65-Development of language learning strategies: student practices before and during online education

Betül ERTEK[1]

APA: Ertek, B. (2022). Development of language learning strategies: student practices before and during online education. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*, (26), 1039-1063. DOI: 10.29000/rumelide.1074519.

Abstract

This article presents the results of a quantitative survey carried out with the participation of 52 students in the Department of French Language Teaching at Atatürk Faculty of Education of Marmara University in Istanbul. This study questions the language learning strategies of bachelors and master degree students before and during online education. Unexpectedly confronted with a change of situation in education, the students found themselves overnight having to follow an online way of studying to which they were unfamiliar with over the night. Not only strategic, technical, technological, organizational and spatial but also psychological and sociological adaptation were immediately necessary. This study highlights the language learning strategies of students based on four main axes: the first one is based on cognitive strategies, the second one emphasizes metacognitive strategies, the third one is on effective strategies and the fourth and the last one is on resource management strategies. The aim is to understand the development of student learning practices during online education, and to understand the new strategies put in place by the students themselves in order to adapt to this new way of teaching. Have they stuck to their familiar language learning strategies or have they developed new language learning strategies? We tried to understand whether the students continued studying using the same language learning strategies as before during online education or not, and whether they readjusted, modified, developed their learning strategies as needed.

Keywords: Online education, development of learning strategies, language learning strategies, student practices, French language

Dil öğrenme stratejilerinin geliştirilmesi: çevrimiçi eğitim öncesinde ve sırasında öğrenci uygulamaları

Öz

Bu makale, İstanbul'da bulunan Marmara Üniversitesi Atatürk Eğitim Fakültesinde yer alan Fransız Dili ve Eğitimi Bölümündeki 52 öğrencinin katılımıyla gerçekleştirilmiş nicel tipi bir anketin sonuçlarını ele almaktadır. Bu çalışma, Lisans ve Yüksek Lisans öğrencilerinin çevrimiçi eğitimden önceki ve çevrimiçi eğitim sırasındaki dil öğrenim stratejilerini incelemektedir. Eğitimdeki durum değişikliğiyle beklenmedik bir şekilde karşı karşıya kalan öğrenciler, bir gecede hiç aşina olmadıkları bir çevrimiçi çalışma yöntemini takip etmek zorunda kaldılar. Yalnızca stratejik, teknik, teknolojik, organizasyonel, mekânsal değil, aynı zamanda psikolojik ve sosyolojik olarak ilişkisel düzeylerde de uyarlamaların derhal yapılması gerekti. Bu araştırma, öğrencilerin dil öğrenme stratejilerini dört ana eksene göre ön plana çıkarmaktadır: birinci eksen bilişsel stratejilere dayanmaktadır, ikinci eksen

[1] Dr. Öğr. Üyesi, Marmara Üniversitesi, Atatürk Eğitim Fakültesi, Yabancı Diller Eğitimi Bölümü, Fransız Dili Eğitimi ABD (İstanbul, Türkiye), betul.ertek@marmara.edu.tr, ORCID ID: 0000-0003-0693-9783 [Araştırma makalesi, Makale kayıt tarihi: 22.12.2021-kabul tarihi: 20.02.2022; DOI: 10.29000/rumelide.1074519]

üstbilişsel stratejileri vurgulamaktadır, üçüncü eksen duygusal stratejiler üzerinedir, dördüncü ve son eksen ise kaynak yönetimi üzerinedir. Amaç, çevrimiçi eğitim boyunca öğrenci çalışma uygulamalarının öğrenim açısından gelişimini kavramak ve bu yeni eğitim şekline uyum sağlamak amacıyla öğrencilerin bizzat kendileri tarafından geliştirilen yeni stratejileri anlamaktır. Alışık oldukları dil öğrenme stratejilerine bağlı mı kaldılar? Yoksa yeni dil öğrenim stratejileri mi geliştirdiler? Çevrimiçi eğitim sürecinde öğrencilerin çalışmaya öncekiyle aynı dil öğrenim stratejileri ile devam edip etmediklerini ve öğrenme stratejilerini gerektiği gibi yeniden ayarlayıp ayarlamadıklarını, değiştirip değiştirmediklerini veya geliştirip geliştirmediklerini anlamaya çalıştık.

Anahtar kelimeler: Çevrimiçi eğitim, öğrenme stratejilerinin geliştirilmesi, dil öğrenim stratejileri, öğrenci uygulamaları, Fransız dili

Introduction

The current context that the whole world is going through has disturbed our lives and pushed humanity to organize in different ways from all directions. On the educational level, the Covid-19 crisis forced the authorities to take radical measures, and very quickly led to closure of schools around the world. Globally, the sudden and precipitous transition into digital and e-learning has radically changed the education system, which until now has been mostly face-to-face and has been delivered as one-on-one instruction. It is clear that the pandemic has completely disrupted the education system, resulting in an accelerated renewal. With such unexpected change outside the classroom, adoption of new language learning strategies by learners thus seems inevitable. In our investigation, one of the participants summarized the situation as follows:

> "For our own health and for others' as well, we have the responsibility of staying home and attending online classes organized by our university. The change has arrived rather quickly, and we haven't exactly had the time to adapt initially, but now we are able to consider solutions for a better approach to ensure a more efficient study since we have spent several hours in front of the screen. One must be efficient and in good shape and health, even though it becomes more and more bearable by time" (Participant 5).

The idea that attracts attention is the new study approach that the participant is promoting. Both teachers and learners cannot in fact claim a teaching model similar to the one in the past. The new "ordinary" has irreparably brought about profound internal changes in teaching-learning methods. Major changes are also taking place in academia. Teachers have had to adapt their entire teaching strategies. As Ertek points out:

> "The university is the ultimate place for innovation, research, and educational reflection. On several levels, it brings together countless advantages: access to knowledge, freedom at work, openness to others, preparation for the future, etc. The question of "university pedagogy" is none other than the body of work aimed not only at the factors of student success and failure but also at the teaching styles of university teachers" (Ertek, 2020: 50).

Indeed, the factors of success or failure can depend on several variables but the question of teaching strategies and language learning strategies is crucial. This gives rise to the question of student language learning strategies at the university. It is a big challenge for students because it is no longer a matter of going to university to take a course but of learning in front of a screen, and very often alone. Objective of this study is to understand the language learning strategies used by students before online education and the strategies that they began to employ thereafter with the introduction of online education.

1. Literature review

With the idea of competences, many researchers have developed interest in various learning processes of learners from primary school to university, and have demonstrated a considerable quantity of learning strategies. They are an integral part of the resources that learners must make available to achieve the skills (Tardif, 2006). The importance of teaching and language learning strategies comes up many times in research (Bégin, 2008; Jonnaert, 2002; Peters & Viola, 2003; Tardif 2006) with recommendations referenced in teaching guides (Dulude, 2001; Lord, 2003). In universities, priority is often given to the learning of knowledge rather than to how learning takes place (Biggs, 1987). Some studies find that effective use of strategies makes learners more confident in their own learning abilities (Lavasani, Mirhosseini, Hejazi & Davoodi, 2011). Let us add that Weinstein was one of the first to implement a language learning strategies course in 1977 already (Weinstein & Underwood, 1985) and later declared that learning to learn is the most important point of teaching at university (1996). It also depends on teachers' teaching strategies, namely, organization of lessons, simplicity of learning tasks, design of textbooks, variety of activities or even the types of exams chosen with an important observation:

> "The more the learning strategies were used, the higher student performance was" (Simsek & Balaban, 2010: 43). Students who pass courses are those who use effective learning strategies in performing tasks (Broekkamp & Van Hout-Wolters, 2007).

Some have questioned the relationship of learning strategies to academic success (Boulet, Savoie-Zajc & Chevrier 1996; Fayol & Monteil, 1994; Pask, 1988; Schmeck, 1988; Schmeck & Meier, 1984; Romainville, 1993; Wolfs, 1998); while others questioned the way in which learners perceive, record and use the knowledge (Saint-Pierre, 1991; Shi, 2017). Thus, three main interests clearly emerge in language learning strategies that highlight the importance accorded in the research community: teaching and teaching methods with the aim of promoting learning (Ouellet, 1997; Flippo & Caverly, 1991; Roces Montero & Sierra-Arizmendiarrieta, 2017), effects of those teaching strategies on learning (Hattie, Biggs & Purdie, 1996) and the specificities of their use among learners (Hensler, 1992; Romainville, 1993; Rovers, Stalmeijer, van Merriënboer, Savelberg & de Bruin, 2018; Schunk & Zimmerman, 1994; Wolfs, 1998; Zimmerman, 1990). Many researchers have emphasized the importance of language learning strategies for better and more effective learning. For example, for Bégin (2003), learning strategies are categories of actions used in a learning situation to carry out a school task or activity and operations on knowledge.

For Boulet *et al.* (1996), these are the activities performed by the learner and/or learner behaviors in a learning posture to simplify the acquisition, recall and application of knowledge. According to Cartier (1997), learning strategies are based on a set of actions or means used to learn in order to be able to perform a task. According to Fayol & Monteil (1994), language learning strategies are part of an integrated sequence of varying lengths, of specific or general procedures in order to optimize the performance of learners. Frenay, Noël, Parmentier & Romainville (1998) define language learning strategies as procedures to simplify learning. For Hrimech (2000), these are operations in a training process to promote the acquisition of knowledge, skills or behavior. For Weinstein & Hume (1998), it is about learning to act on acquired knowledge in order to integrate them into memory. This research made it possible to establish an inventory of language learning strategies, and to group them into categories.

Researcher	Classification					
Stern (1975)	Planning Strategy	Active Strategy	Empathic Strategy	Formal Strategy	Experimental Strategy	
	Semantic Strategy	Practice Strategy	Communication Strategy	Internalization Strategy		
Naiman, Frohlich, Stern & Todesco (1978)	Active task approach	Realization of language as a system	Realization of language as a means of communication	Management of affective demands	Self-monitoring	
Rubin (1987)	Direct Strategies			Indirect Strategies		
	Learning Strategies		Communication Strategies		Social Strategies	
	Cognitive Learning Strategies	Metacognitive Learning Strategies				
O'Malley & Chamot (1990)	Cognitive Strategies		Metacognitive Strategies		Social/Affective Strategies	
Oxford (1990)	Direct Strategies			Indirect Strategies		
	Memorization Strategies	Cognitive Strategies	Compensation Strategies	Metacognitive Strategies	Affective Strategies	Social Strategies
Wenden (1991)	Cognitive Strategies		Self-Management Strategies			

Table 1. Classification of Language Learning Strategies

Under the conditions described above, it seemed relevant to develop our research along four main lines: Axis 1: Cognitive Strategies; Axis 2: Metacognitive Strategies; Axis 3: Affective Strategies and Axis 4: Resource Management Strategies.

The problem situation and the purpose of this research aims to understand various language learning strategies of students in the Department of French Language Teaching (FLT) at Atatürk Faculty of Education of Marmara University. It focuses on studying language learning strategies used before and during online education. Due to the Covid-19 health crisis that we have been going through since December 2019[2], nearly two billion learners around the world have found themselves forced to stay at home with the closure of establishments (from extracurricular to university) all over the world; however, with variations from one country to another. In Turkey, all schools (public and private) and higher education institutions have been closed very quickly, providing distance education only since the outbreak of the pandemic.

So, despite the unprecedented situation that we are going through, what have changed and evolved in student language learning strategies in order to try to best follow the courses given in a completely different way? Did they seek to adapt their language learning strategies or did they stem language learning strategies similar to those they have already had long before the pandemic? If so, what are these new language learning strategies? If not, what strategies have they maintained despite this turnaround? All these questions allowed us to conduct our research and to take a close interest in the language learning strategies of students. The main aim of this study is to understand student work practices,

[2] According to data published by World Health Organization: https://www.who.int/news/item/27-04-2020-who-timeline---covid-19 (25.10.2021)

namely, maintaining pre-pandemic language learning strategies and/or development of new post-pandemic language learning strategies.

2. Method

In this methodological part, we will present our research model, our participants, the survey that we used, collection of data as well as the method of analyzing the data collected.

2.1. Research model

In our study, we opted for a quantitative research model in view of the survey consisting of several questions and data collection. Quantitative research prioritizes quantity, and involves collecting data that is, above all, quantifiable. The objective is to try to explain the phenomena by collecting digital data, and to allow us to examine a group, a set of people representative of the population. According to Pelletier & Demers (1994: 758), "The quantitative is defined by measures where, unlike the qualitative, numbers matter and lend themselves to mathematical functions". In this research, the aim is to highlight, through the results obtained, whether the strategic practices related to student learning are maintained or new ones are developed. This is why it seemed relevant to us to question the students about their strategic practices from the point of view of learning "before online education"; "during online education", "always (before and during online education)" and finally "never (neither before nor during online education)".

2.2. Participants

In order to achieve the above objective, a survey was submitted to the students of the Department of French Language Teaching (FLT) at Atatürk Faculty of Education of Marmara University. This survey was carried out at the end of the first semester in the 2020-2021 academic year. A total of 52 students chose to participate in the survey, which lasts between 15-20 minutes. Participation was on a voluntary basis and on a condition of anonymity. The average age of participants is 24.65 with a total of 37 females and 15 males, 46 of which are in Bachelor and 6 in Master programmes.

2.3. Data collection instrument and procedure

The survey is a questionnaire prepared via *Google Forms,* and is constituted of four main lines:

- the first major axis is on ***cognitive strategies***, which relate to the techniques allowing the facilitation of learning processes with the objective of guaranteeing the acquisition of knowledge or the development of a skill or competence in learners. The objective is to ensure the understanding of ideas and information but also the building of relations. Indeed, it is about establishing a medium between the new knowledge and the old ones or within the new knowledge itself. They also serve to help recall the information already established. Thus, this axis will allow us to understand repetition strategies such as repetition, underlining, framing, copying, taking notes, making lists of words, etc. but also elaboration strategies such as the use of mnemonics, paraphrasing, summing up, analogy, producing notes, formulating questions, creating mind maps, writing a sentence as a medium using our prior knowledge, developing an example, arriving to a conclusion and creation of relationship. There are also organizational strategies such as grouping, writing, enumeration, classification, comparison, making diagrams, matrices, identifying links between pieces, sequences, etc. Finally, there are the strategies of distinction such as hypothesizing, seeking reasons or explanations, comparison between an example and

a counterexample, identification of the differences, identification of the type of exercises to be used, and finding counterexamples as well as procedural strategies for learning such as identifying an example and taking it as a model, making a list of approaches to follow, practicing the entire procedure, regular practice for automatic initiation of steps and comparison of his/her own performances using the model followed.

- the second major axis is on ***metacognitive strategies***, which has two aspects: the first aspect is related to self-knowledge as a learner, and the second aspect is specific to the use of our own consciousness in order to control our mental processes. The first one relates to the person's self-awareness as well as the tasks s/he needs to perform but also to the language learning strategies to be implemented. The second element refers to knowledge that allows us to conduct our thinking with better consistency and management. Therefore, this axis will highlight the different planning strategies such as a review of the work to be performed, estimation of the time required, establishment of the learning objectives, activation of previous knowledge, analysis of the task to be performed, and formulation of questions before performing an act. There are control strategies such as self-assessment and self-reinforcement, concentration, and evaluation of effectiveness of the adopted strategy, but also regulatory strategies such as adjustment of reading phase, reconsidering and thinking about the steps taken, evaluating effectiveness of the chosen strategy and modifying it as necessary, estimating the expected result, evaluating the consistency of new information, continual adjustment and the ability to skip a question and come back at it later. Finally, we will see the strategies of awareness of mental activity in learners, namely, one's self-awareness of own learning style, identification of gaps and identification of the conditions of use for a process and of its effectiveness.

- the third major axis is on ***affective strategies***, which allow directing of the feelings or emotions. These strategies are used to gain a good understanding of the emotional state of the people who are anxious, frail and who have particular and private problems. The objective of this axis is to understand the affective strategies such as reward, positive criticism towards oneself, controlling the anxiety, stress and maintaining the concentration, the persistence (or the perseverance) as well as attribution of success to internal factors that we can change.

- the fourth major axis is on ***resource management strategies*** that call on the ability of people to properly organize the work environment as well as the resources at their disposal according to their needs. This axis makes it possible to understand the strategies of resource management such as identification of the available resources, namely, the material, the teacher and/or classmates, effective management of the time as the planning of work schedules at school advances, planning shorter and more frequent periods and setting sub-objectives to be achieved for each period, environmental management with the establishment of a specific place to study, a quiet and well-organized place, and soliciting others to ask for help from the teacher and peers if needed, ability to do small group work, and getting tutoring from a peer or a teacher.

The link to the questionnaire was sent to the students by email, and a term of one week was given to respond. It was during final exams, and a week of time seemed to be fair for response. The majority of responses were given within four days after the questionnaires were mailed to the students by us.

2.4. Data analysis

In this research, the collected data was analyzed using the method of comparing the responses given by participants to the multiple choice questionnaire. The data was transferred to Microsoft Excel which allowed the production of statistics and graphs. The responses obtained were numbered as follows: P1 for the first participant, P2 for the second, so on, and P52 for the last participant. A feature of the Google Forms tool made it possible to group together the results obtained in one click, which also saved a significant amount of time.

2.5. Validity and reliability

The participation in the research was voluntary and all participants were provided with information about the research, and the assurances of anonymity and confidentiality of data before attending to the questionnaire. One pilot questionnaire was conducted previously with a group of students at each grade level in order to make adjustments and modifications. Thus, some questions have been modified after studying the answers to the pilot questionnaire. The objective is to allow participants to answer questions in healthy conditions.

2. 6. Ethical issues

Approval for the research process was taken from the Research and Publication Ethics Committee of Marmara University of Education Sciences Institute dated 22.04.2021 and numbered 20828. We have been thorough and have strictly observed research ethics throughout the study. The anonymity of participants and their personal data have been guaranteed, and therefore have not been disclosed. This study had no funding and there is no conflict of interests.

3. Findings

We investigated two questions regarding the impact of online education on student language learning strategies (Table 2, Table 3). The other questions were grouped according to four main axes:

- Cognitive Strategies (Axis 1);
- Metacognitive Strategies (Axis 2);
- Affective Strategies (Axis 3);
- Resource Management Strategies (Axis 4).

The results are reported in the order of posed research questions. The questions related to:

- Student rehearsal strategies
- Student development strategies
- Student organizational strategies
- Student generalization strategies
- Student distinguishing strategies
- Student strategies for automating a procedure

Axis 1: Cognitive Strategies

- Student strategies for planning a procedure
- Student control strategies
- Student regulatory strategies
- Student strategies for becoming aware of their own strategies

Axis 2: Metacognitive Strategies

- Student emotional strategies

Axis 3: Affective Strategies

- Student strategies for identifying available resources
- Student strategies for managing time effectively
- Student environmental management strategies
- Student strategies for seeking help from others

Axis 4: Resource Management Strategies

We asked one last question at the end of the survey. This was an open question: "Finally, do you want to add anything about your personal language learning strategies? In this part, you are free to express yourself". Accordingly, the results will be explained in the order of questions asked in the questionnaire.

3.1. Impact of Online Education on Student Language Learning Strategies

The first question is concerned about the impact of online education on students' language learning strategies (Table 2). Results show that online education affected "moderately" the majority of students (44.2%) and "absolutely" of 36.50% of students. Percentages of the student responses concerning the impact of online education on student language learning strategies can be found below in Table 2.

	Not at all	Very little	Moderately	Absolutely
Do you think online education has impacted your language learning strategies?	1.90%	17.30%	44.20%	36.50%

Table 2. Online education and its impacts on student language learning strategies

The second question shows the impact percentage of impact of online education on student language learning strategies. The results indicate that the majority of students (40.40%) believe that online education has impacted their language learning strategies at 75%. 32.70% of students said that their strategies have changed by 50%. Detailed presentation of the student responses is given in Table 3.

	0%	25%	50%	75%	100%
If you would evaluate by percentage, how much did online education impact your language learning strategies?	1.90%	15.40%	32.70%	40.40%	9.6%

Table 3. Percentage of impact of online education on student language learning strategies

3.2. Cognitive Strategies of Students

The results came from students' responses to items related to practicing repetition strategies such as repetition, underlining, framing, copying, taking notes, creating word lists, etc. The students maintained their repetition strategies for the five items proposed. 31% of students stated that they were repeating before online education, and only 12% used repetition after proceeding to online education. A large majority (44%) has maintained this learning strategy, continuing to use it. Item 2 shows that more than half of the students (52%) use underlining, framing, etc. in their studies before and after online education, compared to 29% who employed those strategies only before online education. Similar results are also obtained for item 3: 31% of the students always copy, and 31% never do so. The results for item 4 show that 23% of students never take notes and 42% always do. Item 5 reveals that the majority of students (48%) always make lists of words and symbols to work, while 21% never do. Detailed information as to the rehearsal strategies are presented below in Table 4.

No	Item	Before online education	During online education	Always[3]	Never[4]
1	Repeat several times (mentally, in a low voice or out loud)	31%	12%	44%	13%
2	Shade, underline, frame	29%	12%	52%	8%
3	Copy (formulas, symbols, etc.) for each exercise	21%	17%	31%	31%
4	Take word-for-word notes	21%	13%	42%	23%

[3] Before and during online education and it continues.

[4] Neither before nor after online education.

5	Make lists of terms, symbols, etc.	17%	13%	48%	21%
	Average	**24%**	**13%**	**43%**	**19%**

Table 4. Student rehearsal strategies

Table 5 highlights the development of students' strategies based on the 11 proposed items. Item 1 shows that 69% of students always use mnemonics techniques in their learning. 4% started using this strategy after online education, and 17% were using it before online education. 10% of students never use mnemonics techniques in their studies. Item 2 shows that students often use the method of rephrasing: 56% always do, and 17% never. The results indicate that students always use summarizing (60%, item 3), always make analogies (48%, item 4), create mental images (44%, item 7), write a sentence to make a connection with their knowledge (52%, item 8), invent an example (48%, item 9), find links (60%, item 10) and create relationships (73%, item 11) before and during online education. Item 6 focuses our attention on a strategy never used by students: formulating questions and providing answers (44%). Detailed presentation of the students' responses is given in Table 5 below.

No	Item	Before online education	During online education	Always	Never
1	Use mnemonic means (method of places, method of associations, methods of keywords)	17%	4%	69%	10%
2	Paraphrase (rewrite in own words)	13%	13%	56%	17%
3	To summarize	21%	10%	60%	10%
4	Make an analogy	10%	8%	48%	35%
5	Produce notes (comments, questions)	21%	6%	60%	13%
6	Formulate and answer questions	17%	12%	27%	44%
7	Create a mental image	15%	12%	44%	29%
8	Write a sentence that ties in with what we know	13%	6%	52%	29%
9	Make up an example	17%	12%	48%	23%
10	Find implications	13%	13%	60%	13%
11	Build relationships	10%	6%	73%	12%
	Average	**15%**	**9%**	**54%**	**21%**

Table 5. Student development strategies

In this table, students' organizational strategies such as grouping ideas, writing, enumerating, classifying, comparing, etc. are provided. The overall average shows that students always use organizational strategies (52%), both before and during online education. A large number of them write the main ideas (58%, item 2), enumerate (50%, item 3), classify (63%, item 4), compare (62%, item 5)

and identify the type of links among the parts of a network (50%, item 7). For items 1 and 6, the percentages are shared. Item 1 shows very similar results; use of student organization strategies before online education (27%), always (38%) and never (21%). The responses to item 6 are versatile: 40% of the students produce diagrams, figures, tables, etc. and 35% never do. Detailed information as to the organizational strategies are presented below in Table 6.

No	Item	Before online education	During online education	Always	Never
1	Collect	27%	13%	38%	21%
2	Write (the main ideas in the margin)	31%	6%	58%	6%
3	Enumerate	12%	6%	50%	33%
4	Classify	17%	8%	63%	12%
5	Compare	21%	6%	62%	12%
6	Make diagrams, networks, matrices	12%	13%	40%	35%
7	Identify the type of links between the parts of a network: causes, consequences, analogies, temporal sequences	15%	12%	50%	23%
	Average	**19%**	**9%**	**52%**	**20%**

Table 6. Student organizational strategies

Students' generalization strategies show that they use similar language learning strategies: they make hypotheses to find reasoning (46%, item 1), they look for reasons or explanations for why a particular action is appropriate (56%, item 2), they compare two examples to find similarities (62%, item 3) and they invent examples (46%, item 4). The other percentages turned out very close for the answer never: between 10% (item 2) and 25% (item 4). Detailed information as to the generalization strategies are presented below in Table 7.

No	Item	Before online education	During online education	Always	Never
1	Make assumptions: find reasoning for what makes a given example an exemplar of the concept	23%	12%	46%	19%
2	Look for reasons or an explanation of why a particular action is appropriate	15%	19%	56%	10%
3	Compare two examples: find the similarities	15%	12%	62%	12%
4	Invent examples	17%	12%	46%	25%
	Average	**18%**	**13%**	**52%**	**16%**

Table 7. Student generalization strategies

This table consists of 6 items, and targets distinguishing strategies such as making hypotheses, seeking for reasoning or an explanation, comparing an example and a counterexample, finding differences, identifying the type of exercise to be performed, and inventing counter-examples. It is clear with the high percentages in items 2 (42%), 3 (44%), 4 (65%) and 5 (46%) that students maintained identical learning strategies after switching to online education. For items 1 and 6, the percentages are more distributed between always and never. The overall average shows a high percentage for always (45%), and the rest are distributed between before online education (20%) and never (27%). Percentages of the student responses concerning their distinguishing strategies can be found below in Table 8.

No	Item	Before online education	During online education	Always	Never
1	Make hypotheses: find reasons why a given example is not an example of the concept	23%	8%	37%	33%
2	Look for reasons or an explanation why a particular action is not appropriate	21%	19%	42%	17%
3	Contrast an example and a counterexample	15%	8%	44%	33%
4	Find the differences	17%	4%	65%	13%
5	Identify the type of exercises to study	23%	6%	46%	25%
6	Invent counter-examples	17%	6%	37%	40%
	Average	**20%**	**8%**	**45%**	**27%**

Table 8. Student distinguishing strategies

Strategies for automating a procedure show that students pay more attention to automating their learning. The percentages show that they find examples and follow these examples step by step (52%, item 1), they make lists of the steps to be followed (46%, item 2), they practice the entire procedure (42%, item 4), they practice sufficiently to start the stages automatically (40%, item 5) and they compare their performance to the model of an "expert" (40%, item 6). However, we see that students are divided on practicing small steps at a time (item 3). Percentages of the student responses concerning their strategies for automating a procedure can be found below in Table 9.

No	Item	Before online education	During online education	Always	Never
1	Find an example and follow it step by step	17%	8%	52%	23%
2	List the steps	21%	10%	46%	23%
3	Practice small steps at a time	29%	10%	35%	27%
4	Practice the entire procedure	23%	10%	42%	25%
5	Practice long enough for the steps to automatically engage	27%	12%	40%	21%

6	Compare its performance to the model of an "expert"	17%	12%	40%	31%
	Average	**22%**	**10%**	**43%**	**25%**

Table 9. Student strategies for automating a procedure

3.3. Metacognitive Strategies of Students

Strategies for planning a procedure are a part of metacognitive strategies. The results obtained underline high percentages in maintaining student planning strategies during online education. In fact, item 1 shows that the majority of students (58%) have retained the practice of skimming over the text. They do not hesitate to estimate the time needed (item 2, 62%), to analyze the task to be performed (item 5, 65%), and to set reading objectives by formulating questions even before reading a text (item 6, 52%). Two very high percentages emerged: 75% (item 3) and 71% (item 4). Students always set learning objectives, use and activate their prior knowledge called the schemata. Table 10 below shows the percentages obtained concerning student strategies for planning a procedure.

No	Item	Before online education	During online education	Always	Never
1	Skim over the text (tables of contents, introductions, titles and subtitles, learning objectives, chapter summaries, exercises, etc.)	23%	10%	58%	10%
2	Estimate the time needed	17%	12%	62%	10%
3	Establish learning objectives	10%	10%	75%	6%
4	Activate prior knowledge	12%	10%	71%	8%
5	Analyze the task	17%	4%	65%	13%
6	Giving oneself reading intentions by asking questions before reading a text	12%	8%	52%	29%
	Average	**15%**	**9%**	**64%**	**13%**

Table 10. Student strategies for planning a procedure

From the results of Table 11, we can see that the student check/review strategies are maintained even during online education. A large majority of students still apply self-assessment and self-reinforcement (77%, item 1), focusing their attention on the task (77%, item 2) as well as evaluating the effectiveness of the strategy they chose (67%, item 3). Only 2% (item 1) used the verification before online education, and 13% (item 1) during online education. Table 11 below shows the details of the percentages obtained from the student control strategies.

No	Item	Before online education	During online education	Always	Never
1	Self-assess and self-reinforce	2%	13%	77%	8%
2	Focus your attention	8%	12%	77%	4%
3	Evaluate the effectiveness of the chosen strategy	12%	15%	67%	6%
	Average	**7%**	**13%**	**74%**	**6%**

Table 11. Student control strategies

The percentages of student learning organization strategies show that the majority of the students maintained their strategies with a total average of 65%. 13% did not maintain the same strategies, and 13% implemented these strategies during online education. 8% never use organization strategies. The 8 items highlight the idea that students maintained their organization strategies even during online education. Indeed, they prefer to adjust their reading phase (69%, item 1), proofread to better understand a document (73%, item 2), review the steps already taken (63%, item 3) and evaluate the effectiveness of the chosen strategy (54%, item 4). They assess the expected result (63%, item 5) and check if any new information is consistent with their preliminary knowledge (65%, item 6). The students maintained the adjustment strategy (58%, item 7) and the possibility of returning to a question when they do not understand (77%, item 8). Detailed information as to the organizational strategies are presented below in Table 12.

No	Item	Before online education	During online education	Always	Never
1	Adjust reading speed	12%	12%	69%	8%
2	Reread to better understand	15%	12%	73%	0%
3	Review past steps	15%	15%	63%	6%
4	Evaluate the effectiveness of a chosen strategy and modify it if necessary	12%	15%	54%	19%
5	Estimate the expected result	15%	12%	63%	10%
6	Evaluate whether new information is consistent with previous knowledge	12%	15%	65%	8%
7	Make continual adjustments	12%	23%	58%	8%
8	Skip a test question and come back at it later	15%	4%	77%	4%
	Average	**13%**	**13%**	**65%**	**8%**

Table 12. Student organizational strategies

Awareness strategies for students' own activities reveal high percentages which highlight the idea that students maintained the same strategies during online education with an overall average of 72%. The vast majority of them maintained knowledge of their own learning style (77%, item 1), identification of their own gaps (73%, item 2) and conditions for using an approach in their studies (65%, item 3). 6% of students never use self-awareness strategies and 10% did so before online education. 10% started doing it during online education. Detailed information as to the self-awareness of their own strategies are presented below in Table 13.

No	Item	Before online education	During online education	Always	Never
1	Know your own learning style	12%	8%	77%	4%
2	Identify your own gaps	13%	8%	73%	6%
3	Identify the conditions of use for an approach, and its effectiveness	10%	15%	65%	10%
	Average	**12%**	**10%**	**72%**	**6%**

Table 13. Student strategies for self-awareness on their own strategies

3.4. Affective Strategies of Students

With an overall average of 54%, the results obtained about the emotional strategies of the students show that they have preserved the same strategies during online education. Indeed, students always reward themselves as much (62%, item 1), and they attribute their success to internal factors that can be changed (62%, item 7). 58% (item 2) of students talk to each other in a positive way to increase their motivation and have kept this strategy even during online education. 19% (item 2) did it before online education and 12% (item 2) never do so. 56% of students keep their concentration (item 4) and maintain their motivation (item 5) whereas 4% never do. Items 4 and 5 provided similar results. However, 31% of students state they have lost their motivation, they were unable to devote themselves for a long time, which seems to be a high percentage. Results of the student responses concerning their emotional strategies can be found below in Table 14.

No	Item	Before online education	During online education	Always	Never
1	Reward yourself from time to time	17%	4%	62%	17%
2	Talk to each other in a positive way	19%	12%	58%	12%
3	Control your anxiety (relaxation techniques, for example)	23%	13%	44%	19%
4	Maintain your focus	27%	13%	56%	4%
5	Establish and maintain personal motivation	27%	13%	56%	4%
6	Devote yourselves to study/task	31%	10%	44%	15%

7	Attribute success to internal and modifiable factors	23%	6%	62%	10%
	Average	**24%**	**10%**	**54%**	**12%**

Table 14. Student emotional strategies

3.5. Resource Management Strategies of Students

Strategies for identifying available resources such as materials, classmates that students can refer, and times when they can consult their teacher show that students maintained these strategies with an overall average of 71%. Item 1 reveals that 77% of students pay attention to keeping necessary material at their disposal. They still consult their peers (73%, item 2) and their teachers (62%, item 3) as much. 12% (item 2) of students never consult their classmates and 6% (item 3) never consult the teachers. Detailed information as to the student strategies for identifying available resources are presented in Table 15.

No	Item	Before online education	During online education	Always	Never
1	Equipment	12%	10%	77%	2%
2	Peer consultation	10%	6%	73%	12%
3	The moments when you can consult the teacher	31%	2%	62%	6%
	Average	**17%**	**6%**	**71%**	**6%**

Table 15. Student strategies for identifying available resources

In this table, student time management strategies are highlighted. It is about understanding whether students are managing their time efficiently. The results show that students still manage their time efficiently with an average of 56%. A similarity emerges in the results: 13% of students managed their time effectively before online education and 13% did so from online education. Students plan work shifts in advance at 62% (item 1). They plan shorter and more frequent periods at 48% (item 2) and they set themselves sub-objectives to be reached for each period of work at 60% (item 3). Percentages of the student responses concerning their managing time effectively strategies can be found below in Table 16.

No	Item	Before online education	During online education	Always	Never
1	Plan work periods in advance	15%	13%	62%	10%
2	Plan shorter and more frequent periods	15%	19%	48%	17%
3	Set sub-objectives for each work period	10%	6%	60%	25%
	Average	**13%**	**13%**	**56%**	**17%**

Table 16. Student strategies for managing time effectively

The results of the environmental management strategies show that 66% of the students maintained their strategies. They find a specific place to study (65%, item 1), they find a quiet place to study (65%, item 2), and they find an organized place (67%, item 3) to study. 4% of students do not pay attention to the organization of their environment, and 18% did so before online education. Detailed information as to the student environmental organization strategies are presented below in Table 17.

No	Item	Before online education	During online education	Always	Never
1	Find a specific place to study	21%	8%	65%	6%
2	Find a quiet place	17%	13%	65%	4%
3	Find an organized place	15%	13%	67%	4%
	Average	**18%**	**12%**	**66%**	**4%**

Table 17. Student environmental organization strategies

The results show that 46% of students always seek help from others, 22% have sought help before online education, 13% during online education, and 20% have never sought help. 46% (item 1) of students still seek help from teachers and 37% (item 1) did before online education. 62% (item 2) of students seek help from peers and 15% (item 2) did so before online education. 37% (item 3) of students work in small groups and 29% (item 3) never do. 40% of students still attach importance to tutoring either by a peer or a teacher, and 33% never seek tutoring. Detailed information as to the student strategies for seeking help from others are presented below in Table 18.

No	Item	Before online education	During online education	Always	Never
1	Seek help from the teacher	37%	13%	46%	4%
2	Seek help from peers (students)	15%	10%	62%	13%
3	Work in small groups	17%	17%	37%	29%
4	Obtain tutoring from a peer or teacher who will guide the direction to follow	17%	10%	40%	33%
	Average	**22%**	**13%**	**46%**	**20%**

Table 18. Student strategies for seeking help from others

Conclusion, discussion and implications

The present study aims to understand and analyze the development of student language learning strategies since the introduction of online education into our lives. The main objective is to understand the strategic practices of students along four main axes: cognitive strategies, metacognitive strategies, affective strategies and resource management strategies. On one hand, the results related to the four major axes showed which strategies are still used by students and which have not been used since the beginning of online education. On the other hand, working on learning strategies enabled us to have an

initial glance on student practices during the online work process. The results will be discussed respectively in the order of the investigation questions posed.

The first two questions asked to the students, "Do you think online education has made an impact on your language learning strategies?" and "If you would evaluate by percentage, how much did online education impact your language learning strategies?" show that online education has "moderately" and "absolutely" made an impact on student language learning strategies. In addition, the majority of students gave a high percentage number in assessment of the impact of online education on their language learning strategies, with 75% or even 100% according to some students. Many recent studies highlight similar or very close results (Coman, Tîru, Mesesan-Schmitz, Stanciu & Bularca, 2020; Dhawan, 2020; Mishra, Gupta & Shree, 2020), exploring the question of impact of the distance education and of online education since the Covid-19 pandemic. In this regard, Coman *et al.,* noted:

> "Therefore, both university members and students came across many challenges. The Organization for Economic Co-operation and Development mentioned that some of the challenges universities have to face were: keeping an equilibrium between online courses, that could affect students health, them spending many hours in front of a screen, and non-digital activities, analyzing and focusing on student's emotional health-providing them with support throughout the process of learning, taking into account the fact that not all students have access to the internet, and managing and monitoring their access to devices in order to effectively collaborate with them" (Coman *et al.,* 2020: 2).

The conditions under which the students (teachers as well of course) attended the classes are very difficult, and the end of the pandemic is not near. Although the entire world is affected by this circumstance, countries are experiencing the pandemic on a wider scale while individuals experience the outcomes from a smaller but more personal perspective. One of our participants explained: "Everything was almost perfect before the online education. I think we are unable to learn well enough under current circumstances. I miss going to university, but this is life. One must adapt" (P6). Indeed, the change was radical and precipitous. Teachers and students had to quickly adapt to distance learning which was imposed suddenly, creating a lot of frustration and angst. Students did not have time to adapt and/or could not adapt at all. The results show that online education has affected a significant number of students, and cannot effectively continue with the same teaching and language learning strategies used before. This is also true for teachers and their own teaching strategies, and it should be a subject for future study.

Thus, in order to go through the main axes of our research in detail, the first part of the survey deals with students' cognitive strategies, and highlights that techniques used are important for promoting and facilitating knowledge and/or developing information as well as for constructing links between new and old information. It includes students' rehearsal strategies during their studies, development strategies such as summarizing, formulating questions and attempting to provide answers, creating a mental image, etc. According to the results, the majority of the students maintained the same rehearsal strategies before and during online education, and only a quarter of students changed their strategies during online education. The same applies to student organization strategies such as enumeration, classification, comparison, etc. The results show that students maintained their language learning strategies during online education. Also, generalization strategies such as hypothesizing, comparing two examples, finding new examples, etc. were questioned in this study, indicating that 52% of students maintained their organizational strategies as before. Two points have drawn our attention: 20% of students never use organizational strategies and 19% did so before teaching online, which appears to be high percentages for this critical category. Distinguishing strategies such as exercises of finding the differences, identifying the type of exercises to be used, developing counter-examples, etc. show that the

majority of students have maintained and tend to maintain the same language learning strategies. Finally, the strategies for automating a procedure with the establishment of lists of steps to follow or even the entire practice of a procedure show that the majority of students have maintained the same strategies. Thus, the results of the cognitive strategies of the students also show that the majority of the students continued using the same strategies that they used before online education, and few students have changed and/or updated their strategies with the new modalities after switching to online education. It has been interesting to see that the majority of students continued employing the same strategies after switching to online education although it is a completely different model of teaching that neither students nor teachers were prepared for. One of the participants (P38) explained that it is above all a problem of interaction, lack of dynamism of face-to-face courses, and lack of essential elements in teaching, which are also mentioned in several recent studies (Aboagye, Yawson & Appiah, 2020; Coman *et al.,* 2020):

> "I attest that my personal language learning strategies haven't changed that much, as a matter of fact, my methods of studying remains the same. I have my own way of studying, I prefer to divide and classify my work and revise everything, a day before the exam. It is especially the interaction, the sharing and the dynamism of the face to face lessons that I miss, and face-to-face teaching is necessary, especially for students wishing to become teachers" (P38).

The second part of the survey focuses on students' metacognitive strategies such as self-awareness as a learner, and using our consciousness to control our own mental processes. Bégin (2008) adds the component linked to metacognition:

> "[…] Knowledge of the tasks and situations in which cognitive activity is involved refers to the knowledge of the specific requirements for the tasks and to the knowledge of the procedures or particular strategies that must be put into action to achieve them" (Bégin, 2008: 55).

According to Bégin, there are two metacognitive strategies: anticipation and self-regulation. Anticipation includes the identification of prior knowledge, consideration of requirements versus future needs, creation of mental representations and formulation of hypotheses. Self-regulation encompasses self-observation, self-control, self-selection of resources, self-adjustment and self-information. In our study, it is about planning strategies such as estimating the time needed to do the job, setting goals, activating prior knowledge, performing an analysis of the task, etc. The students maintained their planning strategies that they had even before switching to online education. The same is true for control strategies such as self-assessment, self-concentration and evaluation of the effectiveness of the chosen strategy. Here too, they retained their strategies of controlling their learning during online education (74%). The results of organizational strategies such as self-adjustment, proofreading, evaluation of information, etc. also show that students retained their prior habits after switching to online education. Finally, strategies for raising awareness on students' activities such as being aware of their own learning style, identifying their own personal shortcomings, identifying the conditions for using an approach as well as the usefulness of this process, etc. remained the same. In short, it is clear from the high percentages students' choices of metacognitive strategies remained unchanged. The students tend to maintain the strategies they used for many years, and are unwilling to change those after switching to online education. The accelerated switch to digital and distance education undoubtedly has not allowed students to think of new strategies, particularly from the perspective of health. Today, as we go through devastating times around the world, all students are trying to adapt on many levels to the various new things that have rather come too quickly and out of nowhere. The majority of them may have found it more prudent to maintain the "usual" strategies so as not to deal with additional "difficulties". Note that the problems are not only strategic but also technical:

> "In the context of the crisis generated by the pandemic, the hierarchy of the reasons why students are reluctant to learn online is changing. Technical problems were the problems most frequently reported, them having a major role in decreasing students' motivation" (Coman *et al.,* 2020: 14).

The third part of the survey concerns the affective strategies of students, and targets student practices such as reward, positive talk, anxiety control, centralization of concentration, perseverance, etc. The majority of students continue to use the same affective strategies as before. 12% of students never use emotional strategies, and 24% did before online education. Thus, we understand from the results that the majority of students reward themselves from time to time, and that they attribute their success to internal factors which can be changed. 31% of the students have lost their motive and devotion, and 27% can no longer maintain their focus, nor can establish self-motivation since the introduction of online education. In sum, the results show that online education did not greatly affect students' emotional strategies, but it did have an impact on their personal motivation and ability to stay focused during their studies. A participant expresses himself as follows:

> "During distance learning, I tried to stay positive but I was anxious since I couldn't adequately communicate with my teachers like I used to back in the university. For me, nothing can replace the environment of a classroom" (P14).

Another participant gives a more positive and enthusiastic message but to some extent rebounds on the previous message:

> "I find distance learning absolutely advantageous because everything can be stored and edited. Plus, we don't waste time since we don't travel back and forth between home and college. In addition, it is healthier because there are no effects such as wind, temperature and the virus exposure, but it should have been methodologically different from face to face training. Class durations are too long. The interactivity of the class proves ineffective when we try to take part in the lesson as connection issues arise" (P26).

The last part of the study concerns the strategies for management of the resources of the students on several planes: strategies for identification of the available resources, strategies for time management, strategies for environmental management and strategies for solicitation of resources to help others. The strategies for identifying resources concern the materials, consultation with classmates and the teacher, and significant mutual assistance between classmates which students maintained after switching to online education. Time management strategies focus on scheduling work periods in advance, planning shorter and more frequent periods of study, and setting sub-goals to be achieved. Half of the students think they are managing their time effectively, and 17% never do. In addition, environmental management strategies that focus on providing a specific, calm and organized place show that students care for their location to study. Strategies of seeking help from others, which involve seeking help from the teacher, peers, carrying out work in small groups and obtaining tutoring assistance from a peer or a teacher highlight more versatile results unlike the other items. The majority of students seek help from others (46%) but 22% no longer do so, and 20% never do. Finally, students tend to maintain the use of the same strategies after switching to online education, and place more importance on strategies for identifying available resources and managing their environment.

All of these results show the complexity of the situation led students to greatly maintain their language learning strategies while following online courses. The four main axes show that all strategies depend on the present conditions. The first condition is variable, and can have a significant impact on student activity. This could be the length of class sessions, break times provided by the teacher, daily cognitive activity time, etc. as well as the time of mental activity: at the starting of the day, in the middle or at the end of the day. Furthermore, material conditions and the means of teaching and learning are no longer

absolutely identical. Resources and tools such as books, documents, etc. which are essential for students are not available anymore. The same is true for access to libraries which have been closed for a long time now. Finally, there are also the spatial and environmental conditions that represent the space and/or the workplace: classrooms, study rooms, libraries, language institutes, etc. which are frequently referred by students are no longer present since the pandemic. Also, the question of physical predispositions in which students take online courses is important, and can be the subject of future research. These conditions are important, and have an impact on cognitive, metacognitive, affective and resource management language learning strategies.

To summarize, this research studies the results of a quantitative-type survey carried out with students from the Department of FLE Teaching at a public university in Turkey. The objective of this work is to understand the language learning strategies of Bachelor and Master FLE students before and during online education. The results revealed that the vast majority of students maintained their language learning strategies that they established before switching to online education. Likewise, many believe that online education has greatly affected their language learning strategies. However, an opposition emerges in these results. The strategies of the majority of the students have not changed. However, they believe that online education has "moderately" (23 students) and "absolutely" (19 students) affected the language learning strategies of 42 students out of 52. The same is true for the percentages: 21 students, or 40.40% of students, believe that online education has affected their language learning strategies by 75%. 5 students, or 9.6%, think that online education has affected their language learning strategies by 100%, which is not a negligible rate by any means. There is a significant gap between assessment of the concrete impact of online education on students' language learning strategies and their actual day-to-day practices.

Thus, on the basis of the results obtained from this research, we recommend providing students with rapid and effective solutions and training as well as guidance in terms of their choice of language learning strategies. There are ongoing studies specifically designed to meet the needs of students in terms of language learning strategies. Online education is a reality that is now a part of our lives, and will undoubtedly continue to be. Effective and definitive solutions must be put in place to support students, enabling them to follow courses under improved conditions, particularly to ensure an active and efficient study. We believe that implementing new language learning strategies requires a true understanding of what a learning strategy is, and knowing when and how to use them is essential. This is why all learners must imperatively question their own language learning strategies, and ask themselves the following questions:

- What is a language learning strategy?
- When should I use a specific language learning strategy?
- How should I use a specific language learning strategy?

It is important to emphasize that each of the major axes, namely, cognitive, metacognitive, emotional and resource management, interact with each other. They also complement each other. Thus, it is essential that the learners reflect on their own strategies after such circumstances impacting the entire globe. Now and for over a year now, the world is going through a difficult and unprecedented period. It is specified on the United Nations website[5]:

[5] According to data published by United Nations: https://www.un.org/en/academic-impact/covid-19-and-higher-education-venezuelan-university-works-protect-first-responders (28.10.2021)

> "UNESCO estimates that over 1.5 billion students in 165 countries are out of school due to COVID-19. The pandemic has forced the global academic community to explore new ways of teaching and learning, including distance and online education. This has proven challenging for both students and educators, who have to deal with the emotional, physical and economic difficulties posed by the illness while doing their part to help curb the spread of the virus. The future is uncertain for everyone, particularly for millions of students scheduled to graduate this year who will face a world crippled economically by the pandemic" (United Nations website).

Note that the houses have become classrooms, and the screen has become the only option for continued education, which has been delivered face-to-face only so far (in our context). Whether teaching occurs synchronously or asynchronously, online or on a delayed basis, technology and digital remain allies in perpetuating education. It would be relevant to think about precise integration solutions to allow students to identify the tools to be used and hence, to adapt their language learning strategies. This will allow learners to work more efficiently, and have greater autonomy. In this regard, our survey has already allowed some participants to reflect on their language learning strategies that are no longer or less suitable: "Thanks to your questionnaire, I've come to better understand certain language learning strategies that I had forgotten. I'll give more attention to the subject and hopefully, I will succeed" (P12) and

> "What we are going through is difficult, and we are forced to change our strategies of studying, otherwise we may fail. Thanks to your inquiry, I have reflected on my language learning strategies, and I am going to update them for sure. I can't keep working with the same strategies to be honest. Thanks for your inquest" (P41).

The students should be aware of the strategies that can be developed spontaneously or acquired by learning. They must be able to use them deliberately, with an understanding of why and how to use them. In addition, the students must have a reason for using the strategy. They must have internal and/or external motivation. Finally, the strategy used must allow the students to reduce their work and stress, increase their performance, and/or allow more efficient work.

This research has two limitations, however. The first one is that participants did not have the opportunity to express themselves outside of the latter part of the survey intended for free writing. At the end of the investigation, they had perhaps forgotten their ideas, and it would have been fairer to give them a chance of expressing themselves at the end of each of axes of cognitive, metacognitive, emotional and resource management axes, allowing them with the opportunity to write directly in order to find out their real perceptions. The second limitation of this study concerns the method used which is the quantitative method, but future studies could use the qualitative method to better understand the real representations and/or impressions of the students and of what they really experience on a daily basis.

References

Aboagye, E., Yawson, J. A. & Appiah, K. N. (2020). COVID-19 and E-Learning: the Challenges of Students in Tertiary. *Institutions. Social Education Research*. 1-8.

Bégin, C. (2003). *Enseigner des stratégies d'apprentissage à l'université : application d'un modèle et analyse des changements consécutifs à leur enseignement*. Thèse de doctorat inédite. Université de Sherbrooke : Faculté des Sciences de l'Éducation.

Bégin, C. (2008). Les stratégies d'apprentissage : un cadre de référence simplifié. *Revue des Sciences de l'Éducation*, 34(1), 47-67.

Biggs, J. B. (1987). Student Approaches to Learning and Studying. Hawthorn, Victoria: Australian Council for Educational Research.

Boulet, A., Savoie-Zajc, L. & Chevrier, J. (1996). *Les stratégies d'apprentissage à l'université*. Sainte-Foy : Presses de l'Université du Québec.

Broekkamp, H. & Van Hout-Wolters, B. H. (2007). Students' Adaptation of Study Strategies When Preparing for Classroom Tests. *Educational Psychology Review*. 19(401).

Cartier, S. (1997). *Lire pour apprendre : description des stratégies utilisées par des étudiants en médecine dans un curriculum d'apprentissage par problèmes*. Thèse de doctorat inédite. Montréal : Université de Montréal.

Coman, C., Țîru, L. G., Meseșan-Schmitz, L., Stanciu, C. & Bularca, M. C. (2020). Online Teaching and Learning in Higher Education during the Coronavirus Pandemic: Students' Perspective. Sustainability, 12(24).

Dhawan, Sh. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*. 49(1), 5-22.

Dulude, F. (2001). *Signet : français 2ème cycle (guide pédagogique)*. Saint-Laurent, Québec : Éditions du Renouveau pédagogique.

Ertek, B. (2020). Le concept de « pédagogie universitaire » selon les étudiants de Licence en Didactique du Français Langue Étrangère. *The Journal of International Lingual Social and Educational Sciences*, 6(1), 49-65.

Fayol, M. & Monteil, J. M. (1994). Stratégies d'apprentissage et apprentissage des stratégies. *Revue française de pédagogie*, 106, 91-110.

Flippo, R. F. & Caverly, D. C. (1991). *Teaching Reading & Study Strategies at the College Level*. Newark, Denver: International Reading Association.

Frenay, M., Noël, B., Parmentier, P. & Romainville, M. (1998). *L'étudiant-apprenant. Grilles de lecture pour l'enseignant universitaire*. Bruxelles, Belgique : De Boeck.

Hattie, J., Biggs, J. & Purdie, N. (1996). Effects of learning skills interventions on student learning: A meta-analysis. *Review of Educational Research*, 66(2), 99-136.

Hensler, H. (1992). *Élaboration d'une conception de l'enseignement et de la formation des enseignants dans le domaine des stratégies d'apprentissage*. Thèse de doctorat inédite. Montréal : Université de Montréal.

Hrimech, M. (2000). Les stratégies d'apprentissage en contexte d'autoformation. In : Foucher, R. & Hrimech, M. (dir.) : *L'autoformation dans l'enseignement supérieur : apports européens et nord-américains pour l'an 2000*. 99-111. Montréal, Québec : Éditions Nouvelles.

Jonnaert, P. (2002). *Compétences et socioconstructivisme : un cadre théorique*. Bruxelles, Belgique : De Boeck.

Lavasani, M. G., Mirhosseini, F. S., Hejazi, E., & Davoodi, M. (2011). The effect of self-regulation learning strategies training on the academic motivation and self-efficacy. *Procedia-Social and Behavioral Sciences*, 29, 627-632.

Lord, F. (2003). *Cyclades : transdisciplinaire, 3ème cycle (guide pédagogique)*. Mont-Royal, Québec: Modulo.

Mishra, L., Gupta, T. & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of Covid-19 pandemic. *International Journal of Educational Research Open*, 1.

Naiman, N., Frohlich, M., Stern, H., & Todesco, A. (1978). *The good language learner*. Research in Education Series, 7. Toronto: The Ontario Institute for Studies in Education.

O'Malley, J. M. & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. New York: Cambridge University Press.

Ouellet, Y. (1997). Un cadre de référence en enseignement stratégique. *Vie pédagogique*, 104, 4-11.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House/Harper & Row.

Adres
RumeliDE Dil ve Edebiyat Araştırmaları Dergisi
Osmanağa Mahallesi, Mürver Çiçeği Sokak, No:14/8
Kadıköy - İSTANBUL / TÜRKİYE 34714
e-posta: editor@rumelide.com
tel: +90 505 7958124, +90 216 773 0 616

Address
RumeliDE Journal of Language and Literature Studies
Osmanağa Mahallesi, Mürver Çiçeği Sokak, No:14/8
Kadıköy - ISTANBUL / TURKEY 34714
e-mail: editor@rumelide.com,
phone: +90 505 7958124, +90 216 773 0 616

Pask, G. (1988). Learning Strategies, Teaching Strategies, and Conceptual or Learning Style. In: Schmeck, R. R. (Ed.), *Learning Strategies and Learning Styles*, 4, New York: Plenum Press.

Pelletier, M. L. & Demers, M. (1994). Recherche qualitative, recherche quantitative : expressions injustifiées. *Revue des Sciences de l'Éducation*, 20(4), 757-771.

Peters, M. & Viola, S. (2003). *Stratégies et compétences : intervenir pour mieux agir*. Montréal, Québec : Éditions Hurtubise.

Roces Montero, C. & Sierra-Arizmendiarrieta, B. (2017). The effectiveness of a learning strategies program for university students. *Psicothema*, 29(4), 527-532.

Romainville, M. (1993). *Savoir parler de ses méthodes : métacognition et performance à l'université*. Bruxelles, Belgique : De Boeck.

Rovers, S. F. E., Stalmeijer R. E., van Merriënboer, J. J. G., Savelberg, H. H. C. M. & de Bruin, A. B. H. (2018). How and Why Do Students Use Learning Strategies? A Mixed Methods Study on Learning Strategies and Desirable Difficulties With Effective Strategy Users. *Frontiers in psycholo*gy, 9.

Rubin, J. (1987). Learner Strategies: Theoretical Assumptions, Research History and Typology. In: Wenden, A. L. & Rubin, J. (Eds.), *Learner Strategies in Language Learning*. Englewood Cliffs, NJ: Prentice-Hall, 15-30.

Saint-Pierre, L. (1991). *Effets de l'enseignement de stratégies cognitives et métacognitives sur les méthodes de travail des élèves faibles en mathématiques au collégial.* Essai de maîtrise, Faculté d'éducation, Université de Sherbrooke.

Shi, H. (2017). Learning Strategies and Classification in Education. *Institute for Learning Styles Journal*, 1, 24-36.

Schmeck, R. R. (1988). An Introduction to Strategies and Styles of Learning. In: Schmeck, R. R. (dir.). *Learning Strategies and Learning Styles*, 3-19, New York: Plenum Press.

Schmeck, R. R. & Meier, S. T. (1984). SeIf-reference as a learning strategy and a learning style. *Human Learning*, 13, 9-17.

Schunk D. H. & Zimmerman B. J. (1994). Self-Regulation of Learning and Performance: Issues and Educational Applications. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Simsek, A. & Balaban, J. (2010). Learning Strategies of Successful and Unsuccessful University Students. *Contemporary Educational Technology*, 1(1), 36-45.

Stern, H. H. (1975). What Can We Learn from the Good Language Learner? *The Canadian Modern Language Review*, 31(4), 304-319.

Tardif, J. (2006). *L'évaluation des compétences : documenter le parcours de développement*. Montréal, Québec : Éditions de la Chenelière.

United Nations (2020). "COVID-19 and Higher Education: Venezuelan University Works to Protect First Responders". Website: https://www.un.org/en/academic-impact/covid-19-and-higher-education-venezuelan-university-works-protect-first-responders (28.10.2021)

Weinstein, C. E. (1996). Learning how to learn: An essential skill for the 21st century. *Educational Record*, 77, 48-52.

Weinstein, C. E. & Hume, L. (1998). *Study strategies for lifelong learning*. Washington, DC: American Psychological Association.

Weinstein, C. E., & Underwood, W. L. (1985). Learning strategies: The how of learning. In: Segal, J. W., Chipman, S. F. & Glaser, P. (Eds.), *Thinking and learning skills: Relating instruction to research,* 1, 241-258. Hillsdale, N.J: Lawrence Erlbaum.

Wenden, A. (1991). Learner Strategies for Learner Autonomy. Englewood Cliffs, NJ: Prentice Hall.

Wolfs, J.-L. (1998). *Méthodes de travail et stratégies d'apprentissage.* Bruxelles, Belgique : De Boeck.

World Health Organization (2020). "Archived: WHO Timeline - COVID-19". Website: https://www.who.int/news/item/27-04-2020-who-timeline---covid-19 (25.10.2021)

Zimmerman, B. J. (1990). Self-Regulated Learning and Academic Achievement: An Overview. *Educational Psychologist,* 25, 3-17.