72$ for students using digital resources, and $X=3,83$ for students using human resources. Statistically, there is no significant divergence between the scores [$F(2,678)=.916$; $p > .05$]. The arithmetic mean of the Willingness to Learn sub-dimension opinion scores is $X=3,74$ for students using printed resources, $X=3,70$ for students using digital resources, and $X=3,66$ for students using human resources. There is no statistically significant divergence between the scores [$F(2,678)=.470$; $p > .05$]. The arithmetic mean of the Affectivity in Learning sub-dimension opinion scores is $X=3,95$ for students using printed resources, $X=3,83$ for students using digital resources, and $X=3,94$ for students using human resources. There is no statistically significant divergence between the two scores [$F(2,678)=1.562$; $p > .05$]. The arithmetic mean of the opinion scores for the entire scale is $X=3,92$ for students using printed resources, $X=3,82$ for students using digital resources, and $X=3,92$ for students using human resources. There is no statistically significant divergence between the two scores [$F(2,678)=2,027$; $p > .05$].

5. Discussion and Conclusion

The learning to learn processes of secondary school students were analyzed in terms of gender; no significant difference was found in the sub-dimensions of Integrity in Theory and Practice in Learning, Willingness to Learn, Affective in Learning and in the overall scale. A significant difference was found in favor of male students in the sub-dimensions of Learning / Thinking Style and Personal Awareness in Learning. This result shows that male secondary school students have a better knowledge of learning / thinking styles in the process of learning to learn and their personal awareness in the process of learning to learn is better than female secondary school students. Boys are different from girls in terms of creating different options and responsibility. Men are equipped with responsibilities imposed on them as a social norm and are expected to fulfill their responsibilities. This is reflected both in their daily lives and in their educational lives. Çağırğan Gülten (2012) found that male teachers' attitudes towards teaching learning are higher than female teachers. Aşkın Tekkol and Demirel (2016) addressed the views of university students in their research and found that students showed desired behaviors in terms of self-management in the dimensions of motivation, persistence (being persistent in learning) and taking responsibility for learning.

As a result of analyzing secondary school students' learning to learn processes based on school type, no statistically significant divergences were detected in the subdimensions of Learning / Thinking Style, Integrity in Theory and Practice in Learning, Willingness to Learn, Affectivity in Learning and the overall

scale. A statistically significant variance existed between students studying in Anatolian high schools and those enrolled in other high schools in the sub-dimension of Personal Awareness in Learning. According to these results, Anatolian high school students possess higher levels of self-awareness in terms of learning how to learn.

A comparison of the learning how to learn processes of secondary school students was conducted based on grade level; no statistically significant variances were detected in the any sub dimension or on the overall scale. This result indicates that there are no differences between 1st and 4th grade secondary school students in the manner in which they learn to learn. A difference in learning to learn is expected among secondary school students in 4th grade (12th grade) preparing for central exams. Since these students are preparing for central exams, they possess a superior comprehension of learning strategies and are better able to structure their learning processes. This situation, however, is not reflected statistically in the results obtained.

In an analysis of students' learning to learn processes based on their daily, average study hours, no statistically significant divergences were found in the sub-dimension Learning / Thinking Style. Students who studied five or more hours demonstrated statistically meaningful divergences in the sub-dimensions of Integrity in Theory and Practice in Learning, Personal Awareness in Learning, Willingness to Learn, and Affectivity in Learning, as well as the overall scale. Increasing the daily study time encourages students to study more disciplined and regularly. Furthermore, the increase in study time contributes to the development of a student's curiosity and awareness of the learning process. This is reflected in the desire, awareness, and voluntarism of these students towards learning as compared to students who do not study as much. According to Akin, Ciray, and Sonmez (2013), students who choose and use appropriate learning strategies in the teaching process manage their time effectively and allocate adequate time for learning.

Using the resources used in the learning process, secondary school students' learning to learn processes were analyzed; there were no statistically significant divergences noted in the sub dimensions of Learning / Thinking Style, Integrity in Theory and Practice in Learning, Willingness to Learn, Affectivity in Learning and in the overall scale. According to the sub-dimension of Personal Awareness in Learning, there was a statistically significant divergence in advantage for students who used printed resources. In general, printed resources are more organized and systematic. Resources such as digital resources and human resources may be misleading or distracting. Considering that digital resources lack integrity, and students may be distracted by tasks other than reading, listening, or watching, it is normal for students to be distracted. On the other hand, human resources are more subjective than digital resources. Teachers may tend to transfer their own thoughts and impressions to students, thereby losing objectivity when transferring information and teaching. Furthermore, there may be a discrepancy between the perceptions conveyed by two different human resources. As a result, distrust may be generated towards the human resource. In comparison with digital sources, printed resources are more systematic, simple, and comprehensive. As a result, they do not present many distractions to students. In comparison to human sources, they are more objective. Since they are supported by reliable data and sources, their content is more systematic and reliable. Students in secondary schools also demonstrate a higher level of self-awareness towards printed resources according to the results of the study. According to Ozmat and Senemoglu (2020), English teachers report inadequate textbooks in their study; textbooks do not include activities oriented toward students' needs, there are very few activities in textbooks, and the textbooks do not include activities designed to develop communication skills.

In accordance with the outcomes of the study, some suggestions were formulated regarding improving the learning-to-learn processes of secondary school students. Studying the learning/thinking styles of female students and their awareness of learning is important. In addition, it is important to conduct studies that aim to improve the awareness of students at SACs for learning. By improving students' learning to learn processes, these initiatives will contribute to more efficient learning. In Türkiye, the average study time per day is approximately four hours. This is confirmed by the findings of the study (N=617). It will be beneficial for students to improve their learning to learn processes if this situation can be improved, which arises due to factors such as social media, friends, and living conditions. Research-based assignments and studies utilizing digital tools should be avoided in favor of printed resources. In this regard, it would be useful for students to be directed to resources such as novels, magazines, and newspapers.

References

- Abril-López, D., Morón-Monge, H., Morón-Monge, M. D. C., & Carrillo, M. D. L. (2021). The Learning to learn competence in early childhood preservice teachers: An outdoor and e/m-learning experience in the museum. *Future Internet*, 13(2), 25. <https://doi.org/10.3390/FI13020025>
- Adams-Byers, J., Whitsell, S. S., & Moon, S. M. (2004). Gifted students' perceptions of the academic and social/emotional effects of homogeneous and heterogeneous grouping. *Gifted Child Quarterly*, 48(1), 7–20. <https://doi.org/10.1177/001698620404800102>
- Akın, Z., Çıray, F., & Sönmez, B. (2013). Öğretmen adaylarının kullandıkları öğrenme stratejileri ile zaman yönetimi becerileri arasındaki ilişki. *İlköğretim Online*, 12(3), 822-835.
- Alkan, İ., Nacaroğlu, O., & Mutlu, F. (2020). Üstün yetenekli öğrencilerin ve üstün yetenekli olmayan akranlarının öğrenme stillerinin karşılaştırılması: Malatya ili örneği. *Elektronik Sosyal Bilimler Dergisi*, 19(73), 206-219. <https://doi.org/10.17755/esosder.518357>
- Aşkın Tekkol, İ., & Demirel, M. (2016). Öğretmen adaylarının öz-yönetimli öğrenme becerilerine ilişkin görüşlerinin incelenmesi. *Uluslararası Eğitim Programları ve Öğretim Çalışmaları Dergisi (International Journal of Curriculum ve Instructional Studies)*, 6(12), 151-168.
- Balay, R. (2004). Globalization, information society and education. *Ankara University Journal of Faculty of Educational Sciences (JFES)*, 37(2), 61-82. https://doi.org/10.1501/Egifak_0000000097
- Black, P., McCormick, R., James, M., & Pedder, D. (2006). *Assessment for learning and learning how to learn: A theoretical enquiry*. Assessment in Education: Policy and Practice, 13.
- Boekaerts, M., & Cascallar, E. (2006). How far have we moved toward the integration of theory and practice in self-regulation? *Educational Psychology Review*, 18(3), 199–210. <https://doi.org/10.1007/S10648-006-9013-4>
- Bozkurt, Ş. B., & Çakır, H. (2016). Ortaokul öğrencilerinin 21. yüzyıl öğrenme beceri düzeylerinin cinsiyet ve sınıf seviyesine göre incelenmesi. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 39(39), 69-82.
- Brookhart, S. (2010). *Formative assessment strategies for every classroom (2nd ed)*. ASCD.
- Büyüköztürk, Ş. (2007). *Sosyal bilimler için veri analizi el kitabı*. Pegem A Yayıncılık.
- Çağırğan Gülten, D. (2012). Matematik ve sınıf öğretmenleri ile öğretmen adaylarının matematik öğrenmeyi öğretmeye ilişkin tutumları. *HAYEF Journal of Education*, 8(2), 39-55.
- Cassidy, S. (2004). Learning styles: An overview of theories, models, and measures. *Educational Psychology*, 24(4), 419-444. <https://doi.org/10.1080/0144341042000228834>
- Cassidy, S., & Eachus, P. (2000). Learning style, academic belief systems, self-report student proficiency and academic achievement in higher education. *Educational Psychology*, 20(3), 307-322. <https://doi.org/10.1080/713663740>
- Christensen, B. L., Johnson, R. B., & Turner, L. A. (2015). *Research methods, design, and analysis*. Pearson Education Limited.
- Clark, B. (2008). *Growing up gifted*. Merrill.
- Crick, R. D. (2007). Learning how to learn: The dynamic assessment of learning power. *The Curriculum Journal*, 18(2), 135–153. <https://doi.org/10.1080/09585170701445947>
- De Corte, E. (2013). Giftedness considered from the perspective of research on learning and instruction. *High Ability Studies*, 24(1), 3–19. <https://doi.org/10.1080/13598139.2013.780967>
- Domino, G. (1996). Test-retest reliability of the suicide opinion questionnaire. *Psychological Reports*, 78(3), 1009-1010.
- Fukuda, S. T., Lander, B. W., & Pope, C. J. (2020). Formative assessment for learning how to learn: Exploring university student learning experiences. *RELC Journal*, 0033688220925927. <https://doi.org/10.1177/0033688220925927>

- Ortaöğretim Öğrencilerinin Öğrenmeyi Öğrenme Süreçlerinin Değerlendirilmesi / Kavan, N., & Çakmak, M., & Karaduman, E. & Çakır, S.
- Hautamäki, J., Arinen, P., Niemivirta, M. J., Eronen, S., Hautamäki, A., Kupiainen, S., Lindblom, B., Pakaslahti, L., Rantanen, P., & Scheinin, P. (2002). *Assessing learning-to-Learn: A framework*. Helsinki University Printing House.
- Hidayat, D. R., Rohaya, A., Nadine, F., & Ramadhan, H. (2020). Kemandirian belajar peserta didik dalam pembelajaran daring pada masa pandemi COVID-19. *Perspektif Ilmu Pendidikan*, 34(2), 147–154. <https://doi.org/10.21009/PIP.342.9>
- Hodson, D. (2014). Learning science, learning about science, doing science: Different goals demand different learning methods. *International Journal of Science Education*, 36(15), 2534–2553. <https://doi.org/10.1080/09500693.2014.899722>
- James, M., & McCormick, R. (2009). Teachers learning how to learn. *Teaching and Teacher Education*, 25(7), 973–982. <https://doi.org/10.1016/J.TATE.2009.02.023>
- Karasar, N. (2012). *Bilimsel araştırma yöntemleri*. Nobel Yayıncılık.
- Kesuma, A. T., Retnawati, H., & Putranta, H. (2021). Analysis of self-regulated learning skills in senior high school students: A phenomenological study. *TEM Journal*, 10(3), 1285–1293. <https://doi.org/10.18421/TEM103-35>
- Klauer, K. J. (1988). Teaching for learning-to-learn: A critical appraisal with some proposals. *Instructional Science*, 17(4), 351–367. <https://doi.org/10.1007/BF00056221>
- Kolb, D. A. (1984). *Experimental learning: Experience as the source of learning and development*. Prentice- Hall.
- Kormos, J., & Csizér, K. (2014). The interaction of motivation, self-regulatory strategies, and autonomous learning behavior in different learner groups. *TESOL Quarterly*, 48(2), 275–299. <http://proxy.bau.edu.tr:2188/stable/43268052>
- Letina, A. (2020). Development of students' learning to learn competence in primary science. *Education sciences*, 10(11), 325.
- Özmat, D., & Senemoğlu, N. (2020). Yabancı dil öğrenmeyi zorlaştıran faktörler üzerine nitel bir çalışma. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 21(3), 1235–1253. <https://doi.org/10.17679/inuefd.734985>
- Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4), 385–407. <https://doi.org/10.1007/S10648-004-0006-X>
- Ridgley, L. M., DaVia Rubenstein, L., & Callan, G. L. (2022). Are gifted students adapting their self-regulated learning processes when experiencing challenging tasks? *Gifted Child Quarterly*, 66(1), 3–22. <https://doi.org/10.1177/00169862211025452>
- Romero Ariza, M. (2014). El aprendizaje experiencial y las nuevas demandas formativas. *Antropología Experimental*, 0(10). Available online: <https://revistaselectronicas.ujaen.es/index.php/rae/article/view/1970> (accessed on 06 April 2022).
- Smith, R. M. (1982). *Learning how to learn: Applied theory for adults*. Follett.
- Stewart, E. D. (1981). Learning styles among gifted/talented students: Instructional technique preferences. *Exceptional Children*, 48(2), 134–138. <https://doi.org/10.1177/001440298104800206>
- Stouch, C. A. (1993). What instructors need to know about learning how to learn. *New Directions for Adult and Continuing Education*, 1993(59), 59–67. <https://doi.org/10.1002/ACE.36719935908>
- Zimmerman, B. J. (2001). Theories of self-regulated learning and academic achievement: An overview and analysis. *Self-regulated Learning and Academic Achievement: Theoretical Perspectives*, pp. 1–65. B. J. Zimmerman & D. H. Schunk (Eds). Lawrence Erlbaum Associates.

Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, 45(1), 166–183. <https://doi.org/10.3102/0002831207312909>