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EFL Students' Self-Regulated Online Learning in Post-Pandemic Hybrid Education

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ABSTRACT

This study measured self-regulated online learning skills of English language learners in post-pandemic hybrid education. A quantitative survey design was adopted and students majoring in English Language and Literature at a state university in Türkiye in 2021-2022 academic year constituted the population of the research. The Self-Regulated Online Learning Scale was administered to the students of three groups in the department (preparatory class, freshmen, and sophomores). As a result of the statistical analyses, the findings demonstrated that the students' self-regulated online learning skills were at a moderate level both in general and with respect to self-regulation dimensions. Additionally, no significant differences were observed in students' reported self-regulated learning across groups of gender, years of education and perceived foreign language levels, whereas significant differences were revealed for the variable of frequency of attendance to online classes. The results and implications are discussed, and some recommendations are provided.

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Statement of Publication Ethics The study has been conducted by following the publication ethics.
An approval has been obtained for the current study from Igdır University Scientific Research and Publication Ethics Committee on April 12, 2022, with the document number E-37077861-200-65161.

Conflict of Interest The author declares no conflict of interest.

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Introduction

With the advent of approaches highlighting the active role of the learner agency in learning processes and as the development of life-long learning skills has become of paramount importance, self-regulation has received substantial scholarly interest in relation to effective learning in educational psychology for particularly the past two decades. In an earlier and still acknowledged definition of self-regulated learning (hereafter SRL), the students with SRL skills were identified as "metacognitively, motivationally and behaviorally active participants in their own learning process" (Zimmerman, 1986, as cited in Zimmerman, 2008, p. 167). It is not a mental ability or a performance-based skill but rather a self-directed process of converting the mental ability to a task-based skill (Zimmerman, 2015). It enables learners to fulfil effective reflection regarding their cognitive and behavioral learning strategies (Bradley et al., 2017).

The regulatory processes are used by all learners to some extent, yet self-regulated learners outstand as those with strategic awareness and abilities to use strategies effectively to attain their learning goals (Zimmerman, 1990). Self-regulated learners are characterized with faster and more effective learning (Kizilcec et al., 2017) and critical thinking (Chien, 2019), and they are observed to be more self-confident, diligent, and resourceful (Zimmerman, 1990). The learners with higher SRL skills possess higher intrinsic goal orientation and higher self-efficacy when compared to their less skillful peers(Cho & Shen, 2013). They are described as 'proactive' learners who realize their strengths and acknowledge their limitations and accordingly set goals and apply task-specific strategies (Zimmerman, 2002).

Several SRL models drawn on different theoretical perspectives have been developed (Kulusaklı, 2022) and they commonly connote a variety of cognitive and metacognitive strategies (Pintrich, 1999). In an extensively recognized model, self- regulation efforts have been conceptualized in three cyclically functioning phases: forethought, performance, and self-reflection (Zimmerman, 2015). Forethought phase involves the anticipation of the effort necessary for learning, expectations regarding the outcomes of learning, self-efficacy beliefs, individual interests and skills required in task management, such as planning, setting the goals, or choosing the right strategies. Performance phase consists of the processes of optimizing the learning efforts by managing time and environment effectively and monitoring self-performance. The final phase, self-reflection, encompasses the evaluation of the outcomes of the learning process and includes self-judgment and self-reaction. The theoretical model proposed by Winne and Hadwin (1998) conceptualized SRL in four fundamental stages: defining tasks, setting goals and planning, adopting study tactics and making adaptations to metacognition. Very similarly, Barnard et al. (2009) determined six dimensions for self-regulated learning as structuring the environment, setting goals, managing time, seeking for help, developing task strategies and evaluating self-performance. The model of Pintrich (1999), on the otherhand, categorizes the SRL strategies as cognitive learning strategies, self-regulatory strategies to control cognition and resource management strategies. Cognitive learning strategies encompass rehearsal (for example, recitation or read-alouds), elaboration (for instance, paraphrasing or summarizing study materials) and organizational strategies (e.g., sketching or outlining). The self-regulatory strategies, also referred to as metacognitive control, comprise planning, monitoring, and regulating phases. The other component of the model, resource management strategies, appertains to the ability to manage theenvironmental conditions including management of the time, the study environment, andthe social environment, through seeking help from peers or teachers.

Literature Review

Online learning environments thrived in the past decade and expanded remarkably thanks to learning managements systems, video conferencing platforms and social learning networks during and after the worldwide disruptions in education due to Covid-19 pandemic outbreak. The abilities necessary for effective online learning appear to be quite alike to those skills acquainted with self-regulation (Yavuzalp & Özdemir, 2020), which has made self-regulation a vital criterion for better academic performance in online learning (Barnard et al., 2009; Viriya, 2022). It has further been found to statistically correlate with academic achievement in online settings as a result of some studies (Bradleyet al., 2017; Yukselturk & Bulut, 2007). SRL is especially essential for online courses, as the students are required to fulfill tasks in such learning environments with limited support and hence, need to be highly self-regulated (Cerezo et al., 2020; Jansen et al., 2017; Li et al., 2020). It has therefore been noted that learners use SRL strategies more often in online learning environments than the traditional classrooms (van Alten et al., 2020).

A growing surge of interest in the exploration of self-regulated online learning (hereafter SOL) dynamics is observed in the field of teaching and learning English as a foreign language (EFL) (Su et al., 2018). Relevant research has demonstrated the positive influence of SOL on the development of language skill areas and students' attitudestowards language learning, subsequently enhancing active engagement of the learners in language learning process (Xu et al., 2022). Indeed, the relation between language learningand self-regulation appears to be two-sided as technology-integrated language learning, which has become ubiquitous lately, has also been suggested to enhance learner self- regulation (Chien, 2019). Studying the effects of synchronous, asynchronous and bisynchronous online learning on self-regulated and perceived learning of tertiary-level EFL students, Viriya (2022) found that, for all three online learning modes, the SOL of theEFL students was promoted or impeded depending on the compatibility between thedistinctive characteristics and behaviors of the students and the mode of online learning.

Relevant literature provides research that focuses on the efficacy of interventions in the improvement of SOL skills. L. Zheng et al. (2018), for instance, developed a mobile SRL system for reading English passages to boost EFL learners' academic performance in general and the SRL skills in particular. The results of the experimental study indicated significant enhancements in both the students' progress and the SOL skills. In another intervention study, Meşe and Mede (2022) conducted research on the effects of differentiated instruction (DI), an approach in which the individual learner differences are taken into consideration in shaping teaching and learning practices (Hall, 2002), on EFL speaking proficiency and SOL. Their results indicated that DI did not significantly influence the overall SRL while progress was recorded in the students' help-seekingstrategy use, target setting and self-assessment skills.

SOL has also been studied within the framework of collaborative EFL learning in some recent research. Su et al. (2019) explored the role of SOL in collaborative learning practices in wiki-based learning environments and their results affirmed, albeit partly, the correlation between SRL strategies and learner attitudes towards learning practices in wiki-based collaborative learning. In another study with a rather specific focus, Li et al. (2020) shared the results of a similar study addressing the effects of SOL on the development of reading skills of Chinese EFL learners in a wiki-supported collaborative reading task. As a

result, two self-regulation profiles were identified: reflection-oriented competent and average. The reflection-oriented competent students were more actively engaged in starting and maintaining the collaborative regulation with more effective use of social and emotional regulation strategies.

There have been studies addressing the relation between self-regulated learning and digital literacy skills as well. As a result of their study which explored the effectiveness of an academic course design centering digital literacy competencies, Blau et al. (2020) suggested self-regulation as an integral part of the digital literacy framework. Likewise, Anthonysamy et al. (2020) examined the facilitative effects of self-regulated learning strategies (SRLS) on digital literacy skills of students as online learners and revealed a significantly positive change in the digital literacy of the students.

SOL of EFL learners has additionally been addressed in relation to motivational beliefs of the learners. C. Zheng et al. (2018), for instance, developed a structural equation model integrating EFL learners' motivation with their online self-regulation and revealed that students with more positive future perspectives and an intrinsic interest in the target language culture potentially had higher self-regulated online learning capacities. Furthermore, their results showed that the students with more positive learning experiences were likely to display higher flexibility and independence in as an aspect of their self-regulated learning processes. Self-efficacy beliefs were also specifically associated with SRL in EFL context. The correlation between SOL and self-efficacy beliefs of Chinese EFL learners was investigated by Su et al. (2018), the results revealing an intricate association between all dimensions of self-regulation and those of self-efficacy. Drawing on the notion that self-efficacy is an essential component of effective SOL, Xu et al. (2022) investigated the self-efficacy for self-regulated learning (SESRL) of EFL learners in online learning contexts and revealed a constantly high level of self-efficacy for SOL with the contribution of various factors including the task types, learner dynamics, course features and the students' technology level.

The development of EFL learners' SRL during Covid-19 pandemic-led educational disruptions through which the instructional practices were conducted via emergency remote teaching has also received scholar interest. Do (2022) investigated the SRL strategies of Vietnamese tertiary-level EFL students taking online education during the pandemic. The results of his study showed that the students displayed high levels of self- regulation and a correlation was detected between the students' cognitive knowledge and cognition regulation, whereas no significant relation was determined between academic achievement and the use of SRL strategies. In another study, focusing on learner autonomy in EFL classes in Vietnamese universities during Covid-19 pandemic, Lien (2022) revealed that the students showed limited awareness of their SRL profiles during their online learning experiences. Several studies addressing the SOL of EFL learners in ERT practices during the Covid-19 pandemic period have been conducted in Türkiye. Kulusaklı(2022) examined the SRL habits of Turkish university students in online distance education, and the results showed that environment management skills of the students wereat a good level, whereas the perceived metacognitive skills, persistence, help seeking, and time management were found to be at moderate level, and no statistical significance was identified in student responses across gender and age variables. Similarly, Doğan (2022) studied the perceived

SOL of Turkish EFL university students with A1 level proficiency and the relationship between the students' SOL and some learner characteristics. The studyresults indicated a moderate level of SOL for the students and significant relationship between the students' academic achievement and their overall SOL as well as the SOL aspects of metacognitive skills and environmental structuring. Furthermore, female students were better in time-management and the students with a positive attitude towards learning English had higher scores for the overall SOL and the dimensions of metacognitive skills, help-seeking and environmental structuring. In another Turkish EFL learning context, where hybrid education model was adopted, Öner (2022) researched the intermediate and upper-intermediate preparatory program students' SOL based on the students' and their instructors' perceptions. The study highlighted the results of higher goalsetting and task strategy for intermediate students and more frequent use of help-seeking strategies for female students. Finally, Karacan et al. (2022) investigated the SOL of English preparatory class students in a Turkish state university, focusing specifically on the relationship between the students SOL and academic achievements. The students' SOLwas found to range from medium to high levels, and their model for SOL could predict a very small amount (14 %) of the students' achievement while the SRL dimension predicting L2 achievement most strongly was help-seeking strategies.

In a nutshell, the ways and the extent to which the EFL learners self-regulate their learning has become of considerable value for educational practices, especially in online, either obligatory or arbitrary, learning conditions; and determining the individual learner characteristics such as self-regulation skills is considered to contribute to the effective use of online learning environments (Yavuzalp & Özdemir, 2020). After one and a half year of distance education due to Covid-19 pandemic, which was a totally unfamiliar experience for all involved parties, most of the universities in Turkey adopted a hybrid education model where a certain percent of department courses were taught online while others were delivered in a face-to-face tradition. The hybrid model was also an unfamiliar experience for the students, and how they regulated their language learning under these circumstances has urged scholar scrutiny, as learning regulation is now a vital skill for better academic performance in all learning environments. Furthermore, determining the SOL of different learner groups in different educational settings promises significant contributions to the field since SRL has been described as a fluctuating and changeable process specific to individual learning contexts (Barnard et al., 2009; Pintrich, 2004). It has therefore been the primary intention of the present study to provide an account of the SRL of Turkishstudents who had online courses within the framework of the hybrid education in the academic year following the pandemic-led distance education. The study sought to answerthe following specific research questions:

1. What are the SOL skills of EFL learners in post-pandemic hybrid education?

2. Does the EFL learners' SOL in the post-pandemic hybrid education differ according to gender, year of study, perceived proficiency or the frequency of attendance to online lessons?

Methodology

Research Design and Publication Ethics

This study was designed as a descriptive quantitative survey, which is commonly preferred in research attempting to reach generalizations from a sample group to a population with the aim of making inferences regarding determined characteristics, attitudes or behaviors of the given population (Creswell, 2014). The survey method was preferred as it was considered to be of good conformity with the scope of the present study besides its economic and temporal conveniences. A questionnaire survey was administered in hard copies in the second half of 2021-2022 academic year upon obtaining an approval from Igdir University Scientific Research and Publication Ethics Committee with the document no E-37077861-200-65161 on April, 12th, 2022.

Context

This study was conducted in the English Language and Literature Program at a state university in Türkiye. The program conventionally provided face-to-face education until the outbreak of Covid-19 pandemic, which precipitated a sudden and unavoidable disruption in education worldwide as of spring 2020. Distance education, which had been in use by preference for a few decades until then became to be adopted compulsorily, leading to the conceptualization of a novel mode of education: *emergency remote teaching* (ERT, Hodges et al., 2020). Universities provided both synchronous and asynchronous ERT delivery models using their own learning management systems (LMS) for instruction and assessment. When the severity and prevalence of the pandemic diminished in 2021, educational institutions inclined towards hybrid education. In the context of the present study, ERT was adopted in spring 2020 and the overall 2020-2021 academic year, and hybrid education was employed in the 2021-2022 academic year, when approximately sixty percent of department courses were taught face-to-face and the remaining courses were given online. The online course sessions were held on platforms such as Microsoft Teams or Zoom as preferred by the course instructors. The students could also find the asynchronous course records on the LMS of the university. The assignments and other course materials were also uploaded to the LMS by the instructors.

Participants

The population of this study consisted of the students studying in the English Language and Literature Program at a state university in Türkiye. As the department program included at least one online course for students of all years of study, including the preparatory program, total population sampling was applied and all students in the department took part in the study, excluding the juniors who were only 4 in total and three of them were Ghanaian who could barely comprehend Turkish statements. Furthermore, the population size was insufficiently small to select a certain sample group. No senior students were present in the department in the academic year the research was conducted. Demographic information of the students is provided in Table 1 below.

Table 1. Information About the Students Responding to the Questionnaire

Variable		Frequency	Percentage (%)
Gender	Male	32	25,6

	Female	93	74,4
Year of Study	Prep.	54	43,2
	Freshmen	44	35,2
	Sophomores	27	21,6
Perceived Proficiency	Low	26	20,8
	Intermediate	83	66,4
	High	16	12,8
Attendance	Never	25	20,0
	Rarely	27	21,6
	Sometimes	56	44,8
	Often	14	11,2
	Always	3	2,4
Total		125	100

As displayed in Table 1, data had been collected from 125 students by the end of the survey period. The females constituted three fourths of the total number while one fourth was of male students. As regards the students' year of study, the preparatory year students were highest in number (N=54) followed by the freshmen (N=44) and sophomores (N=27), respectively. As another learner variable of the study, perceived English language proficiency was also interrogated, and the students' perceptions varied while two third (N=83) considered themselves as medium/intermediate level EFL learners,and those students with high (N=16) and low (N=26) levels of perceived L2 proficiency were relatively few in number. The students were also asked to state the frequency of their attendance to online classes. Interestingly, those stating to always attend the classes were quite few in number (N=3). Approximating to the half of the total sample, 56 students declared that they joined the classes on occasion. Evidently, the students' online course attendance displayed a tendency towards low frequencies.

Data Collection and Analysis

A questionnaire survey consisting of personal information section and the Turkish version of "Self-Regulated Online Learning Questionnaire (SOLQ)" of Jansen et al. (2017)adapted by Yavuzalp and Özdemir (2020) was administered to the participating students. The scale was an example of a 7-point Likert-type and composed of 36 items subsumed under five sub-dimensions: metacognitive skills, time management, environmental structuring, persistence and help-seeking. Metacognitive skills dimension in the scale encompass items (items 1-18) interrogating the students' regulation of planning, monitoring and evaluating their online learning processes. Time management items (items 19-21) entail responses related to the use of time in the arrangement of online learning activities. Environmental structuring items (items 22-26) indicate the regulation of environmental conditions; persistence items (items 27-31) are about how learning effort is regulated and motivational beliefs are controlled (Jansen et al., 2017); and lastly, help- seeking items (items 32-36) refer to the social strategies used when asking for help from teachers or peers. The full Turkish version of the scale is available in Yavuzalp and Özdemir (2020). Validity and reliability of the scale were confirmed for both the original and adapted versions. Jansen et al. (2017) found that the 5-factor structure explained 46,58

% of the variance in the data and the internal consistency of the subscales ranged between the values of α=.68 and α=.91. As for the Turkish version, the scale again had a five-factor structure

with a total explained variance of 62,06 % and the subscale internal consistency varying between α=.70 and α=.95 (Yavuzalp & Özdemir, 2020). As regards the reliability of the present study, the Cronbach's Alpha value was found to be .93 for the scale in general indicating that the scale was a reliable tool to measure SOL.

Procedure

The researcher carried out the data collection process personally in the department within one week owing to the cross-sectional nature of the survey. The students received explanations regarding the research purpose and scope, and the issues of confidentiality, anonymity and voluntariness. The questionnaire took approximately 10-15 minutes for the students to respond. Then the researcher proceeded to transfer data to the StatisticalPackage for the Social Sciences (SPSS) program for data analysis.

The negatively worded items were reverse coded before statistical analyses were conducted. The data set was tested for normality of distribution based on Skewness and Kurtosis values, which, according to Tabachnick and Fidell (2013), are assumed to be between + 1,5 and - 1,5 when the data set is normally distributed. For the current study, theSkewness and Kurtosis values were found to be -,466 and ,889, respectively, indicating normally distributed data which enabled the use of parametric tests for the inferential statistics to be applied to measure the relationship between the independent and dependent variables of the study.

Results

Descriptive Results

With the aim of answering the first research question, descriptive tests were run to determine the mean, standard deviation, minimum and maximum values for the scale and the subscales. Table 2 below provides the preliminary descriptive results for general SOLQ and the subscales.

Table 2. Descriptive Results for the Participant Students' SOL

	N	Minimum	Maximum	$\bar{X}$	SD
SOLQ	125	1,12	6,64	4,19	1,02
Metacognitive Skills	125	1,11	6,56	3,99	1,09
Time Management	125	1,00	7,00	4,30	1,12
Environmental Structuring	125	1,00	7,00	4,77	1,54
Persistence	125	1,00	7,00	4,25	1,35
Help-seeking	125	1,00	6,80	4,24	1,44

As illustrated in Table 2 above, the self-regulated online learning skills of the students in general was found to be at a moderate level. The responses to the subscales of the survey displayed variance although all SRL features may be evaluated to be at a moderate level based on the mean values. More specifically, the metacognitive skills were observed to have the lowest mean value ($\bar{X}$ =3,99) while environmental structuring was the self-regulatory skill the students reported to demonstrate with the highest frequency ($\bar{X}$ =4,77). The mean values for time management, persistence and help-seeking items were

found to be approximating to each other ($\bar{X}$ =4,30, $\bar{X}$ =4,25 and $\bar{X}$ =4,24, respectively), displaying a similarly moderate level in the students' self-perceptions regarding both of these self-regulatory characteristics.

The item scores for each subscale were also determined with descriptive analyses. The first eighteen items in the scale was subsumed under metacognitive skills. Table 3 below shows the minimum, maximum, mean and standard deviation values for these items. As obvious from the scores, the mean values ranged between 3,43 and 4,38, indicating close results among items, and a moderate level of SOL for items per se. Item 1, which highlights thinking about what needs to be learnt before beginning an online activity, received the highest score, whereas Item 2, which indicates asking oneself questions about what to study before beginning to learn the online course content, was scored the lowest.

Table 3. Descriptive Results for Metacognitive Skill Items

Items	N	Min	Max	$\bar{X}$	SD
1. I think about what I really need to learn before I begin a task in this online course.	125	1,00	7,00	4,39	1,75
2. I ask myself questions about what I am to study before I begin to learn for this online course.	125	1,00	7,00	3,43	1,67
3. I set short-term (daily or weekly) goals as well as long-term goals (monthly or for the whole online course).	125	1,00	7,00	3,58	1,80
4. I set goals to help me manage my studying time for this online course.	125	1,00	7,00	4,01	1,69
5. I set specific goals before I begin a task in this online course.	125	1,00	7,00	3,99	1,69
6. I think of alternative ways to solve a problem and choose the best one for this online course.	125	1,00	7,00	4,08	1,71
7. I try to use strategies in this online course that have worked in the past.	125	1,00	7,00	4,36	1,71
8. I have a specific purpose for each strategy I use in this online course.	125	1,00	7,00	3,59	1,63
9. I am aware of what strategies I use when I study for this online course.	125	1,00	7,00	4,33	1,65
10. Although we don't have to attend daily classes, I stilltry to distribute my studying time for this online course evenly across days.	125	1,00	7,00	3,45	1,70
11. I periodically review to help me understand important relationships in this online course.	125	1,00	7,00	3,79	1,58
12. I find myself pausing regularly to check my comprehension of this online course.	125	1,00	7,00	4,04	1,79
13. I ask myself questions about how well I am doing while learning something in this online course.	125	1,00	7,00	4,32	1,80
14. I think about what I have learned after I finish working on this online course.	125	1,00	7,00	4,37	1,77
15. I ask myself how well I accomplished my goals once I'm finished working on this online course.	125	1,00	7,00	3,90	1,75
16. I change strategies when I do not make progress while learning for this online course.	125	1,00	7,00	4,23	1,71
17. I find myself analyzing the usefulness of strategies while I study for this online course	125	1,00	7,00	3,94	1,61
18. I ask myself if there were other ways to do things after I finish learning for this online.	125	1,00	7,00	4,38	1,81

The next three items, namely items 19-21, were involved in the time management dimension. The descriptive scores for these items are presented in Table 4. The item scoresin this subscale appear to be quite approximate to each other. Item 19, which interrogated the difficulty of following schedules to study for an online course, received the lowestscore among these three items while Item 20, stating one's attempts to keep pace with the weekly reading tasks and assignments, was scored the highest.

Table 4. Descriptive Results for Time Management Items

Items	N	Min	Max	$\bar{X}$	SD
19. I find it hard to stick to a study schedule for this online course.	125	1,00	7,00	3,97	1,94
20. I make sure I keep up with the weekly readings and assignments for this online course.	125	1,00	7,00	4,49	1,64
21. I often find that I don't spend very much time on this online course because of other activities.	125	1,00	7,00	4,47	1,80

The third subscale, environmental structuring, was represented with the next five items in the SOLQ. The descriptive values for these items are provided in Table 5. These five items with mean scores ranging between 4,58 and 4,94 were those with the highest scores in the scale overall. Within the subscale, Item 23, which is a statement about selecting a comfortable place for studying, was rated highest by the respondents. On the other hand, Item 25, which expressed the behaviour of using a place regularly to study for an online course, had the lowest rating in this subscale; yet, it has to be noted that the score for this item was still above the scale mean overall.

Table 5. Descriptive Results for Environmental Structuring Items

Items	N	Min	Max	$\bar{X}$	SD
22. I choose the location where I study for this online course to avoid too much distraction.	125	1,00	7,00	4,86	1,83
23. I find a comfortable place to study for this online course.	125	1,00	7,00	4,94	1,96
24. I know where I can study most efficiently for this online course.	125	1,00	7,00	4,90	1,98
25. I have a regular place set aside for studying for this online course.	125	1,00	7,00	4,58	2,08
26. I know what the instructor expects me to learn in this online course.	125	1,00	7,00	4,61	1,72

The following five items, namely items numbered from 27 to 31, were grouped in the subscale of persistence. The statistical results for these items are given in Table 6 below. Among these items, the one with the highest mean value was Item 27, indicating that the students tried to maintain their attention when bored while studying, whereas Item 31 was the lowest-scored item, demonstrating the students' effort to complete course requirements when the content was not interesting.

Table 6. Descriptive Results for Persistence Items

Items	N	Min	Max	$\bar{X}$	SD
27. When I am feeling bored studying for this online course, I force myself to pay attention.	125	1,00	7,00	4,52	1,68
28. When my mind begins to wander during a learning session for this online course, I make a special effort to keep concentrating	125	1,00	7,00	4,47	1,70
29. When I begin to lose interest for this online course, I push myself even further.	125	1,00	7,00	4,18	1,73
30. I work hard to do well in this online course even if I don't like what I have to do.	125	1,00	7,00	4,26	1,75
31. Even when materials in this online course are dulland uninteresting, I manage to keep working until I finish.	125	1,00	7,00	3,85	1,78

The final subscale, help-seeking was represented with the last five items in the scale. The descriptive values of these items are displayed in Table 7. Of the five items, which had close mean scores, Item 32, asking peers' ideas when the course content is not fully understood, was the highest in mean value score ranking. Item 34, asking for instructors' help in online courses, was ranked the lowest according to the findings.

Table 7. Descriptive Results for Help-Seeking Items

Items	N	Min	Max	$\bar{X}$	SD
32. When I do not fully understand something, I ask other course members in this online course for ideas.	125	1,00	7,00	4,48	1,88
33. I share my problems with my classmates in thiscourse online so we know what we are struggling with and how to solve our problems.	125	1,00	7,00	4,06	1,91
34. I am persistent in getting help from the instructor of this online course.	125	1,00	7,00	4,01	1,65
35. When I am not sure about some material in this online course, I check with other people.	125	1,00	7,00	4,38	1,89
36. I communicate with my classmates to find out how I am doing in this online course.	125	1,00	7,00	4,33	1,97

Inferential Results

The second research question was addressed by testing the difference between student responses across genders and independent samples t-test was conducted with this purpose. The test results, as displayed in Table 8, showed that student responses were unaffected by gender ($p>.01$) for both the scale in general and each subscale in specific.

Table 8. T-Test Results for Gender Variable

	Gender	N	$\bar{x}$	SD	t	p
SOLQ	Female	93	4,22	1,03	,579	,56
	Male	32	4,09	1,00		
Metacognitive Skills	Female	93	4,01	1,07	,321	,32
	Male	32	3,93	1,15		
Time management	Female	93	4,38	1,14	1,29	,19
	Male	32	4,08	1,04		
Environmental	Female	93	4,84	1,55		

Structuring	Male	32	4,58	1,51	,839	,40
Persistence	Female	93	4,26	1,37	,143	,88
	Male	32	4,22	1,31		
Help-seeking	Female	93	4,31	1,51	,817	,41
	Male	32	4,06	1,23		

As the third research question interrogated, the academic year of study was tested in terms of its influence on student responses through One-Way ANOVA. Before running the test, the homogeneity of variance was verified via Levene's statistics (p>.01 for the scale and all subscales), which indicated that the data set was convenient to undergo the One-Way ANOVA test. The results are provided in Table 9 below.

Table 9. One-Way ANOVA Results for Year of Study Variable

	Students	N	x̄	SD	F	p
SOLQ	Prep.	54	4,22	1,07		
	Freshmen	44	4,16	1,06	,062	,94
	Sophomores	27	4,16	,90		
Metacognitive Skills	Prep.	54	4,12	1,13		
	Freshmen	44	3,89	1,13	,711	,49
	Sophomores	27	3,87	,92		
Time management	Prep.	54	4,07	1,02		
	Freshmen	44	4,55	1,15	2,289	,10
	Sophomores	27	4,37	1,18		
Environmental Structuring	Prep.	54	4,61	1,43		
	Freshmen	44	4,90	1,67	,530	,59
	Sophomores	27	4,88	1,54		
Persistence	Prep.	54	4,26	1,34		
	Freshmen	44	4,17	1,32	,146	,86
	Sophomores	27	4,35	1,48		
Help-seeking	Prep.	54	4,16	1,41		
	Freshmen	44	4,34	1,55	,185	,83
	Sophomores	27	4,26	1,35		

The analysis results shown in Table 9 above provide evidence of no statistically significant difference found between the mean scores of students from different grades of study (p>.01 for SOLQ and all subscales).

The students' perceived proficiency level was another learner variable tested with respect to its effect on SOLQ responses with an attempt to answer the fourth research question. The One-Way ANOVA results are shown in Table 10 below.

Table 10. One-Way ANOVA Results for Perceived L2 Proficiency

	Level	N	x̄	SD	F	p
SOLQ	Low	26	4,36	,80		
	Intermediate	83	4,15	1,03	,488	,61
	High	16	4,09	1,33		
Metacognitive	Low	26	4,19	,96		

Skills	Intermediate	83	3,92	1,06	,585	,55
	High	16	4,00	1,43		
Time management	Low	26	4,38	1,14		
	Intermediate	83	4,27	1,06	,115	,89
	High	16	4,36	1,39		
Environmental Structuring	Low	26	5,16	1,27		
	Intermediate	83	4,66	1,54	1,057	,35
	High	16	4,70	1,88		
Persistence	Low	26	4,39	,98	,995	,37
	Intermediate	83	4,29	1,38		
	High	16	3,81	1,69		
Help-seeking	Low	26	4,14	1,45		
	Intermediate	83	4,31	1,40	,278	,75
	High	16	4,06	1,70		

The results displayed in Table 10 indicated that the students' responses to the SOLQ and the subscales did not significantly differ according to their perceptions regarding their L2 proficiency (p>.01 for SOLQ and all subscales).

Finally, the last research question, interrogating the differences in students' SOL according to course attendance frequency, was answered through One-Way ANOVA test and Table 11 below illustrates the results.

Table 11. One-Way ANOVA Results for Course Attendance Frequency

	Frequency	N	x̄	SD	F	p
SOLQ	Never	25	4,94	,74		
	Rarely	27	4,53	1,13		
	Sometimes	56	3,91	,82	10,144	,000***
	Often	14	3,57	,89		
	Always	3	2,76	1,26		
Metacognitive Skills	Never	25	4,85	,89		
	Rarely	27	4,30	1,14		
	Sometimes	56	3,67	,92	9,385	,000***
	Often	14	3,36	,90		
	Always	3	3,00	1,10		
Time management	Never	25	4,67	1,07		
	Rarely	27	4,79	1,22		
	Sometimes	56	3,95	1,01	3,949	,005**
	Often	14	4,03	1,01		
	Always	3	4,72	,63		
Environmental Structuring	Never	25	5,66	1,09		
	Rarely	27	5,20	1,49		
	Sometimes	56	4,49	1,54	6,499	,000***
	Often	14	3,97	1,25		
	Always	3	2,60	1,40		
Persistence	Never	25	4,85	1,18		
	Rarely	27	4,52	1,39		
	Sometimes	56	4,06	1,31	3,922	,005**
	Often	14	3,83	1,15		

Help-seeking	Always	3	2,33	1,66	3,312	,013*
	Never	25	4,66	1,44		
	Rarely	27	4,73	1,45		
	Sometimes	56	4,06	1,41		
	Often	14	3,69	1,04		
	Always	3	2,53	1,50		

*p<.05; **p<.01; ***p<.001

As demonstrated in Table 11 above, statistically significant differences were revealed in student responses based on the frequency of attendance to online coursesessions for both the SOLQ in general and its specific dimensions. The responses to the general SOLQ (F=10,144) and metacognitive skills (F=9,385) and environmental structuring (F=6,499) differed highly according to attendance frequency (p<.001). Time management (F=3,94) and persistence (F=3,922) dimensions were also affected by attendance frequency (p<.01) very significantly. Lastly, help seeking scores (F=3,312) displayed significant differences (p<.05) in accordance with frequency of course attendance. When mean values are examined, it was observed that the mean scores increased for SOL in general and for almost all subscales as the frequency of attendance decreased, indicating that the students who attended the online classes less frequently reported higher self-regulation.

Discussion

This descriptive study explored the self-regulated online learning skills of a group of students majoring English language and literature, focusing particularly on their online learning experiences during post-pandemic hybrid education in a state university in Türkiye. The findings grounded on the students' self-reports indicated moderate-level self-regulatory skills. Prior studies have noted the critical role of SRL in attaining learning outcomes in online education (Kara et al., 2021; Yukselturk & Bulut, 2007). As thestudents become more self-regulated, they manage to retain the control of cognitive,environmental, strategic, temporal and social factors involved in the learning process(Wijaya, 2022). It is inferred from the present results that the students' SOL may hardly beevaluated as satisfactory and needs to be enhanced so that the aforesaid facilitative effects of it may possibly be observed. The factors influencing self-regulation have been outside the scope of the study; yet, there are several likely causes that the results might beattributed to and that could be taken into consideration in any attempts to suggest approaches to reinforce student SRL. The possible explanations on the side of the students might include the students' approach to technology or technology-integrated teaching and learning; their knowledge or competence including their academic and digital literacies; and their attitudes towards and motivational beliefs (self-efficacy, for instance) aboutonline learning and practice in general and the courses they took online in specific. Relevant research confirms the association of all these factors with the development of SOL (Anthonysamy et al., 2020; Blau et al., 2020; C. Zheng et al., 2018; Su et al., 2018; Xu et al., 2022).

As regards the components of self-regulated online learning, the students reported to exhibit environmental structuring behaviors with the highest frequency, almost at a "good" level. The results strongly corroborate the findings of previous work (Doğan, 2022;Karacan et al., 2022; Kulusaklı, 2022; Yavuzalp & Özdemir, 2020). Apparently, thestudents had an awareness regarding the arrangement of their physical conditions to maximize the effectiveness of online learning. On the other hand, employing metacognitive skills received the lowest score among other dimensions

of SRL. This resultalso matches those obtained from previous work (Doğan, 2022). The result may be interpreted with a possible insufficiency in the students' awareness of the metacognitive aspects of learning since it is possible to regrettably note that some students might lack the basic academic study skills. It therefore appears appropriate to recommend helping students acquire the necessary skills of effective academic studying including the introduction of the metacognitive aspects of learning.

The students' persistence, which is the component of SOL representing effortregulation and motivation control (Jansen et al., 2017), was found to be displayed moderately. Students with self-regulatory skills possess higher motivation and adaptive learning approaches, which enables them to be academically more successful and optimistic about their future (Zimmerman, 2002). Furthermore, learner motivation has longbeen acknowledged as one of the most critical factors in the context of L2 learning (Dornyei, 2001; Dornyei & Ushioda, 2011; Oxford & Shearin, 1994). Hence, it is wise to suggest that the students' persistence needs to be improved as it not only contributes to SOL development but may also accomplish multiple outcomes.

Another SOL dimension that was again found to be moderately displayed by the students was help-seeking. The students evidently were not adequately informed or insightful about how or from whom to seek help when needed. Previous research provide similar results (Kulusaklı, 2022; Yavuzalp & Özdemir, 2020). Related to the social facet oflearning (Pintrich, 2004), help-seeking is a strategy very commonly used by effective self- regulated learners on their encounter with challenges to learning (Su et al., 2019). Furthermore, approached with a sociocultural theory perspective (Vygotsky, 1978), which contends the scaffolding effect of social interaction in cognitive development, help-seekingseems to be an important element of not only self-regulation but also language learning in general. Consequently, it is suggested that the students' use of help-seeking strategies should be enhanced to reach a satisfactory level in respect to both SOL skill development and effective language learning.

Regarding the student characteristics measured in relation to responses to SOLQ, the study revealed no statistically significant differences across the groups of gender, year of study and perceived L2 proficiency. The responses only differed significantly accordingto the frequency of attendance to online course sessions. The surprising point about this result was that the students who attended courses less frequently reported higher self- regulation. This result may be explained with the possibility that the students with higher self-regulation perceptions did not feel an urge to attend the sessions as they considered their self-study skills adequate to achieve in the particular courses since SOL has already been associated with self-efficacy beliefs (Su et al., 2018; Xu et al., 2022). Additionally, considering the multifarious challenges of distance education due to technical, technological, physical or various personal factors (Erdel, 2022), it is also possible that the students did not have other choice than regulating their own learning to compensate for what they miss in the course sessions that they could not attend.

Conclusion

This study was conducted with the purpose of determining tertiary-level EFLstudents' self-regulated online learning skills during the post-pandemic hybrid education inTürkiye and the effects of some learner variables on these skills. The results of the study demonstrated that the students displayed moderate levels of self-regulation in their online courses. Besides, their self-regulation skills were not influenced by their gender, year of study or perceived level of English language proficiency. The only variable tested within the scope of the study in a significant

relationship with student responses was the frequency of attendance to online classes. Students with higher self-regulatory skills attended the online classes less frequently.

The pandemic-led educational disruptions had indisputable effects on learning and study habits of the students, and the hybrid education model adopted by many educational institutions in the post-pandemic period was another novel experience for them as they were neither taking distance education at home, nor receiving all department courses at school. The students had to find out how to compensate for the challenges of the new circumstances and adapt their learning skills and habits accordingly.

Self-regulation was one of the most essential skills the students needed to maintain their learning effectively. It has therefore been substantially important to help students learn how to master their own learning (L. Zheng et al., 2018), particularly in the contextof learning a foreign language, which is not usually a temporary experience that learning ends at some point, but indeed, an everlasting learning experience. In this respect, teachers' mediating role in the development of SOL or other self-directed learning skills should not be neglected. Zimmerman (2002) contends that all aspects of self-regulation can be taught and modelled. Hence, it is highly important that the teachers acquire necessary knowledge and awareness regarding the merits of self-regulation in learning so that they could provide the guidance their students would need. It is therefore suggested that SOL be considered within the framework of effective study skills and integrated into the curricula inside the schedules of related courses such as digital literacy or technology- integrated teaching and learning courses in teacher education programs. As the teachers become more knowledgeable about self-regulation and its components, they may be capable of designing tasks that involve practices requiring students to study more autonomously and develop self-regulation skills. For instance, asking students to keep reflective journals may improve the students' metacognitive skills, or integrating peer or group work activities into the curriculum may encourage the students to use help-seeking strategies more often. In the same vein, setting examples or modelling for students about temporal and emotional management as well as spatial arrangement strategies for effective studying may enhance the relevant aspects of students' self-regulation. For primary and secondary levels of education or the preparatory language teaching programs of universities, the curriculum developers are also suggested to arrange syllabi by integrating theoretical and practical aspects of SRL skills as contents of reading articles or the requirements of classroom tasks in the course books. That would enable teachers use classroom time more effectively as they would not need to digress from curriculum when they intended to spare time for fostering their students' self-regulation.

This study had some methodological limitations. First, the research data werecollected from the English language and literature department in a state university in Türkiye and generalizing the results to larger populations does not seem applicable. Secondly, post-pandemic hybrid education was the specific condition under which the datawere collected, and therefore, student perceptions might differ under different circumstances. Lastly, the results of this study were limited to the data obtained from cross-sectional student self-reports and therefore, it is advisable for further research to triangulate such research grounded on self-reports, which might potentially involve bias, with other, preferably qualitative, data resources such as retrospective interviews or reflective journals. Further studies on SOL may also be conducted with specific reference to its relation with other cognitive, affective and behavioral learner characteristics potentially influenced by different modes and mediums of instruction.

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