



# A qualitative analysis on the use of self-regulated learning strategies

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## Abstract

The transition of responsibility for learning to the student has been one of the current era's frequently debated expertise. In this sense, self-regulation skills, which are not limited to education and academic life, have become an essential infrastructure. This article's objective was to explore self-regulatory learning strategies (SRL) by high school students, essential for lifelong learning, from students' perspectives. Semi-structured interviews with 20 high school students were conducted in this phenomenological research. The responses were coded and analysed by using content analysis. The results were discussed in the light of the literature, presented under 4 headings according to the stages in Winne's Four-Stage Self-Regulated Learning Model. These stages are *Job Description*, *Setting Goals and Planning*, *Performance*, and *Evaluation*. In the first stage; the success, incompetency and interest in the subject, the importance and the field of the lesson, the ease and the difficulty of the lesson was practical according to the students, and personal factors are also influential in determining high school students' priorities toward their academic responsibilities. In the second, students expressed their viewpoints on creating a plan in priority order by focusing on lessons and homework. In the third one, students attempt to control their actions by identifying the techniques and tactics they use to accomplish the goals they want to achieve. Regarding assessing their academic performance in the last stage, it is understood that external factors such as the learning environment, the distance learning process, and parental control are essential.

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## 1. Introduction

The most distinctive characteristics reflecting the individual in the lifelong developmental process is behaviours. The acquisition of behaviours begins during childhood. Early acquisition process is associated with sound and persistent behaviours. Each experience, moment and knowledge pave the way for finding oneself. Such self-

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discovery process allows individuals to get to know their control instinct. This instinct is realised through *self-regulation*, which means an effective process including individuals' controlling their cognitions for *behaviours, motivations and learning* in line with a specific goal.

Just like all other school-age students going through examinations and intense flow of knowledge in almost all areas of the life, high school students are also a major element of these processes. It is of great importance for them to make strategic plannings while going through such challenging and intense times. Especially their high school years play an active role in their transition to their further education and professional life, as well as in these stages where they will direct their lives from their individual perspectives. In this process, which continues towards these stages, their activities will also be associated with both academic and course achievements. Therefore, it is seen that it is necessary that students be competent in term of self-regulation skills and strategies and acquire such skills and strategies in right time so that they can be competent and successful. Within this scope, in this study, it was aimed to analyse self-regulated learning strategies (SRL) based on student views in terms of their use by high school students, which are also important for lifelong learning. The research questions determined in line with this aim has been presented below:

What are the views of high school students in relation to;

- *self-motivation* for learning and coping with *undesired emotions* related to learning?
- *taking action* for learning?
- *setting learning goals* and *planning learning process*?
- *use of strategies and tactics* during learning process?
- *their evaluations* on learning process?

Self-regulated learning is not only associated with the school life but also is an important outcome in terms of lifelong learning. As a matter of fact, students with self-regulation skills in educational environment, instead of relying upon the objects around them, believe in themselves and make the planning for learning process by themselves. In addition, they try out different methods and use the strategies they find appropriate. Therefore, students learning in this way can control necessary learning process for achieving the goals they set. Within this context, identifying self-regulated strategies that students use during studying based upon subjective experiences of high school students is considered to serve an important infrastructure for further necessary arrangements in relation to educational environments and learning and teaching processes.

### *1.1. Conceptual and theoretical framework*

Self-regulation is an active process enabling individuals to control themselves in all cognitive, behavioural and motivational processes. They need skills and strategy

formations that will enable them to activate such control and develop and advance their attitudes during the process. These self-regulation strategies are entirely based on interests and skills that include the individual's own self-integrity, emotions and behaviours, social-cognitive processes and the potential to adapt. Formation and acquisition of these strategies are very important in terms of individuals' being active and process-compatible in all these areas (Kaplan, 2020).

Self-regulation, which is observed to be important in terms of academic achievement and scholastic aptitude, has been modelled by being defined within many theoretical frameworks. Considering it within this scope, it is seen that self-regulation is defined in the literature in different ways as follows: *"setting goals, developing strategies to realise these goals and supervising outcomes"*, *"an active and constructive process where learners set their own learning goals, try to regulate their cognitions, motivations and behaviours and where they are directed and limited by their goals and contextual features in their environments"*, *"learner's being aware of the factors influencing his/her motivation to learn and take responsibility"*, *"Learner's effort to control and manage complex learning activities"*, *"learners' ability to participate actively in learning process in terms of cognition, motivation and behaviours"*, *"to produce the thoughts and feelings that a person needs for learning and motivation, and to plan their actions in line with these feelings and thoughts, and systematically implement them"* (Yalçın Tepe, 2017). Although there are differences in conceptualisations, it is based on revealing the motivation levels of students. In this context, the focus of research on self-regulation skills in the literature has been academic studies, social and motor skills (Cited by Eken in 2017:60 from Schunk 2005)

Examining the literature, it is observed that behavioural self-regulation strategies are effective in the development of early literacy in children's social skills and problem behaviours (Montroy, Bowles, Skibbe & Foster, 2014), that as a result of the teaching based on self-regulation, students with learning disability developed improved qualifications comparing with their original qualifications (Chalk, Burke & Burke, 2005), and that academic achievement is highly associated with self-regulation skill (Cheng, 2011).

Based on Bandura's social cognitive theory, many different conceptualisations of self-regulated learning (SRL) emerged in the literature with many different models of the related construct (Kanfer, 1970; Boekaerts, 1996; Pintrich, 2000; Zimmerman, 1998). The theoretical basis of this research is Winne's (1996) *Four-Phase Self-Regulated Learning Model*, which is put forward based on many theories and theoreticians and deals with self-regulation from the perspective of metacognition. In this model, self-regulated learning consists of four phases: (i) **task definition phase**, which includes the student's definition and perception in relation to a given task; (ii) **goal setting and planning**, which includes setting a learning goal and making a planning for that goal; (iii) **performance phase**, which includes strategies and tactics used to achieve the set goal; (iv) **evaluation phase**, which includes student's evaluation on his/her own learning at the metacognition level.

There is no consensus on the basic components of self-regulated learning, which have been researched with increasing popularity since the 1980s and their association with other fields (Zeidner, Boekaerts & Pintrich, 2005). However, since Winne's (1996) examination of all learning stages (such as monitoring, control, task definition and goal setting) of the complex cognitive construct of self-regulated learning by individual phases contributed to the SRL literature substantially (Greene & Azevedo, 2007), this research is based on the theory of Winne (1996).

## 2. Method

### 2.1. Research Model

In this study, which aims to analyse self-regulated learning strategies (SRL) based on student views in terms of their use by high school students, phenomenological method has been used, which is one of the qualitative research methods. Phenomenological method, which is based on the subjective experiences of the participants (Denzin & Lincoln, 1998) aims at conducting in-depth analysis of individuals' attitudes, perceptions or opinions (Büyüköztürk, Çakmak, Akgün, Karadeniz, Demirel, 2018). Data is presented using participants' own expressions (Patton, 1980), which allows in-depth analysis of structures that may be overlooked in a quantitative pattern (Slaney, Chadha, Mobley & Kennedy, 2000).

### 2.2. Research Group

Participants to be included in the research group of the study were selected with *maximum varying sampling* being one of the purposive sampling methods. With this, it was aimed to reveal and describe constructs with many variants related to self-regulated learning strategies (Neuman, 2014). Examining demographics of 20 high school students in the research group, it is seen that majority of the participants study in Anatolian High School (75%), are 17 years old (50%) and 11<sup>st</sup> grade students (45%). In addition, participants appear to have an equal distribution in terms of gender. The reason that the participants are mostly Anatolian High School students can be explained as the majority of high school students in our country are studying in Anatolian high schools (55%) (MoNE, 2020).

### 2.3. Data Collection Tools

In this study, *the interview method* was used to collect data as suggested by Büyüköztürk, Çakmak, Akgün, Karadeniz and Demirel (2018) to be used within the scope of phenomenological model. Within this scope, expert opinions were obtained for the semi-structured interview form prepared for the purposes of the research (n=3), and in line with the feedback received relative revisions were reflected on the form. After the preparation of the draft form, a pilot application was carried out on a similar sample group (n=5); however, the data obtained from this group was not included in the analyses. Before the

data collection process, research application authorisations were obtained (Ethics Committee of Publication and Research for Social Sciences in Afyon Kocatepe University, Decision dated 20.11.2020 numbered 2020/215).

#### *2.4. Data Collection*

The interviews were conducted via teleconference programmes due to ongoing COVID-19 pandemic during the data collection as it would be most appropriate in terms of health and safety. Participants were informed about the purposes of the research before the interviews, the fact that they could withdraw from the research at any time they wanted, and their consents were obtained for audio recording of the obtained data in the digital environment. Thereafter, interviews were held with the participants providing their consents. It was seen that interviews took in average 30-40 mins., the data obtained were cleared of personal information and assigned codes and transcribed in a MS Word document to the letter. Then, they were submitted back to the participants for their confirmation on their responses.

#### *2.5. Data Analysis*

Data obtained through semi-structured interviews were analysed with content analysis method (Mayring, 2000). The data were analysed in line with the steps of the analysis suggested by Mayring (2000). In data analysis, MS Excel programme was used, and researchers were cooperated with for data transcription and analysis. While creating the coding scheme, care was taken to ensure that the categories were appropriate for the purpose, comprehensive but not including each other, as suggested by Schilling (2006). During the analysis, it was seen that participants used more than one learning strategy to achieve their learning goals. Within this scope, as the aim was to identify all strategies informed by the participants, the number of the expressions were coded. To ensure reliability among evaluators, all coders coded all the data individually. After finalising the codes, the percentage of agreement was calculated based on the formula suggested by Miles and Huberman (1994), and the resulting percentage was determined as 92%. Findings were presented in accordance with the phases included in Winne's *Four-Phase Self-Regulated Learning Model*.

With a view to ensuring conclusiveness and consistency of the findings obtained from the research, the strategies suggested by Yıldırım & Şimşek (2018) were followed. To ensure *conclusiveness*, participants' confirmation was sought, detailed descriptions were used in relation to data analysis and finding presentation processes. To ensure *consistency*, two researchers conducted data analysis individually, held meetings about codes and themes, and data analysis continued until they reached a consensus.

### 3. Results

Results have been presented under 4 headings in accordance with the phases included in Winne's *Four-Phase Self-Regulated Learning Model*.

#### 3.1. Results Related to "Task Definition Phase"

Under "Task Definition Phase" category, student views on *motivation and coping with undesired emotions* and *taking actions* during fulfilment of academic tasks were included. Themes, sub-themes and codes created based on student views as well as their frequencies have been provided in Table 1, then results included in each and every theme have been presented in direct quotations from student views.

Table 1. Student Views on "Task Definition Phase"

Theme	Sub-Theme	Code and (f)
Priority Analysis of the Task	<i>Nature of the Course</i>	State of paving the way for achievement of dreams / goals (5)
		Domain course (4)
		Difficulty/ease of task (3)
	<i>Competency in the Course</i>	Success Status (4)
		Lack of knowledge on subjects (4)
		Interest in the course (2)
	<i>Personal Factors</i>	Having a scheduled programme (3)
		Peer /friend Support (1)
		Dreams (1)
Action for the Task	<i>External Factors</i>	Having a good future (7)
		Being successful (3)
		Awareness of education (2)
		Obligation to receive education (2)
		Parental Support (1)
		Education system (1)
	<i>Internal Factors</i>	Will to acquire a profession (1)
		Future dreams/plans (5)
		Knowledge/self-improvement (3)
		Being useful (3)
	<i>Internal Factors</i>	State of interest (1)
		Curiosity (1)
	<i>Internal Factors</i>	Will to do research / produce (1)

##### 3.1.1. "Priority Analysis of the Task" Theme

Student views on the factors creating priorities related to a given academic task before their efforts to learn have been included under three sub-themes, namely "*Nature of the Course*", "*Competency in the Course*", "*Personal Factors*".

Under "*Nature of The Course*" sub-theme, there are student views on how the relevant course makes sense to them in determining their priorities among their academic tasks. In

this context, it was seen that situations such as whether the course was a domain course and the ease or difficulty of the course were effective.

*"I put the tasks that will carry me to my dreams first " (P5). "I make progress based on the programme we have created, which includes mostly my domain courses and missing subjects, and I set the time schedule accordingly." (P15) "I make the planning from the hardest to the easiest." (P16)*

It is seen that students expressed their views related to their competencies in the given course in terms of prioritising their academic tasks under the sub-theme of **"Competency in the Course"**. In this context, it is seen that students focused on such matters as whether they were successful in the course, whether they were lacking knowledge in the subject, whether they were interested in the course.

*"I give priority to the subjects requiring harder study." (P2) "I start with the subject I like, after focusing my attention, I move on based on the importance of the subjects." (P19) "I can focus my attention to studying by giving priority to the subjects I enjoy studying." (P20) "I start with the lessons I am better at by giving priority to them. The same goes for mock exams, too. I start with solving the questions of the lessons I am better at." (P13)*

Under **"Personal Factors"** sub-theme, it is seen that personal factors were effective in determining high school students' priorities on academic tasks. In this context, it is seen that students expressed the impact of having a concrete study plan, supportive friends and the task at hand in achieving their dreams.

*"I'll take care of what I'm responsible for as a priority, and I'll do the rest later." (P3) "First of all, I'm disciplined, and I don't fall behind my schedule." (P10) "My priority is to create a specific programme. In this regard, a very close friend and I always create a programme in accordance with the decisions we make jointly." (P17) "I put the tasks that will carry me to my dreams first " (P5).*

### 3.1.2. "Action for the Task" Theme.

Student views on factors bringing them into actions have been categorised under two themes, namely **"External Factors"** and **"Internal Factors"**.

Under **"External Factors"** sub-theme, it has been seen that situations that encourage high school students to learn are based on external factors. While these factors were often expressed as having a good future, being successful, being aware of the necessity of education, some of the students stated that they were obliged to receive education, they could only take an action in relation to learning due to their parents' support and that they wanted to acquire a profession and the education system left them no other choice.

*"I think about my future life, which brings me into action." (P4) "The position that I see myself in the future". (P20) "I am obliged to learn cultural lessons for university, but I am very good at my own domain courses, I am learning to be a very good graphic designer".*

(P6) "I want to have a profession to be able to become at better positions". (P14) "My awareness of the power of learning and science." (P10) "I think about the fact that I have to." (P13). "I become eager to learn with the support of my parents." (P17) "Bitter conditions and terrifying education system in Turkey." (P18)

Under "**Internal Factors**" sub-theme, it has been seen that situations that encourage high school students to learn are based on internal factors. In this context, it is observed that students wanted to improve themselves, aimed to be of some use to others and expressed their dreams of the future. However, some students expressed that they found learning interesting, that they were curious and that they wanted to do research and produce.

"Thinking about my dreams drives me". (P2) "At times, I want to get knowledgeable like crazy, this is a momentary situation and depends on my mood." (P8) "Since human beings are beings of reason and will, we need to be able to produce something and develop ourselves in light of dozens of things we consume. Therefore, we need to add more pieces of knowledge to our own. Accordingly, we can always learn our knowledge and add another layer on it." (P15) "If there is something in the lesson I will learn that interests me or I like, then I desire to learn that lesson." (P17). "The idea that learning is what will contribute to a person." (P3) "Sense of curiosity and research" (P11) "My future dreams and plans." (P16)

### 3.2. Results Related to "Goal Setting and Planning Phase"

Under the category of "Goal Setting and Planning Phase", there are student views in relation to *setting goals for learning by organising studying environment and the learning process* during the process of fulfilment of academic tasks. Themes, sub-themes and codes created based on student views as well as their frequencies have been provided in Table 2, then results included in each and every theme have been presented in direct quotations from student views.

Table 2. Student Views Related to "Goal Setting and Planning Phase"



Theme	Sub-Theme	Code and (f)
Organisation of Learning Environment	<i>Organisation</i>	Quiet environment (10)
		Neat environment (7)
		Distraction-free environment (7)
		Bright (3)
		Environment away from technological tools (3)
		Clearing mind
		Unorganised (2)
		Clean (2)
Planning Learning	<i>Nature of the Course</i>	Based on time (1)
		Course / assignment oriented (9)
		Domain courses (2)
	<i>Psychological</i>	Based on importance (2)
		By staying calm (3)
	<i>Learning strategies</i>	Keeping dream profession in mind (1)
		Making preliminary preparations (4)
		By setting limits (4)
		Having no studying pattern (4)
		Listening to the lecture during course hours (2)
		By reminders (2)
Setting Goals for Learning	<i>Competence related to the Course</i>	Trial and error method (1)
		Doing research (1)
		Based on success (5)
		Arbitrary (4)
	<i>Nature of the Course</i>	Presence or absence of enjoyment (3)
		Taking mock exams (1)
		Based on learning (11)
		According to the importance of the course (4)
	<i>Nature of the Course</i>	Efficiency status (2)
		Based on environmental factors (1)
		Level of ease / difficulty (19)

### 3.2.1. "Organisation of Learning Environment" Theme

Student views on the factor they give importance to with a view to organising their learning environments and creating an ideal studying environment have been categorised into the sub-theme of "Organisation".

Under the sub-theme of "**Organisation**", it has been seen that students put an emphasis on quiet, neat, distraction-free, bright and clean environment as well as an environment away from technological tools.

"I take care to be in a quiet and calm environment." (P8). "I prefer noise-free environments." (P12). "I organise the environment to make it quiet and comfortable and not messy." (P20) "A completely clean, pure, light-coloured table, books and a single monitor if the light comes from left or right " (P18). "I only keep the books of the course that I am to study, nothing else, so, I don't get distracted." (P19) "I organise my studying environment by removing things that may distract me and keeping it clean." (P17) "I don't really prefer to get up because I'm a person who gets bored very quickly when I'm studying, or else I will

*find myself buried in the phone.” (P6). “Actually, I don't really do much. I study without making any changes to the usual order without caring about any distractions” (P13).*

### 3.2.2. "Planning Learning" Theme

Student views on what they give importance to while organising their learning processes have been categorised into three themes, namely *"Nature of The Course"*, *"Psychological"* and *"Learning Strategies"*.

Under the sub-theme of *"Nature of The Course"*, students expressed their views that they planned their studies by prioritising courses and assignments based on their importance while organising their learning /studying processes.

*"Depending on the course, I try the easiest ways.” (P8) "First, I do my homework, and then I study and prepare for the next day's lessons.”(P10) "I study everything, but the subject and lessons that are related to my dream profession come first. Science and math courses always take priority.” (P1) "I study harder for my domain courses” (P2) "I put things in order based on importance and time, depending on whichever one that takes precedence over in terms of quality, I go by that first” (P16).*

Under the sub-theme of *"Psychological"*, it is seen that there were some cases where students needed to control themselves and gave place to their own priorities in the planning of their academic tasks.

*"I study in a place where I can focus on my lessons by staying calm.” (P4). "It depends totally on my free time, whenever I am free, then I don't have to trouble myself.” "I study everything, but the subject and lessons that are related to my dream profession come first.” (P1)*

Under the sub-theme of *"Learning Strategies"*, it has been seen that students had their methods which were more appropriate and effective for them in planning of their academic tasks.

*"First, I do my homework, and then I study and prepare for the next day's lessons.”(P10) "I usually make my plan daily in the morning, and I arrange what I will do that day in the morning. Therefore, I can actually be planned and programmed. Then I act according to my schedule” (P15). "I make a studying plan equivalent to the subjects we cover in the extracurricular courses.” (P11). "As I don't study much, I don't have a studying pattern. I am person who can learn the lesson during the lecture. Therefore, only in cases when I think that I have some missing knowledge, then I watch video lectures to complete the missing knowledge and I take notes.” (P13) "I take notes and hang them somewhere I can see.” (P7) "Only in cases when I think that I have some missing knowledge, then I watch video lectures and take notes.” (P13) "I put things in order based on importance and time, depending on whichever one that takes precedence over in terms of quality, I go by that first” (P16). "I*

*review the day's lesson and make practices on it, but I do it 1 - 2 hours after coming from school instead of right after arrival." (P17)*

### 3.2.3. "Setting Goals for Learning" Theme

Student views on what they give importance to while organising their learning processes have been categorised into two themes, namely "*Competence related to the Course*" and "*Nature of the Course*".

Under the sub-theme of "*Competence related to the Course*", it has been seen that students' views of their own learning ability and their competence in the relevant course had an impact on setting goals that they wanted to achieve. In this sense, it has been understood that making an effort, being successful, being interested in and enjoying a course had an impact on setting goals in the learning process for students.

*"I already try to do my best for the courses of my department." (P6) "I set goals according to my status of success." (P7) "I start with a goal where I can best and efficiently apply the knowledge I have learned." (P16) "Looking at the extent of knowledge as a result of what I have learned, I set my goal in relation thereto." (P20) "I set by considering the goals that I will enjoy doing." (P3) "I set by testing myself" (P17)*

Under the sub-theme of "*Nature of The Course*", it has been seen that high school students expressed views on what courses mean for the learning process and themselves when setting goals they wanted to achieve. In this sense, it has been determined that the students shaped their learning goals by evaluating the meaning, efficiency as well as difficulty / ease of the course.

*"After learning, my goal becomes clear." (P8) "According to the capacity of the knowledge I have" (P18). "I already try to do my best for the courses of my department. But it is different for my culture courses." (P6) "After evaluating in my own way how efficient the subject, lessons, assignments I have learned or quizzes I have solved are, I decide upon the goals." (P14). "I set goal based on the difficulty of a subject." (P19)*

### 3.3. Results Related to "Performance Phase"

Under the category "Performance Phase", student views are included on *focusing attention, concentration and facilitating learning and making it permanent* during the process of fulfilment of academic tasks. Themes, sub-themes and codes created based on student views as well as their frequencies have been provided in Table 3, then results

included in each and every theme have been presented in direct quotations from student views.

Table 3. Student Views Related to "Performance Phase"

Theme	Sub-Theme	Code & Frequency
Focusing Attention	<i>Behavioural Strategies</i>	Not diverting focus (11)
		Quiet environment (6)
		Being alone (6)
		Avoidance (6)
		By motivating (4)
		By adapting
		Nothing (2)
		Staying away from technological tools (1)
		Giving breaks (1)
		Getting medication support (1)
Making Learning Effective	<i>Cognitive strategies</i>	Doing research (1)
		Reviewing subjects (7)
		Solving questions (7)
		Watching videos (5)
		Writing down / taking notes (3)
		Regular studying pattern (3)
		Learning future subjects (3)
		Focus (3)
		By doing research (1)
		Memorisation (1)
		Listening to the lecture during course hours (1)
		Visual / Sensory Learning Techniques (1)
		Coding (1)
		Reading (1)
Facilitating Learning	<i>Emotional self-regulation strategies</i>	Calmness/ Relaxation (1)
		Being Patient (1)
	<i>Behavioural Strategies</i>	Listening to the lecture during course hours (4)
		Reviewing subjects (4)
		Watching videos (4)
		Taking notes (4)
		Benefiting from examples / explanatory remarks (3)
		Quiet / calm environment (3)
		Nothing (2)
		Setting studying hours (1)
		Distancing from out-of-focus factors (1)
		Clearing mind (1)
		Reading (1)
		Solving Questions (1)
	<i>Cognitive strategies</i>	Coding system (2)
	<i>Psychological strategies</i>	Making Efforts / Striving (4)
		Joining it with an enjoyable activity (2)
Making Learning Permanent	<i>Cognitive strategies</i>	Complaint/Acceptance (1)
		Reviewing subjects (11)
		Reminder notes (5)
		Solving questions / tests (2)
		Making an activity out of it (2)
		Enjoyment during studying (2)
		Coding (1)
		Efficient use of time (1)
		Nothing (1)
		Doing research (1)
		Listing (1)
		Studying by Speaking / through Narration (1)
		By practicing (1)
		Audio-visual Techniques (1)

### 3.3.1. "Focusing Attention" Theme

Student views on what strategies they resort to with a view to avoiding distraction and to focusing while organising their learning processes have been categorised into the sub-theme of *"Behavioural Strategies"*.

Under the sub-theme of *"Behavioural Strategies"*, it has been seen that high school students tried to manage their behaviours in terms of determining the strategies and tactics they implemented with a view to achieving the goals they wish for. In this sense, it has been understood that students tried to get motivated by avoiding distractions and staying in a quiet environment, alone and away from technological devices.

*"I keep all those things that will distract me at a distance." (P3) "I imagine as if there is no one near me but only a task needs attending to." (P8) "I don't keep anything in my mind and I focus on the lesson." (P10). "I close my eyes, I just think about what I'm studying on at that very moment." (P11). "In a quiet environment, I make sure the door is closed " (P9). "I keep people away from me, listen to music and start to do my assignment with a calm mind. Concentration is easier in this way." (P6) "If there is an object in my studying environment that will distract me, I will remove it and focus on what I will do." (P17). "I focus only on that very subject and do not let any other thing distract me until I'm done." (P19). "I listen to music and start to do my assignment with a calm mind. Concentration is easier in this way." (P6)*

### 3.3.2. "Making Learning Effective" Theme

Student views on what strategies they use to make learning effective while organising their learning processes have been categorised into two themes, namely *"Cognitive strategies"* and *"Emotional self-regulation strategies"*.

It has been concluded under the sub-theme of *"Cognitive Strategies"* that high school students developed various cognitive strategies especially such as reviewing subjects, solving questions, watching video lectures, taking notes and focusing with a view to achieving their course and academic tasks.

*"I review subjects and study hard on them as well as solving test questions." (P4) "I review subjects and watch videos related to the subjects." (P5) "I don't let go of what I have learned, I put them into practice." (P16) "I watch video lectures on subjects or lessons I study apart from the lectures of my teachers, having supplementary lectures this way is better." (P14) "I take advantage of elements that I can use visual and sensory memories together." (P18). "I try to learn by thinking about what's going to happen next." (P12). "I give all my attention to what I will learn." (P3). "I review subjects and do research about them." (P17) "I take advantage of elements that I can use visual and sensory memories together." (P18). "I code what I have learned through my own interpretation, which is more effective." (P20)*

Under the sub-theme of *"emotional self-regulation strategies"*, it has been observed that high school students developed strategies for regulating their emotions such as

calming down, relaxing and being patient during the process of achieving their course and academic tasks.

*"I try to learn with a free mind. If I can't free my mind, I write a lot." (P6) Both supplementary resources and lectures are very tiring processes. I don't even know how many pieces I have fallen apart to, but the hope that all will end well makes me happy. I mean that I solve mock test questions frequently, listen to video lectures, and devote myself to my studies as much as I can and stand the gaff." (P15)*

### 3.3.3. "Facilitating Learning" Theme

Student views on what strategies they use to make learning effective with a view to achieving their learning goals have been categorised into three themes, namely "*Behavioural strategies*", "*Cognitive Strategies*" and "*Psychological strategies*".

Under the sub-theme of "***Behavioural Strategies***", it has been understood that high school students developed various behavioural strategies especially such as focusing on the course, reviewing subjects, watching video lectures, taking notes, studying in a quiet environment and striving for concentration with a view to facilitating learning.

*"I give importance to listening to the lessons carefully." (P9) "There isn't much I do, I learn the lesson during the lecture, then I solve questions, I deepen my knowledge through question solving." (P13) "I read repeatedly and take notes." (P7) "If there is a subject that I don't understand, I consult with my teacher for a repetition or watch video lectures." (P17) "I watch short and concise videos and write reminder noters." (P8) "I work in a quiet environment by taking notes." (P12). "I hang out in quiet environments and read a lot of books." (P5)*

Under the sub-theme of "***Cognitive strategies***", it has been observed that high school students used the coding method in order to facilitate learning.

*"I study by making associations with daily life, for example through coding based on my own interpretations." (P19)*

Under the sub-theme of "***Psychological strategies***", it has been concluded that high school students applied some psychological methods such as striving, tending towards the things they like as well as complaining and accepting.

*"I try to do my best to the extent possible." (P1) "If there is a subject that I don't understand I won't let it go until I understand. I consult with my teachers and friends, watch videos, strive until I learn. As for facilitating, I learn easily in general in the morning whenever I get up early, so I get up early in the morning and study." (P15) "I join it with the things I like." (P16) "Most of the time, I don't do anything because it won't be easy in any way, it's*

*very difficult to be obliged to learn the lessons that we don't want to and that won't help in real life." (P6)*

#### 3.3.4. "Making Learning Permanent" Theme

Student views on what strategies they resort to with a view to making learning permanent with a view to achieving their learning goals have been categorised into the sub-theme of "*Cognitive Strategies*".

Under the sub-theme of "**Cognitive Strategies**", it has been understood that high school students developed various cognitive strategies especially such as reviewing subjects, using reminder notes, solving questions, coding and practice with a view to facilitating learning and making learning permanent.

*"I review the subjects frequently to make them permanent." (P3) "Constantly reviewing and enjoyment during studying ensure permanence better." (P8). "The same goes for it, too, by studying the subject harder, by listening to the lesson during the lecture and reinforcing the knowledge through question solving." (P13) "The same here, as well, by trying to keep the knowledge acquired during lecture alive, then supplementing review of subjects through audio-visual methods." (P20) "I put up various notes where I can see to make it permanent." (P7) "I try to take brief and simple notes." (P12) "I make an activity out of it." (P16) "Putting theoretical knowledge into practice through using it in my daily life makes it more permanent. For example, mental math problems are solved practically during a grocery shopping, which makes it permanent." (P17) "Constantly reviewing and enjoyment during studying ensure permanence better." (P8). "Frankly, I don't use anything." (P18) "If there is something interesting about a given subject, I do research about them. For example, while studying authors and their works in the literature, I do research about the interesting things in the lives of the authors." (P19)*

#### 3.4. Results Related to "Evaluation Phase"

In the category of "Evaluation Phase", student views on their evaluations of their academic performances related to learning processes are included. Themes, sub-themes and codes created based on student views as well as their frequencies have been provided in Table 4, then results included in the given theme have been presented in direct quotations from student views.

Table 4. Student Views on "Evaluation Phase"

Theme	Sub-Theme	Code & Frequency
Evaluation of Academic Performance	<i>External</i>	Environmental factors (5)
		Distance education (3)
		Parent factor (1)
	<i>Internal</i>	Goal-oriented progress (5)
		Settling for less (4)
		Striving (4)
		Self-motivation (4)
		Perseverance/Ambition (3)
		Reluctance (3)
		Being indifferent (3)
		Wishing for better (2)
		Studying hard (2)
		Change of environment (1)
		Failure to sustain (1)
		Participation in the course (1)

### 3.4.1. "Evaluation of Academic Performance" Theme

Student views on what they give importance to while organising their learning processes have been categorised into two themes, namely "*External*" and "*Internal*".

Under the sub-theme of "***External***", it has been understood that high school students mentioned external factors such as learning environment, distance learning process and the influence of parents while evaluating their academic performances and learning processes.

*"I think that my teachers and my participation in classes have an impact." (P17) "People in my circle, seeing them in good places in the end." (P19) "I can consider it moderately good, I have difficulty due to online education." (P7) "My average is low because of a terrible education system, as a result completely of inefficacy of distance education." (P18) "I think that my current situation is moderately good, there are times when I experience low performance and mood. The reason is both the process I go through and boredom." (P20) "Whenever I feel low in the mood, my mother reminds me that I am tired only of walking and that I don't feel down" (P6) "I can consider it moderately good, I have difficulty due to online education." (P7)*

Under the sub-theme of "***Internal***", it has been concluded that high school students take into account internal factors such as goal-oriented progress, setting for less, striving, being motivated, being ambitious, reluctance, being indifferent and wishing for better.

*"I study to the extent it will suffice for the profession I want, but I can do better" (P9) "Since my goal is high, I have yet to reach out the level I want." (P11) "My current performance can go down necessarily. I am a person who can be motivate him/herself from time to time. So, when I notice that I am about to lose the grip, I set limits to myself and try to put things back on track." (P15) "I can be more diligent for the better." (P1) "I study to the extent it will suffice for the profession I want, but I can do better" (P9) "I think that my*



*academic standing is currently bad. I was late to discover that the academic situation in high school was different from that in secondary school. I don't feel like studying, which bothers me even more. I guess my current academic standing is like this because of the fact that I have been lax in the high school environment." (P13) "My current academic performance is neither so good nor so bad, that is to say, I am on a moderate level. The reason for it is that no matter how hard I try to have a scheduled studying order, I cannot sustain the order. Besides, with the influence of the environmental factors, I procrastinate continuously and become disinterested in all that accumulated work later." (P14) "I cannot study without stressing myself out." (P16) "I am successful as I study frequently and regularly." (P19)*

#### 4. Discussion

In this study, it was aimed to analyse self-regulated learning strategies (SRL) based on student views in terms of their use by high school students, which are also important for lifelong learning. For this purpose, views of high school students on *motivation, coping with undesired emotions about learning, taking action, setting learning goals, planning the learning process, using study tactics and strategies during the learning process and the evaluation of the learning process* have been analysed. The views in question were coded and in accordance with Winne's (1996) Self-Regulated Learning Model, they were analysed under the themes and sub-themes within the scope of categories of "task definition phase", "goal setting and planning phase", "performance phase", "evaluation phase", and presented through tables with the statements of the participants.

It has been seen under the category of "Task Definition Phase" in relation to *motivation, coping with undesired emotions* and *taking action* during the process of fulfilment of academic tasks that high school students had views on setting priorities based on the meaning the course had for them and on their competence in the course. In this context, it has been seen that such situations as the students' success in the course, their lacking knowledge in a subject, their interest in the course, the importance of the course, the status of the course as to whether it was a domain course and the ease or difficulty of the course were effective. It has been also seen that personal factors were effective in determining high school students' priorities on academic tasks, as well. In this context, it has been seen that students expressed the impact of having a concrete study plan, supportive friends and the task at hand in achieving their dreams. Similarly, Throndsen (2011), Cabı (2015), Yumuşak, Sungur and Çakıroğlu (2007) stated that psychological, behavioural and cognitive strategies should be prioritised in order to facilitate learning as well as the process of learning and studying which rely upon self-regulation. Additionally, Goodman

et al. (2011) demonstrated, in their studies, the impact of making an effort with internal and external motivation in fulfilling students' academic goals.

Furthermore, it has been seen that situations that encourage high school students to learn are based on external factors. While these factors were often expressed as having a good future, being successful, being aware of the necessity of education, some of the students stated that they were obliged to receive education, they could only take an action in relation to learning due to their parents' support and that they wanted to acquire a profession and the education system left them no other choice. On the other hand, situations that encourage high school students to learn have been associated with internal factors, as well. In this context, it has been observed that students wanted to improve themselves, aimed to be of some use to others and expressed their dreams of the future. However, some students expressed that they found learning interesting, that they were curious and that they wanted to do research and produce.

Under the category "Goal Setting and Planning Phase", it has been seen that during the process of fulfilment of academic tasks, in relation to *setting goals for learning by organising studying environment and the learning process*, high school students expressed their views that they prioritised certain courses and assignments according to their importance. Additionally, it has been seen that the students' views of their own learning ability and their competence in the relevant course had an impact on setting goals that they wanted to achieve. In this sense, it has been understood that making an effort, being successful, being interested in and enjoying a course have an impact on setting goals in the learning process for students. Additionally, high school students have expressed views on what courses mean for the learning process and themselves while setting goals they want to achieve. In this sense, it has been determined that the students shaped their learning goals by evaluating the meaning, efficiency as well as difficulty / ease of the course. Similarly, Ramdass and Zimmerman (2011) stated that while fulfilling their academic tasks, students developed self-regulation processes such as self-motivation, preventing distraction, focusing, developing behavioural strategies for learning, time management, setting goals and improving performance in line with the goal. In addition, there are also similar studies in terms of problem solving (Kramarski & Gutman, 2005), goal setting (Shunk & Ertmer, 1999) and time management (Vaugman, 2007) strategies. Moreover, strategy use and self-management were expressed as study skills (Deem, 1993; Thomas, 1993).

Under the category "Performance Phase", it has been seen that during the process of fulfilment of academic tasks in relation to *concentration, focusing attention as well as making learning effective, easy and permanent*, high school students tried to manage their behaviours in terms of defining strategies and tactics that they would use in order to achieve their goals. In this sense, it has been understood that students tried to get motivated by avoiding distractions and staying in a quiet environment, alone and away

from technological devices. This study overlaps with the research studies (Dembo & Seli, 2008; Ramdass & Zimmerman, 2011) that emphasise the association between achieving learning goals and academic success and self-regulation skills (motivation, learning strategies, time management, social and learning environment and performance monitoring).

However, it has been also seen that high school students developed cognitive and behavioural strategies to regulate their emotions, such as reviewing subjects, solving problems, watching video lectures, taking notes, calming down, relaxing, trying to be patient, focusing on the course and studying in a quiet environment in order to fulfil their academic tasks. It has also been observed that high school students used the coding method in order to facilitate learning. Students who are able to learn and study want to increase their educational efficiency by using learning strategies (Gettinger & Seibert, 2002) and to understand the learning method (Thomas, 1993) to apply it to other subjects instead of limiting it to a specific subject. Studies that reveal the relation between the study skill and self-regulation skills (Ramdass & Zimmerman, 2011) also support these findings.

Under the category "Evaluation Phase", it has been seen that in order to evaluate their academic performance, high school students mentioned external factors such as learning environment, distance learning process and the influence of parents. There are also similar studies proving that self-regulated behaviours of individuals are influenced by their social and educational environments. (Barnard-Brak, Paton & Lan, 2010; Metallidou & Vlachou, 2010; Azevedo, 2005; Cleary & Zimmerman, 2004; Nota, Soresi & Zimmerman, 2004). Additionally, in this sense, it has been concluded that they consider internal factors such as goal-oriented progress, settling for less, striving, self-motivation, perseverance, reluctance, being indifferent and wishing for more. It was stated that there was an interaction between the individual's self-regulation performance and his/her environmental and internal standards (Pintrich, 1995).

## 5. Conclusions

The answers in the "Job Description Phase" category showed that the success, incompetency and interest in the subject, the importance and the field of the lesson, the ease and the difficulty of the lesson was effective according to the students. It has been observed that personal factors are also influential in determining high school students' priorities toward their academic responsibilities. In this context, it was seen that the students expressed whether they had a determined learning plan, assistance from peers, and the effect of the task on the achieving of their dreams. Organizing the homework/study cycles of high school students in the category "Setting Goals and Planning Phase" it was seen that they expressed their viewpoint how they had created a plan in priority order by focusing on lessons and homework. In addition, it was observed that the opinions of high school students regarding their own competencies and learning characteristics against the

relevant course were effective in determining the goals they want to achieve. In this sense, it was understood that students' striving, being successful, feeling enthusiastic for the lesson and enjoying the lesson were effective in setting goals in the learning process. In the "Performance Stage" category, it has been observed that students are attempting to control their actions by identifying the techniques and tactics they use to accomplish the goals they want to achieve. As regards the assessment of their academic performance in the "Evaluation Phase" category, it is understood that external factors such as the learning environment, the distance learning process and parental control are important.

Causal research on the findings of this study, which aims to analyse self-regulated learning strategies (SRL) based on student views in terms of their use by high school students, can be conducted. Additionally, similar research studies can be carried out with groups that have different levels of education.

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