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From Classroom to Computer: Examining the Strategic Shifts of EFL Learners During the COVID-19 Pandemic

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The rapid and alarming spread of COVID-19 and the subsequent rise in infections forced higher education institutions to abandon conventional in-person education and switch to distance learning to mitigate the pandemic's impact on the educational system. As a result, students were confined to their homes for extended periods, leading to adverse effects on their achievement and psychological wellbeing. This study used Oxford's Strategy Inventory for Language Learning (SILL) to investigate the potential impact of the pandemic and the shift to distance learning on the nature of language learning strategies employed by a group of English students to enhance their language learning processes. The study explored students' overall use of strategies, the most frequently used strategies and categories of strategies, and the correlation between several variables and strategy use. The descriptive results indicate that the students used strategies at a moderate level, with only metacognitive strategies falling in the high range, followed by cognitive, compensatory, memory, affective and social strategies in the medium range. A one-way ANOVA shows that metacognitive strategies were favored over all other strategies. Furthermore, a t-test analysis reveals significant differences between male and female participants, showing that female students used significantly more metacognitive and affective strategies than male students. Additionally, students with higher GPAs, tended to use more memory, cognitive and affective strategies than students with lower GPAs. The findings suggest that the pandemic's impact on students extends beyond the health, psychological and social dimensions.

أجبر الانتشار السريع والمثير للقلق لكوفيد-19 وارتفاع أعداد الإصابات به مؤسسات التعليم العالي على التخلي عن التعليم الشخصي التقليدي والتحول إلى التعلم عن بعد للتخفيف من تأثير الجائحة على النظام التعليمي. ونتيجة لذلك، أجبر الطلاب على البقاء في منازلهم لفترات طويلة، مما أدى إلى آثار سلبية على أدائهم الأكاديمي وصحتهم النفسية. تستخدم هذه الدراسة استبيان الباحثة أكسفورد لتعلم اللغة لدراسة التأثير المحتمل للوباء والانتقال للتعلم عن بعد على طبيعة استراتيجيات تعلم اللغة التي تستخدمها مجموعة من طلاب اللغة (SILL) الإنجليزية لتعزيز عمليات تعلم اللغة لديهم. تركز الدراسة على استخدام الطلاب مجمل الاستراتيجيات المختلفة، وكذلك أكثر الاستراتيجيات استخدامًا، والعلاقة بين العديد من المتغيرات واستخدام الاستراتيجيات المتنوعة. وتشير النتائج الوصفية إلى أن الطلاب استخدموا الاستراتيجيات بمعدل متوسط، ولم تقع في النطاق الأعلى إلا استراتيجيات التفكير الذاتي، متبوعة باستراتيجيات التفكير العقلي والتعويض والذاكرة ثم الاستراتيجيات العاطفية والاجتماعية. ويظهر تحليل (ANOVA) إلى أن استراتيجيات التفكير الذاتي كانت مفضلة على جميع الاستراتيجيات الأخرى. علاوة على ذلك، يكشف تحليل (t-test) عن اختلافات كبيرة بين المشاركين من الذكور والإناث، حيث أظهر أن الطالبات استخدمن استراتيجيات التفكير الذاتي والاستراتيجيات العاطفية أكثر بكثير من الطلاب الذكور. إضافة إلى ذلك، يميل الطلاب ذوي المعدلات التراكمية الأعلى إلى استخدام المزيد من استراتيجيات التفكير الذاتي والذاكرة والاستراتيجيات العاطفية مقارنة بالطلاب ذوي المعدلات الأدنى. وتشير النتائج إلى أن تأثير الوباء على الطلاب يتجاوز الأبعاد الصحية والنفسية والاجتماعية.

Keywords: COVID-19, pandemic, language learning strategies, online learning, strategy training

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Introduction

The impact of COVID-19, declared as a global pandemic by the World Health Organization in 2020, on all aspects of human life cannot be underestimated. Overwhelmed by the rapid spread of the pandemic and the exponential surge in infections and fatalities, governments around the world enforced unprecedented strict preventive measures, including travel restrictions, social distancing, curfews, remote working and lockdowns to restrict social contact and thus control the spread of the pandemic. The lockdowns and gravity of this extraordinary health crisis compelled schools and higher education institutions to close their premises, abandon conventional in-person education and adopt an alternative online learning as a way to maintain learning continuity and mitigate the pandemic's impact on the educational system (Daniels et al., 2021). Although shifting to remote learning had some positive impacts by preventing interruption of learning, it forced untrained educators and learners to scramble for ways to grapple with this exacerbating situation (Yaghi, 2022). Unfamiliarity with this new mode of delivery and a lack of appropriate infrastructure had negatively impacted the learning process and students' achievement (Daniel et, al., 2021). This is notwithstanding its impact on their physical, mental and psychological wellbeing due to social isolation and lengthy confinement behind computers (Abu Shindi et al., 2022; Browning et al., 2021; Pak et al., 2022).

While the full magnitude of the pandemic's impact on learners' mental health and academic progress may not yet be fully understood, this study seeks to find out whether the shift to online learning and the confinement at the home, with all their psychological and affective consequences, have had any impact on students' learning of English in a foreign context. Specifically, it examines their effects on learners' use of language learning strategies (LLS) to enhance their language learning.

Since their introduction in the mid-70s (Rubin, 1975), LLS have been a controversial construct due to their definitional confusion and conceptual ambiguity (Griffiths, 2020). According to Dörnyei and Skehan (2003), the construct's conceptual ambiguity is attributed to the lack of a theoretical framework to support it. Hence, they recommended abandoning the concept of strategy and replacing it with *self-regulation*, arguing that the construct is theoretically untenable and lacks psychological validity. However, Griffiths (2018, 2020) counters this position and argues that the concept draws on different theoretical underpinnings including cognitivism, socioculturalism and humanism. She maintains that "learners are eminently individuals and different from each other, even within the same sociocultural context, driven by individual factors such as gender, age, motivation, beliefs, nationality/ethnicity, personality, style, aptitude, identity, and emotion" (Griffiths, 2020, p. 609).

Despite the contentious nature of the concept, it continues to attract the attention ofresearchers and practitioners alike. This is primarily due to the fact that "the steps learners take to enhance their language learning are seen as tangible and amenable to pedagogical intervention" (Pawlak, 2021, p. 818). The enduring appeal of the concept is evident in the numerous recent publications that have examined it (e.g., Griffiths, 2018; Oxford, 2017; Teng & Zhang, 2016).

The investigation of learners' use of learning strategies is critically necessary in the non-western Arabic EFL context. There are relatively few studies exploring this issue in general, and no studies examine the topic within the new social, psychological and educational context shaped by the pandemic. This exploration gains significance because many of the strategies proposed by researchers to enhance language learning require the active involvement of all learners' cognitive, social and emotional resources (Pawlak, 2021) - all of which have been adversely impacted by the pandemic (Abu Shendi et al., 2022). Therefore, this study aims to fill in this gap and highlight the strategies which students employed to overcome the pandemic's adverse impact on their foreign language learning.

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Literature Review

COVID-19 Pandemic and Shift to Online Learning

The COVID-19 pandemic represented a significant turning point in the history of education, as governments worldwide have struggled to find effective ways to manage the disruption to the educational process caused by the stringent preventive measures which countries implemented to control the virus. According to a report by UNESCO, around 1 billion students worldwide were unable to receive conventional education due to the widespread closures of educational institutions (UNESCO, 2020). In the United States, for example, most schools were shut down and examinations were canceled, impacting over 60 million students. Similarly, in India, China, France, Germany, Saudi Arabia, and many other countries, all school systems were completely closed (Oneyma, 2020).

In the face of this unprecedented challenge, education systems globally have endeavored to ensure the uninterrupted progression of the learning process. The shift to online/distance learning was one of the solution implemented to prevent the interruption of education. Education institutions around the world utilized various online platforms, including Moodle, Google Classrooms, Google Meet, Zoom, Teams, and many others, to remotely convey pedagogical content to students (Abumalloh et al., 2021). The urgent need for a new alternative mode of education delivery highlighted the weaknesses of many educational systems, "from access to the broadband and computers needed for online education, and the supportive environments needed to focus on learning, up to the misalignment between resources and needs" (Schleicher, 2020, p. 4). This situation was exacerbated by teachers and students who were not familiar with online learning and lacked proper training in the technologies needed for the new learning/teaching environment (Vilca et al., 2022). These challenges had undoubtedly a negative impact on the adoption of online learning and the quality of education provided during the pandemic (Yaghi, 2022).

Online learning, even under optimal learning conditions, is commonly beset by a range of psychological challenges that negatively impact learning, including stress, anxiety, distraction, and a fear of working independently, among others (Haghshenas, 2019). Kee (2021) asserts that students' "learning curve can be … exacerbated by increasing stress levels that distract us from focusing and absorbing new knowledge" (p. 477). During the COVID-10 pandemic, these challenges were compounded by people's perceived health risk and a phobia of contracting various illnesses. Students' concerns for their safety intensified their stress and anxiety, particularly in view of the rapid increase in infections and deaths worldwide. As noted by Dagli (2020), high levels of anxiety persisted among students even after some governments had relaxed some of their stringent lockdown measures. Yaghi (2022) showed that 83% of students surveyed across eight universities in Jordan experienced high levels of anxiety during online learning in the first year of COVID-19. Similarly, researchers within the Omani context (e.g., Abu Shendi et al., 2022; Malik & Javed, 2021) demonstrated that COVID-19 negatively impacted the emotional and psychological wellbeing of most students across Omani universities. Brooks et al. (2020) also argued that lack of preparedness for exclusive online learning and extended periods of isolation contributed to the high levels of anxiety experienced by students. In this regard, Warr and Downing (2000) argue that anxiety has a detrimental impact on learning due to its negative impact on the four critical learning strategies: "rehearsal, interpersonal help-seeking, emotion control and motivation control." In the language learning context, Skehan (1989) considers anxiety to be among the factors that can adversely affect second language learning.

Kee (2021) argues that the shift to remote learning deprived students of opportunity for face-to-face or in-person instruction, which is a critical factor for fostering interactions with their peers, enhancing learning through collaboration, and encouraging active engagement in class discussions. Interaction is traditionally viewed as "the most effective way to facilitate learners' internal assimilation of new systemic knowledge" (Hall,

2001, p. 5). Hall adds that most language learning opportunities occur due to face-to-face interaction, which is crucial "to the creation of effectual learning environments and ultimately to the shaping of individual learners' development" (p. 7). Gass (1997) also asserts that interaction within the classroom context aids "learners in gaining additional information about the language and focusing their attention on particular parts of the language. This attention primes language for insertion into a developing interlanguage system" (p. 87). Similarly, Long (1996) concurs with this position and maintains that feedback received by students during conversational interactions contributes to their interlanguage development. Additionally, Febrianto (2019) highlights the importance of scaffolding, specifically through social interaction with peers, in improving learners' overall communication skills. However, the shift to online classes during the pandemic minimized the impact of this process due to the absence of face-to-face interaction. As a result, students were left to work independently on improving their proficiency in the foreign language (Febrianto & Susantos, 2023).

Language Learning Strategies

Research in this area has its origins in attempts to explore the impact of individual differences and the qualities and behaviors demonstrated by good language learners on the language learning process (e.g., Chamot, 2005; Harris, 2003; Oxford, 1990; Rubin, 1975; Stern, 1975). The main assumption that underpins research in this area is that once we identify the strategies used by successful language learners, we can teach them to less successful learners (Rao, 2016). The ongoing relevance and significance of this research stems from its focus on the actions employed by learners to enhance their language proficiency and how these actions can be measured and incorporated into effective pedagogical interventions (Pawlak, 2021).

Williams and Burden (1997) indicate that LLS are actions which learners manipulate to complete a learning task. In contrast, O'Malley and Chamot (1990) focus on the cognitive aspect of LLS and define them as "special thoughts and behaviors that individuals use to help them comprehend, learn or retain new information" (p. 1). Oxford (1990) characterizes them as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed and more transferable to new situations" (p. 8). This definition emphasizes learners' autonomy and that LLS originate with the learners in their pursuit to master the target language (Pawlak, 2021). Griffiths (2020) offers a concise definition of LLS as 'actions selected by learners for the purpose of language learning' (p. 88). This eclectic definition incorporates various elements, including the concept of 'active' from Rubin (1975), 'chosen by learners' from Oxford (2017), and 'goal-oriented' from Macaro (2006).

Recently, and in the face of some criticism that has questioned the psychological validity of the LLS construct (e.g., Dörnyei, 2005; Grenfell & Macaro, 2007), Oxford (2017) came up with a more elaborate characterization of LLS, as follows:

> L2 learning strategies are complex, dynamic thoughts and actions, selected and used by learners with some degree of consciousness in specific contexts in order to regulate multiple aspects of themselves (such as cognitive, emotional, and social) for the purpose of (a) accomplishing language tasks; (b) improving language performance or use; and/or (c) enhancing long-term proficiency. Strategies are mentally guided but may also have physical and therefore observable manifestations. Learners often use strategies flexibly and creatively; combine them in various ways, such as strategy clusters or strategy chains; and orchestrate them to meet learning needs. Strategies are teachable, but the learner in context is the ultimate authority regarding strategy choice. Appropriateness of strategies depends on multiple personal and contextual factors. (p. 48)

This encompassing definition addresses the concerns of some researchers who have argued that "strategies cannot be simultaneously cognitive, emotional and behavioral, and that they are unlikely to contribute at the same time to the development of linguistic knowledge and development of TL skills" (Pawlak, 2021, p. 819). It also demonstrates that LLS can serve a variety of purposes and functions depending on a combination of contextual and individual factors and that success in using these strategies is inherently related to self-regulation (Pawlak, 2021).

Researchers have proposed various categorizations of LLS; for instance, O'Malley and Chamot (1990) categorizes them into three groups: cognitive, metacognitive, and socio-affective strategies. However, Oxford (1990) suggests a more detailed classification comprising six categories combined under two groups, direct and indirect strategies. As for the direct strategies, they "require mental processing of the [learned] language" (p. 37) and include "memory strategies which help learners store and retrieve information from memory", cognitive strategies to help learners use their mental processes to "understand and produce new language", and compensation strategies to assist learners make up for any limitations and gaps in their knowledge of the foreign language. In contrast, indirect strategies "support and manage language learning without directly involving the target language" (p. 135). They comprise metacognitive strategies that aid learners in managing their cognitive processes, organizing, assessing, and structuring their learning, social strategies that facilitate to learners interacting and communicating with others, and affective strategies that aid learners in managing their attitudes, emotions, and motivation (Radwan, 2011).

Oxford's classification of strategies is the basis for her widely recognized assessment survey of strategies, the "Strategy Inventory for Language Learning" (SILL). The instrument, which consists of 50 statements that represent strategic actions, allows second/foreign language learners to evaluate their own use of LLS. Despite the popularity of this instrument, it has faced harsh criticism for "the inclusion of behavioral items, reliance on the belief that higher frequency of strategy use accounts for effective learning, and the assumption that the scales it comprises are cumulative" (Pawlak, 2021, p. 820). For instance, Tseng et al. (2006) have criticized the employment of behavioral actions such as "use of flashcards" with frequency adverbs used in Likert scale, while Dörnyei (2005) rejects using this scale to measure the frequency of strategy preference in association with a specific behavior. However, as pointed out by Pawlak (2021), some of the items such as note-taking could also have cognitive and emotional aspects that cannot be ignored and may lead to the enhancement of vocabulary, speaking and writing. In addition, as noted by Ardasheva and Tretter (2013) "the use of behavioral items to measure latent constructs including learner characteristics and behaviors . . . is a common practice in educational research that has produced valid results" (p. 145).

Notwithstanding this criticism, the instrument has gained a significant status in language learning strategies research, making it the most widely used tool in this line of research (Mizumoto & Takeuchi, 2018). This may be attributed to its flexibility and adaptability to different research contexts, and also to its ability to provide valuable data that cannot be totally ignored, and thus the instrument "will continue to contribute to the establishment of new knowledge in this complex field of research, especially if employed in combination with other research methods" (Amerstorferv, 2018, p. 519). Similarly, Griffiths (2018) and Pawlak (2021) contend that an impressive body of research has emphasized the reliability of this instrument and that research in this area provides valuable data about an important construct which is integral to L2 pedagogy.

Numerous studies have examined L2 learners' overall strategic preferences and the types of strategies they employ when learning a new language (see, e.g., Khalil, 2005; Radwan, 2011; Shamis, 2003). Other studies have investigated the variables that mediate LLS use, including L2 proficiency (Ehrman, Leaver, & Oxford, 2003; Magogwe & Oliver, 2007; Park, 1995; Oxford & Nyikos, 1989), cultural background (Oxford, 1994; O'Malley & Chamot, 1990), gender (Green & Oxford, 1995; Rao, 2016; Riazi & Rahimi, 2005; Wharton, 2000), personality (McDonough, 1999), and self-efficacy beliefs (Ching, 2002; Ahmadian & Ghasemi, 2017), among other factors. In a study of students' strategy preferences in a non-western context, Radwan (2011) found that students preferred using metacognitive strategies over all other strategies, followed by compensatory, cognitive,

social, affective, and memory strategies. Differences based on gender showed one significant difference between the male and female groups in the use of social strategies, surprisingly favoring the male group. Additionally, the study revealed that students with higher GPAs used significantly more metacognitive, cognitive and affective strategies than students with lower GPAs.

This study, the first of its kind, aims to conceptually replicate Radwan (2011) and investigate the impact of a tense health crisis and a new technology-enhanced learning environment situated within a socially isolated context on learners' strategic preferences. It seeks to determine if learners' patterns of strategy use have deviated from the patterns commonly used in traditional L2 classrooms due to the new social, health and educational situation.

Methodology

Language learning strategies have been subjected to rigorous and intensive empirical investigation in a variety of contexts: second vs. foreign language, secondary school vs. tertiary level, L2 major vs. other majors, among others. However, no study has yet examined the impact of a new learning environment characterized by social isolation and high levels of anxiety on L2 learning. The intense COVID-19 health situation has adversely affected the quality of human life and the education system. Due to the sudden transition to a new mode of education delivery, students' psychology and approach to the L2 learning process have undoubtedly been affected. In light of this situation, the present study endeavors to find out the impact of the new environment on the LLS used by a group of students from the English Department at Sultan Qaboos University (SQU) in Oman. In specific, it seeks to address the following questions:

1. What are the most frequently used language learning strategies by students in the English Department at SQU during COVID-19 online learning?
2. Are there any differences between students in their use of language learning strategies based on gender and language proficiency during COVID-19 online learning?

Participants

A total of 128 students majoring in English at SQU participated in this study. The students represent different year groups: sophomores (13%), juniors (27%), and seniors (60%) (see Table 1). The students were in their third semester of online learning during the COVID-19 pandemic. Unfortunately, the freshmen group, which undertook intensive language training in a separate unit called the Language Center, was not available for the purpose of data collection. The sample includes an uneven representation of both genders, with females constituting approximately (77 %) and males (23%). This reflects the actual demographic distribution of both groups in the English Department, which has traditionally been dominated by female students. Prior to gaining admission to the university, participants had received a minimum of 8 years of English language education. Before joining the department, students had to take a language proficiency test. Students who do not pass the test are required to undergo an intensive non-credit language training in the various language skills. Those who pass the test, they are required to complete six English skill courses in the Language Center over two semesters before they can join the department for content courses in linguistics, literature and translation.

TABLE 1
Demographic Description of Participants

Variable	*n*	%
Gender		
Male	29	22.7
Female	99	77.3
Study level		
Sophomore	16	12.5
Junior	34	26.6
Senior	78	60.9
GPA		
B and above	52	40.6
C and below	76	59.4
Self-efficacy		
Good	50	39.1
Fair	78	60.9

Instrument and Procedure

This study used Oxford's SILL questionnaire, which is specifically designed for EFL/ESL students and has high levels of reliability and validity (Pawlak, 2021). Due to its high reliability and validity, the questionnaire was used in numerous studies representing different contexts with different groups of students. The questionnaire consists of 50 statements, each asking participants to rate the frequency with which they used different learning strategies using a 5-point Likert scale ranging from "always or almost always true of me" to "never or almost never true of me." The 50 statements are categorized into six groups: memory strategies (9 items, such as "I use new English words in a sentence so I can remember them"), cognitive strategies (14 items, such as "I try not to translate word-for-word"), compensation strategies (6 items, such as "I try to guess what the other person will say next in English"), metacognitive strategies (9 items, such as "I plan my schedule so I will have enough time to study English"), affective strategies (6 items, such as "I write down my feelings in a language learning diary"), and social strategies (6 items, such as "I ask English speakers to correct me when I talk"). Along with the 50 statements, the questionnaire also collected demographic information including gender, year of study, self-evaluation of proficiency, and GPA in English courses, as measures of English proficiency. In addition to the questionnaire, Oxford (1990) created a scale with three levels to evaluate the degree of L2 strategy use: "high usage (3.5-5.0), medium usage (2.5-3.4) and low usage (1.0-2.4)".
The questionnaire was emailed to 140 students in intact classes, along with instruction on how to complete both the survey and the background questionnaire. However, only 128 students returned the questionnaires fully answered.

Analysis

To analyze the data, the SPSS statistical analysis software was utilized to obtain descriptive statistics such as frequencies, means, and standard deviation. To determine any variation in the use of different categories of strategies, a one-way analysis of variance (ANOVA) was used. A t-test was conducted to determine if there were any differences between the male and female groups. Similarly, a t-test was utilized to examine differences between students based on their GPAs and self-perceived proficiency. Regarding study duration, ANOVA was employed to assess differences in strategy use among students in different year groups. When differences were found, a Scheffé post-hoc test was utilized to locate these differences.

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Results and Discussion

Results

The first research question aims to identify the LLS that students employed most frequently. To answer this question, students' means were calculated and ANOVA was conducted to find if there were any significant differences in the use of the different categories of language learning strategies. The descriptive analysis of results, as shown in Table (2), indicates that students in the English Department used strategies at a moderate level (M = 3.292), with only metacognitive strategies being employed at a high level (M = 3.789). Furthermore, cognitive strategies were the second most frequently used strategies (M = 3.479), followed by compensatory strategies (M = 3.445), memory strategies (M = 3.251), affective strategies (M = 2.959), and social were used the least (M = 2.830). A one-way analysis of variance (ANOVA) reveals significant differences among students in the use of the different categories of strategies (F = 40.227, p = .000).

TABLE 2
Descriptive Statistics for Strategy Use and F-test Results

Strategy	*Mean*	*SD*	*Minimum*	*Maximum*	*Rank*	*F*	*Significance*
Metacognitive	3.789	.663	1.89	4.89	1	40.227	.000
Cognitive	3.479	.597	1.93	4.86	2		
Compensatory	3.445	.613	2.00	5.00	3		
Memory	3.251	.519	1.67	4.56	4		
Affective	2.959	.776	1.33	4.83	5		
Social	2.830	.603	1.17	4.17	6		
Total	3.292	.710	1.17	5.00			

A post-hoc Scheffé test revealed multiple significant differences among the various categories: metacognitive and memory favoring metacognitive (p = .000), memory and affective favoring memory (p = .019), memory and social favoring memory (p = .000), metacognitive and cognitive favoring metacognitive (p = .009), cognitive and affective favoring cognitive (p = .000), cognitive and social favoring cognitive (p = .000), metacognitive and compensatory favoring metacognitive (p = .002), compensatory and affective favoring compensatory (p = .000), and finally, compensatory and social in favor of compensatory (p = .000) (see Table 3). Thus, the results indicate that metacognitive strategies are the only set of strategies that show a significant difference with all other categories, indicating that they are used significantly more than the other categories of strategies. Additionally, the cognitive, compensatory, and memory strategies were used significantly more than the affective and social strategies.

TABLE 3
Scheffé Post-hoc Comparisons

Strategy	Metacognitive	Cognitive	Compensatory	Memory	Affective	Social
Metacognitive		.009	.002	.000	.000	.000
Cognitive			.999	.144	.000	.000
Compensatory				.310	.000	.000
Memory					.019	.000
Affective						.754
Social						

In terms of individual LLSs, a ranking order of all strategies used by participants reveals that the most frequently used strategy is a compensatory one: "If I can't think of an English word, I use a word or a phrase that means the same thing." As shown in Table (4), four of the top ten used strategies were metacognitive, three were cognitive, one was compensatory, one was memory, and was one affective. On the other hand, the least preferred strategy was an affective one: "I write down my feelings in a language learning diary." Among the ten least preferred strategies, five were social, two affective, two memory, and one compensatory.

TABLE 4
Most and Least Preferred Strategies by Category

	Most used strategies	Category	*Mean*	Least used strategies	Category	*Mean*
1	"If I can't think of an English word, I use a word or a phrase that means the same thing."	Compensatory	4.37	"I ask for help from English speakers."	Social	2.79
2	"I pay attention when someone is speaking English."	Metacognitive	4.31	"If I don't understand something in English, I ask the other person to slow down or say it again."	Social	2.70
3	"I try to find out how to be a better learner of English."	Metacognitive	4.25	"I practice English with other students."	Social	2.66
4	"I notice my English mistakes and use that information to help me do better."	Metacognitive	4.24	"I try to learn about the culture of English speakers."	Social	2.63
5	"I watch English Language TV shows spoken in English or go to movies spoken in English."	Cognitive	4.22	"I ask English speakers to correct me when I talk."	Social	2.48
6	"I write notes, messages, letters, or reports in English."	Cognitive	3.99	"I make up new words if I don't know the right ones in English."	Compensatory	2.48
7	"I think about my progress in learning English."	Metacognitive	3.99	"I talk to someone else about how I feel when I am learning English."	Affective	2.24
8	"I encourage myself to speak in English even when I am afraid of making a mistake."	Affective	3.93	"I physically act out new English words."	Memory	2.19
9	"I use new English words in a sentence so I can remember them."	Memory	3.88	"I use rhymes to remember new English words."	Memory	2.19
10	"I use the English words I know in different ways."	Cognitive	3.83	"I write down my feelings in a language learning diary."	Affective	2.13

The second research question examines the correlation between language learning strategies and several variables, including gender. A t-test was used to compare the means of the two gender groups. Results of the t-test reveal a significant difference between the two groups in their overall use of strategies ($t = 2.936$, $p = .005$). Moreover, the analysis shows that the female group used significantly more metacognitive strategies ($t = 4.345$, $p = .000$) and affective strategies ($t = 3.858$, $p = .000$) compared to male students. However, no significant differences were found between the two groups in the use of memory strategies ($t = 1.771$, $p = .084$), cognitive strategies ($t = 1.599$, $p = .116$), compensatory strategies ($t = .459$, $p = .649$), and social strategies ($t = .608$, $p = .5456$), as presented in Table (5).

TABLE 5
Variation in Strategy Use and Gender

Strategy	Male		Female			
	Mean	*SD*	*Mean*	*SD*	*t-value*	*Significance*
Memory	3.095	.548	3.297	.503	1.771	.084
Cognitive	3.335	.534	3.521	.611	1.599	.116
Compensatory	3.500	.771	3.429	.562	.459	.649
Metacognitive	3.325	.669	3.925	.600	4.345	.000
Affective	2.586	.512	3.069	.807	3.858	.000
Social	2.775	.529	2.846	.625	.608	.546
Total	3.153	.397	3.407	.452	2.936	.005

The study also compared students' use of strategies based on their English language proficiency. As standardized tests were not available, the study utilized three different measures of proficiency: students' GPA in English courses, their perceived self-efficacy, and study duration. As for the first measure, the participants were divided into two groups: lower GPA scorers with a C and below average (GPA < B) and higher GPA scorers averaging B and above (GPA ≥ B). Using the second measure, students rated their English proficiency as "Fair" or "Good". Unlike previous studies such as Radwan (2011), which used a four-tier proficiency scale that included "excellent" and "poor," this study did not include those two options because only a few participants selected them. Finally, for the third measure, the students represented three groups based on study duration: sophomores, juniors and seniors. It is worth noting that these three measures of proficiency have been widely used in similar research (e.g., Nisbet, Tindall & Arroyo, 2005; Park, 1997; Radwan, 2011).

Regarding the first measure, students' mean scores in all categories indicate that the Ba dn above group utilized more strategies than the other group. However, a t-test analysis reveals significant differences between them only in the overall use of strategies (t = 3.774, p = .000), memory strategies (t = 3128, p = .002), cognitive strategies (t = 4.453, p = .000) affective (t = 2.110, p = .037) and social (t = 2.580, p = .011). There are no significant differences between them in using compensatory strategies (t = 1.577, p = .118) and metacognitive strategies (t = 1.476, p = .143), see Table (6) for further details.

TABLE 6
Strategy Use and Students' GPA

Strategy	Higher GPA Scorers		Lower GPA Scorers			
	Mean	*SD*	*Mean*	*SD*	*t-value*	*Significance*
Memory	3.367	.471	3.076	.542	3.128	.002
Cognitive	3.659	.550	3.208	.567	4.453	.000
Compensatory	3.513	.550	3.333	.683	1.577	.118
Metacognitive	3.865	.638	3.685	.696	1.476	.143
Affective	3.088	.707	2.788	.840	2.110	.037
Social	2.940	.565	2.660	.621	2.586	.011
Total	3.471	.399	3.169	.471	3.774	.000

An analysis of students' responses based on their perceived self-efficacy indicates that the group who rated themselves as "good" achieved considerably higher mean scores than the other group in all categories. These findings have been confirmed through a t-test, which demonstrated that the "good" group scored significantly higher than the other group in all categories, as presented in Table (7).

TABLE 7
Strategy Use and Self-Efficacy

Strategy	Good		Fair			
	Mean	*SD*	*Mean*	*SD*	*t-value*	*Significance*
Memory	3.382	.469	3.042	.530	3.692	.000
Cognitive	3.668	.539	3.175	.563	4.899	.000
Compensatory	3.569	.556	3.240	.645	2.962	.004
Metacognitive	3.903	.624	3.620	.697	2.330	.022
Affective	3.121	.724	2.726	.798	2.819	.006
Social	2.937	.565	2.653	.624	2.597	.011
Total	3.494	.392	3.122	.451	4.758	.000

According to the third measure, analysis of participants' results indicates that the students used more strategies as they progressed in their university studies, see Table (8). ANOVA results reveal that there are no significant differences among them in the use of memory strategies (p = .247), affective strategies (p = .116), and social strategies (p = .093). In contrast, there are significant differences among the three groups in their use of overall strategies (p= .002), cognitive strategies (p= .034), compensatory strategies (p= .009), and metacognitive strategies (p = .000). A post hoc Scheffé test was used to locate the source of difference, and it shows that there are no significant differences between the junior and senior groups. However, there are significant differences between the sophomores and juniors (p = .05) and sophomores and seniors (p = .05) in the use of cognitive strategies. The results also reveal significant differences between the sophomore group and both juniors and seniors in their use of metacognitive strategies (p = .001 for both groups), and in their overall strategies (p = .008, p= .002, respectively). Finally, a significant difference in compensatory strategies was found between the sophomore group and the senior group only (p = .012).

TABLE 8
Strategy Use and Study Duration

Strategy	Sophomore		Junior		Senior			
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*F-value*	*Significance*
Memory	3.048	.714	3.274	.527	3.283	.465	1.412	.247
Cognitive	3.120	.755	3.558	.493	3.518	.585	3.477	.034
Compensatory	3.062	.519	3.372	.428	3.555	.666	4.898	.009
Metacognitive	3.194	.935	3.944	.415	3.844	.628	8.534	.000
Affective	2.583	.832	3.009	.837	3.015	.724	2.189	.116
Social	2.541	.859	.2.808	.524	2.899	.563	2.417	.093
Total	2.980	.592	3.398	.356	3.350	.452	6.666	.002

Discussion

The study results demonstrate that the students utilized strategies at a moderate level, and the majority of them preferred and employed metacognitive strategies. Notably, four out of the top ten most frequently used strategies are metacognitive. As noted by Zhang and Seepho (2013), these strategies involve "high order executive skills that make use of knowledge of cognitive processes and constitute an attempt to regulate one's own learning by means of planning, monitoring, and evaluating (p. 55)." Essentially, the acquisition and utilization of these strategies help learners attain high levels of proficiency in a second language, especially in a situation where maintaining a high GPA is necessary to remain in good standing and graduate from the department, which is the case for participants in this study. The significance of these strategies is underscored by many researchers who work within the SLL framework (e.g., Hong-Nam & Leavell, 2006; Radwan, 2011)

as well as researchers working within other frameworks and contexts. Zhang and Seepho (2013), for instance, show a positive correlation between the utilization of metacognitive strategies and achievement in English reading. Moreover, Cer (2019) asserts that the employment of metacognitive strategies is critical for success in English writing.

A noteworthy comparison can be drawn between this study and the Radwan's (2011) study, which was carried out in the same department with a similar group of students. Regarding overall use of strategies, the current study exhibits a slight decrease in students' overall strategy use compared to the previous study (present, M = 3.292; previous, M = 3.32). Furthermore, while Radwan (2011) ranked metacognitive strategies as the most frequently employed strategies (M = 3.85) followed by compensatory strategies (M = 3.38), cognitive strategies (M = 3.34), social strategies (M = 3.24), affective strategies (M = 3.14) and finally memory strategies (M = 2.99), the present study demonstrates a surge in the ranking and mean score of memory strategies. This finding differs from those obtained by other researchers who found low ranking and mean score of these strategies (e.g., Khalil, 2005; Radwan, 2011). This divergence, however, is not surprising and could be attributed to the impact of the COVID-19 pandemic on language learning. Two factors explain this influence. Firstly, the educational systems in the Arab world indirectly and implicitly promote rote memorization for retention and recall of information, thus favoring memory-based strategies over all other strategies. Secondly, the pandemic situation has exacerbated this situation by placing severe restrictions on social interaction and mobility, forcing learners to rely more heavily on memory-based strategies to retain and recall information, resulting in their high rank compared to some other strategies

One notable finding of this study pertains to the use of affective and social strategies. The results reveal that, despite their recognized importance in language learning, students exhibited a weak preference for these strategies, ranking them as the least used among all strategies. This counters the position of many researcher, such as Dörnyei (1994), who emphasized their role by stating that these strategies

> "decrease student anxiety by creating a supportive and accepting learning environment in the L2 classroom… and applying anxiety-reducing activities and techniques; promote motivation enhancing attributions by helping students recognize links between effort and outcome and attribute past failures to …the use of inappropriate strategies rather than to lack of ability; and, encourage students to set attainable sub-goals" (p. 281).

Although affective and social strategies were not the most preferred strategies in Radwan (2011), the current study shows a significant decrease in the mean of these strategies compared to the previous one: affective strategies (current, M = 2.95; previous, M = 3.14), social strategies (current, M = 2.83; previous, M = 3.24). Disdain for using these strategies could be a direct result of the social conditions emanating from the restrictions imposed by the government to control the spread of the pandemic.

The decline in the significance of these strategies is further evidenced by the fact that none of the top ten strategies are social strategies, and only one is affective. Surprisingly, almost all social strategies, which "help learners to interact, communicate, cooperate, and empathize with others to maximize learning," are among the ten least preferred strategies. The pandemic-era conditions restricted social interaction, imposed quarantine and isolation, limited face-to-face interaction, and forced educational institution to shift to online learning, depriving students of a critical element of the language learning process. As a result, the drop in the use of these strategies is a logical and inevitable consequence. In addition, numerous studies have reported that the COVID-19 health crisis along with its social and economic impact have seriously affected students' psychological well-being, causing them high levels of stress, anxiety and depression (Abu Shendi et al., 2022; Pak et al., 2022; Yaghi, 2022). In a study conducted on students from various education institutions in Oman, including SQU, Abu Shendi et al., (2022) found that students experienced high levels of anxiety, fear and depression. Under such circumstances, opting for affective strategies, which aim to reduce anxiety levels, enhance motivation, and

regulate emotions of learners, may not be the most suitable choice. When students are overwhelmed with anxiety, fear and depression, access to a variety of affective strategies may be blocked as suggested by Krashen's (1986) affective filter hypothesis.

The results also reveal that female students used significantly more overall, metacognitive and affective strategies than the male group. This is consistent with other research findings which indicate that female students usually use more strategies than their male counterparts (see, e.g., Hong-Nam & Leavell, 2006). However, this result contradicts Radwan's (2011) findings in one significant aspect: Radwan (2011) found that male students used significantly more social strategies than female learners. As mentioned before, this is expected in a conservative society such as Oman, where males usually have more freedom to go out and interact with others. However, this study did not reveal any differences between the two groups. Again, the main intervening factor in this situation is that the male participants were deprived during the pandemic of their advantage over the other group due to the strict measures taken by the government against social interaction, which included imposing daily curfews along with evening mobility restriction for extended periods.

Results of students' GPA reveal that the group with the higher GPA used significantly more memory, cognitive, affective and social strategies than the group with the lower GPA. As for students' self-efficacy, students with higher self-efficacy utilized significantly more strategies across all categories than the other group. These results concur with findings from various researchers (e.g., Nisbet, Tindall & Arroyo, 2005; Radwan, 2011). Research in LLS demonstrates that successful language learners generally use more strategies than less successful learners. Specifically, they utilize more successful, effective strategies than the less proficient learners. According to Oxford and Nyikso (1989) "use of appropriate strategies leads to enhanced actual and perceived proficiency, which in turn creates high self-esteem, which leads to strong motivation, spiraling to still more use of strategies, great actual and perceived proficiency, high self-esteem, improved motivation, and so on" (p. 250). This is why integrating teaching of these strategies in the ESL/EFL curricula is crucial for enhancing learners' proficiency in the target language.

Regarding the third measure of proficiency, researchers hold varying views on the impact of study duration on the use of LLS. One position maintains that students use more strategies as they progress in their education, as many strategies may be developmentally acquired (e.g., Magogwe & Oliver, 2005). However, a different view suggests that students in lower study levels may use more strategies than their counterparts in higher levels of study. This is because the latter group realizes that "their need to consciously administer and [become] deliberate about their learning choices becomes less necessary"; moreover, strategy use becomes so automatic and internalized that they may not report it (Hong-Nam & Leavell, 2006, p. 410). Radwan (2011) concurs with this position, as he shows that length of study did not significantly correlate with higher strategy use. However, the results of the present study show that the higher-level groups utilized significantly more overall, cognitive, compensatory and metacognitive strategies than the sophomore group. This disparity in the use of LLS among these groups can be attributed to the amount of time they spent in traditional learning environments. Specifically, the sophomore group was exposed to face-to-face learning for only one semester before shifting to remote online learning, while the junior and senior groups underwent three and five semesters of traditional learning, respectively. The longer exposure to traditional learning likely provided the junior and senior groups with a longer and more authentic and dynamic learning experience, which could account for their higher use of strategies. On the other hand, the limited exposure of the sophomore group to traditional learning may have deprived them of the opportunity to acquire many of the strategies that can only be gained through genuine interaction in a conventional classroom setting.

Conclusion

The results of this study demonstrate that students in the English Department at SQU utilized language learning strategies to a moderate extent. Among the different sets of strategies, only metacognitive strategies fell within the high range of use. These findings align with the results of previous research (e.g., Park, 1997; Shamis, 2005). In addition, the prevalence of metacognitive strategies as the most favored strategies by the majority of students is also consistent with the findings of previous research (e.g., Hong-Nam & Leavell, 2006; Radwan, 2011), which highlights their significance for language learners, as they play a crucial role in helping language learners direct, organize and plan their learning of a new language. Therefore, when designing L2 curricula, it is essential to take into account the importance of these strategies, as they could foster learners' success in acquiring a new language (Hong-Nam & Leavell, 2006).

A significant finding of the study is the low utilization of social and affective strategies by students, with social strategies making up five of the ten lowest ranked strategies. In traditional learning environments, these strategies encourage learners to seek out opportunities to use the language in all situations. However, due to transition to online learning and restriction on social interaction during the pandemic, students, particularly males, were deprived of opportunities to utilize these strategies. The strict social constraints limited their social mobility, thereby restricting their opportunities to use social strategies to enhance their language learning.

In addition, as noted by Balakrishnan et al., (2022), students experienced high levels of anxiety, stress, phobia, insomnia, anger, depression and boredom during the pandemic. These factors undoubtedly affected their use of affective strategies. Studies such as Pak et, al. (2022) and Abu Shendi et al. (2022) demonstrated that students were psychologically traumatized by the spread of the virus, which impacted all aspects of their lives, including their ability to employ strategies that would motivate and encourage them to learn a second language. As a result, the students resorted to using more cognitive and memory-based strategies.

Although the COVID-19 crisis affected all students, those in the early years of study experienced a more profound impact than upper-level students. Lengthy confinement at home and shortage of traditional interaction and communication with others deprived these students of opportunities to use the language in a real and authentic context. Ellis (1994) emphasizes the significance of interaction in language learning, as it provides opportunities to negotiate meaning when communication problems arise. MacKey (2012) also suggests that interaction has a positive impact on various language learning processes, as it helps learners employ a variety of meaning negotiation strategies such as confirmation checks, clarification requests, negotiation of meaning and repetition. Furthermore, the significance of interaction in the target language is underscored by Saito et al. (2019), who contend that interaction in the target language is even more critical for inexperienced language learners than for the experienced learners, as they encounter more communication breakdowns. If these are no addressed effectively due to a lack of opportunities for interaction, their impact may persist.

The significance of strategies for language learners is evident from the fact that more proficient learners seemed to employ more strategies than the other learners. Based on this, many researchers (e.g., Dörnyei & Skehan, 2003; Nisbet et al., 2005; Oxford, 2001; Tyacke, 1991) have called for incorporating strategy in L2 curricula to enhance L2 learning and help students achieve higher proficiency levels. They have also called for training language teachers in the effective implementation of strategies as an essential component of their teaching practices and activities. Murray (2004) also maintains that teachers are required to use the most effective strategies to help their learners become more effective, autonomous and responsible for their own learning. He suggests that this could be achieved by "modeling for students' strategies which they can use in self-directed learning" (p. 6). To accomplish this, teachers can design a variety of tasks and activities that will trigger the use of successful language learning strategies.

However, it should be noted that prior to the strategy training stage, educators need to work on plans to overcome the educational and psychological impacts of the pandemic. Although most pandemic-related

restrictions have been removed, its impact continues to linger. Students continue to suffer from prolonged psychological issues stemming from this health crisis. If educational institutions do not address these issues, their consequences will persist continue to affect students' learning, including their acquisition of a second language.

Finally, one of the major shortcomings of this study was the lack of a standardized measure to determine students' proficiency level. Alternatively, GPA, study duration, and self-efficacy were utilized as indices for these students' English proficiency, which some consider to be problematic. In addition, the study compares the findings to an earlier study conducted by the researcher, when a more valid option would have been to include a comparison group in a traditional learning context. This situation limits the interpretation of the findings obtained in the study and our ability to assume the existence of a strong causal-effect relationship between the pandemic and the selection of language learning strategies. Another limitation of the study was the discrepancies in the number of students in different groups. A more ideal situation would require a more balanced group of participants.

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