

EFL Students' Self-Regulated Learning Strategies during the Covid-19 Pandemic

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Received: 11/1/2021

Accepted: 1/10/2022

Published: 1/24/2022

Abstract

In the current contexts of Vietnam, college students are taking entirely or partially online courses due to the spread of the Covid-19 pandemic. Thus, students should develop and optimally employ self-regulated learning strategies for effective learning outcomes. Research also indicates that self-regulation among students is linked to the 21st century skills. With this in mind, the present study attempts to investigate the self-regulated learning strategies of English-as-a-foreign-language (EFL) students from a local university in Vietnam. The study aims to identify EFL students' self-regulation level, correlation between their two cognition knowledge and cognition regulation, and the correlation between their self-regulation level and GPA. Data is collected via a survey questionnaire encompassing two core components of cognition knowledge and cognition regulation. The results show a high level of the involved students' self-regulation, a correlation between their cognition knowledge and cognition regulation, but a gap between their self-regulation level and GPA. On the obtained findings, pedagogical implications are addressed, and further research is suggested.

Keywords: Component, EFL students, self-regulated learning strategies

Cite as: Do, M. H. 2022). EFL Students' Self-Regulated Learning Strategies during the Covid-19 Pandemic. *Arab World English Journal (AWEJ) 2nd Special Issue on Covid 19 Challenges (2)* 22-34. DOI: <https://dx.doi.org/10.24093/awej/covid2.2>

Introduction

The literature over past decades has widely addressed the constructs of *self-regulation*, *self-regulated/directed learning* or *autonomous learning* in education, especially in the field of English as a foreign language (EFL). Self-regulation can be defined as “the process whereby students activate and sustain behaviors, cognitions, and affects that are systematically oriented toward the attainment of their goals” (Zimmerman, Schunk, & Dibenedetto, 2017, p.313), and learners mobilize “both internal and external forces to regulate their learning” (Yang, 2021, p.340). Zimmerman (2002) provided a three-phase model of self-regulated learning: (i) *forethought*, (ii) *performance/volitional control*, and (iii) *self-reflection*. The forethought phase occurs before efforts to learn, including goal setting, strategic planning, and outcome learning expectations, and the performance/volitional control phase occurs when the learner uses different strategies, techniques to self-motivate and monitor the learning processes. Meanwhile, the self-reflection phase takes place when the learner self-evaluates and generates emotional reactions drawing on their learning outcomes, and thereby projecting subsequent learning stages. During each of the three phases a self-regulated learner consciously and thoughtfully self-raises an array of guiding questions (Husman, 2008; Nilson, 2013), such as:

Phase (i) What kind of task is this? What is my goal, and how will I know I have reached it? How can I increase my motivation if it's low? How much time and how many resources will be necessary? What strategies should I use? What strengths can I bring to the task? How can I compensate for my weaknesses?

Phase (ii) Am I sure I know what I am doing? Does my approach to the task make sense? How well are my strategies working? Am I making good progress toward my goal? What changes in practice or strategy should I make, if any? What material is the most important? What material am I having trouble understanding? How does what I am learning relate to what I already know? How does it relate to my experience or my future?

Phase (iii) How well did I achieve my goal? What approach or strategy worked well? What didn't work? What do I need to do differently when taking on a similar task? What were the most important points I learned? What am I still having trouble understanding? What do I need to review? How does what I learned relate to other things I've been learning or have experienced?

On raising such questions mentioned above and during the road of faithfully seeking their ultimate answers, learners are bound to exert their “self-regulatory skills which comprise a wide range of mental arrangements, including motivational, emotional and social allocations determine the effectiveness of cognitive and metacognitive skills” (Amini, Anhari, & Ghasemzadeh, 2020, p.15). They are in the position of selecting and using “self-regulated learning strategies to achieve desired academic outcomes on the basis of feedback about learning effectiveness and skill” (Zimmerman, 1990, p.7). In this regard, educators highlight the importance of cultivating learners' self-regulation because “learners will gain the necessary knowledge and skills by being aware of their learning needs and have the potential to acquire 21st century skills” (Karatas & Zeybek, 2020, p.35) and because “self-directed learning is an essential skill needed in education and can enhance learners' skills throughout their lives” (Bester, 2021, p.3). It is “in the same line with lifelong learning” (Karataş, Şentürk, & Teke,

2021, p.57). As Ontai (2021) underlines the role of self-regulated/directed learning in the current contexts of the global pandemic, “With the onset of Covid-19, online teaching and learning have become the new norm in higher education, placing greater demand on learners to take a primary role in self-directing, self-motivating, self-pacing, and self-assessment in the learning process” (p.1), and Mahlaba (2020) endorses that “being a self-directed learner means taking initiative to learn for one’s intrinsic joy of discovery and development and preparing oneself for the ever-changing world” (p.130). In a similar manner, Atcan (2021) stresses that “learners need to be ready to diagnose their own learning needs, set their own goals, pick appropriate learning strategies, and actively engage in their learning process” (p.298).

Empirically, previous studies have confirmed the benefits of self-regulation training programs for learners and the positive link between self-regulated/directed learning and academic achievements in various specific aspects of EFL education. For instance, in their research among EFL university learners from Iran, Ghanizadeh and Mirzaee (2012) discovered that self-regulation could predict about 53% of learner achievement. Then, one of the significant research findings reported by Diaz (2015) is that metacognitive strategy training has positively contributed to vocabulary acquisition skills, as participants are able to raise consciousness about some learning strategies and the use of metacognitive strategies to increase their vocabulary learning. Likewise, a pre-posttest study by Nosratinia, Ghavidel, and Zaker (2015) documented the positive effects of metacognitive strategy training on EFL learners’ listening comprehension. In the same line, on finding a close relationship between students’ self-regulation levels in learning and their academic success by the results of surveying undergraduate students from two universities in Turkey, Tekkol and Demirle (2018) contended that “Learning how to learn is among the fundamental skills of lifelong learning” (p.2). Meanwhile, investigating the relationship between metacognitive strategy awareness, self-regulation, and reading proficiency among Iranian EFL learners, the study by Amini et al. (2020) revealed that “participants who had higher scores in self-regulation strategies tended to have higher scores on the reading comprehension” (p.14).

Also, Uztosun (2020), surveying 1065 EFL learners via a 20-item scale (of four factors: *task value activation, regulation of learning environment, regulation of affect, and regulation of classroom environment*), showed that changing both in-class and out-of-class settings is essential for self-regulated learners because it creates more opportunities to practice spoken language. Similarly, Teng and Zhang (2020), probing the effects of a self-regulated learning training program for Chinese college students on their EFL writing performances, found that the experimental group outperformed the control group. Likewise, the study by Sun and Wang (2020) on 319 sophomore Chinese students’ English writing indicated that self-regulated learning strategies contributed significantly to the prediction of students’ writing proficiency. Additionally, 24 EFL learners taking part in the listening training program with a range of weekly activities (watching chosen videos, submitting listening logs, posting reflections, etc.) conducted by Yang (2020) in Taiwan, reported their positive attitudes towards the program because it sharpened their self-regulated learning strategies. Recently, Yaghi (2021), investigating the impact of metacognitive online reading strategies on online reading dispositions among 301 Saudi students, remarked that support strategies (such as translating, using dictionaries, or highlighting) were most deployed to facilitate students’ reading comprehension. Meanwhile, 300 juniors and seniors from a college in Yemen took part in a questionnaire survey

by Alotumi (2021). They reflected that they utilized various motivation self-regulation strategies to improve their EFL speaking competence. However, this study found no significant correlation between motivation self-regulation strategies and academic achievements among the students involved.

As seen above, virtually all previous research-based reports acknowledge the substantially attributing role of self-regulated/directed learning strategies on EFL learners' academic achievements/performances and concurrently prepare them "for facing authentic language and get involved in functional tasks" (Nosratinia & Mohammadi 2017, p.165) in the 21st century. However, little is known about the levels of these strategies among EFL learners in the current context of Vietnam, where all undergraduates are taking entirely or partially online/distance courses (instead of the face-to-face ones) due to the spread of the Covid-19 pandemic throughout the country. Furthermore, "learning environments of the 21st century connect different pedagogy and technologies and offer a broad reason to reexamine self-directed learning opportunities" (Karatas & Zeybek, 2020, p.46) and "the COVID-19 pandemic has given learners a chance to take responsibility for their learning by diagnosing their learning needs, setting their own learning goals and executing individualized methods of learning to achieve identified learning goals" (Mahlaba, 2020, p.131). Still, no study on this issue has been done in the university, where the author of this study is working as a tenured faculty member. Thus, he has conducted the present study to seek answers to the three guiding questions: (1) What is the level of EFL undergraduates' self-regulated learning strategies? (2) Is there a correlation between the two components of the target learners' self-regulated learning strategies? (3) Is there a correlation between the target learners' self-regulated learning strategies and their current academic achievements? This study is helpful because it is supposed to provide further relevant information to the existing literature on the role of self-regulated learning strategies in the online learning process of EFL learners, and also give valid pedagogical implications to the EFL teachers from my university and elsewhere. It is also expected to lay premises for future extended research on the concerned issues, especially in Vietnam's current contexts with socio-cultural environments somehow distinct from those of other countries.

Method

Participants

Participants in the present study are 64 EFL undergraduates (17 males and 47 females) from a local university in the Mekong Delta region, Vietnam (to which I have been affiliated as a fulltime EFL lecturer over the past 20 years). The participants are aged between 21 and 22 at the research time (the academic year 2021–2022). They all speak Vietnamese as the mother tongue, and their EFL proficiency is of approximately upper-intermediate level. They come from different parts of their home provinces in the Mekong Delta, and all of them are fourth-year students majoring in the EFL program offered at this university. Since these 64 undergraduates officially enrolled in the researcher's two online-classes of English translation regularly scheduled by the university (Term Fall, 2021), it is convenient for him to collect data in this case.

Instrument

The instrument used to collect data in this study is a 4-point scale questionnaire (42 items, see Appendix A) adapted from the one originally designed by Schraw and Dennison (1994, p.473-474), comprising two major components with eight subcomponents:

(1) *Knowledge of cognition*

- Declarative knowledge (DK): knowledge about one's skills, intellectual resources, and abilities as a learner.
- Procedural knowledge (PK): knowledge about how to implement learning procedures (e.g., strategies).
- Conditional knowledge (CK): knowledge about when and why to use learning procedures.

(2) *Regulation of cognition*

- Planning (P): Planning, goal setting, and allocating resources prior to learning.
- Information Management Strategies (IMS): Skills and strategy sequences used to process information more efficiently (e.g., organizing, elaborating, summarizing, selective focusing).
- Monitoring (M): Assessment of one's learning or strategy use.
- Debugging strategies (DS): Strategies to correct comprehension and performance errors.
- Evaluation (E): Analysis of performance and strategy effectiveness after a learning episode.

Although several similar scales are currently available, the researcher chose this one because it embeds more subcomponents (eight ones) than those found in the other scales. For instance, the scale developed by Fisher et al. (2001) contains only three subcomponents (self-management, desire for learning subscale, and self-control); Ghanizadeh and Mirzaee (2012) measured the participants' self-regulation using a 32-question scale questionnaire of four subcomponents (planning, self-monitoring, effort, and self-efficacy); Tekkol and Demirle (2018) used a 21-item scale of four sub-dimensions/components (motivation, self-confidence; self-control, and self-monitoring); while a 20-item scale of four factors was utilized by Uztosun (2020) as mentioned above and Yaghi (2021) implemented a 38-item scale of three subcomponents (global strategies, problem solving strategies, and support strategies). Also, Boran and Karakus (2022) used a questionnaire scale of 18 items under only one factor component to measure the participants' metacognitive awareness.

Scrutinizing it, the researcher decided to make some minor wording modifications to the original questionnaire scale to suit the participants' socio-cultural contexts and learning setting, e.g., item "*I consider several alternatives to a problem before I answer*" is replaced by "*I consider several alternatives to meet my learning goals*" or item "*I set specific goals before I begin a task*" is replaced by "*I set specific goals before I begin a semester in my learning.*" All the items are positive, and for each item the respondent must choose one out of the four given options ranging from 1=False, 2=Rather false; 3=Rather true; and 4=True. The scale consists of 42 items structured as follows:

Table 1. *Structure of the questionnaire scale*

Components	Subcomponents	Number of items (Total=42)
(1) Knowledge of cognition	Declarative knowledge	5
	Procedural knowledge	4
	Conditional knowledge	5

(2) Regulation of cognition	Planning	5
	Information management strategies	7
	Monitoring	5
	Debugging strategies	5
	Evaluation	6

Data Collection and Analysis Procedures

For ethical concerns, before conducting the study, the researcher obtained the consent from the Faculty Board and the involved students. The researcher briefed the students on the purpose of the survey, contents of the questionnaire, and that the survey results would be reported anonymously without any impact on their current course grades.

To ensure the validity of the questionnaire, the researcher invited two experienced EFL teachers to give their feedback on the questionnaire, which was then piloted randomly with ten students from the target population to ensure that they could fully understand and complete it effortlessly. Next, the e-questionnaire form was delivered to all the EFL students enrolling in the researcher's two online translation classes at the first class session (on two different days, Term Fall, 2021). It took them around 15 minutes to complete the form. All 64 students sent back the questionnaire form at the end of the first learning session. Together with the completed questionnaire form, they also voluntarily indicated their currently cumulative GPA (Grade point average), providing data to answer the third research question addressed above (*Is there a correlation between the target learners' self-regulated learning strategies and their current academic achievements?*).

For data analysis, a scale test was run to check the questionnaire reliability using the Statistical Package for Social Sciences (version 20.0), followed by descriptive statistics tests on the data (with mean scores level: Very high (level 1) =3.6 – 4; High (level 2) =3.2 – 3.59; Upper-medium (level 3) =2.5 - 3.19; Medium (level 4) =2 - 2.49; and Low (level 5) =1.0 – 1.99. These 5 levels correspond exactly to the 5-level academic GPA currently applied in all college education throughout the country (Ministry of Education and Training, Vietnam, 2021, p.10). Then, T-tests were used to compare mean scores between the components and between the full scale and GPA.

Results

The scale test was run to assess the questionnaire scale reliability before further analyses. The Cronbach coefficient alpha computation was $\alpha=.90$. In addition, the one-sample Kolmogorov-Smirnov test showed a normal distribution. Thus, the scale is reliable and valid for analyzing data in detail.

(a) Students' level of self-regulation strategies

Table 2. *Descriptive statistics of the questionnaire scale (N=64)*

Components and Subcomponents	Min.	Max.	Mean	SD
(1) <i>Knowledge of cognition (KC)</i>	2.29	4.00	3.28	.539
- Declarative knowledge	2.20	4.00	3.10	.560
- Procedural knowledge	2.25	4.00	3.29	.570
- Conditional knowledge	2.20	4.00	3.47	.597

(2) Regulation of cognition (KC)	2.21	3.79	3.32	.338
- Planning	2.20	4.00	3.32	.511
- Information management strategies	2.42	4.00	3.22	.541
- Monitoring	2.00	4.00	3.22	.511
- Debugging strategies	2.00	4.00	3.51	.592
- Evaluation	2.00	3.83	3.24	.627
<i>Scale total:</i>	2.34	3.86	3.30	.496

As seen in Table 2, the overall mean score is M=3.30 reaching level 2. At the same level 2 are the cognition knowledge component (M=3.28) and the cognition regulation component (M=3.32). Similarly, all the subcomponents gain a mean score of above 3.00 (out of four) each. At the top of the list is the subcomponent Debugging strategies (M=3.51), followed by Conditional knowledge (M=3.47). In contrast, Declarative knowledge bottoms the list and becomes the only subcomponent falling into level 3 (upper-medium).

(b) The correlation between the two components of the scale

Next a Pearson correlation test between these two components was run, followed by a T-test to compare the mean scores of the two componens. The statistic results are found in table 3 and table 4.

Table 3. Correlation between the two components

Correlations		KC		RC	
(1) KC	Pearson Correlation	1		.533**	
	Sig. (2-tailed)			.000	
(2) RC	Pearson Correlation	.533**		1	
	Sig. (2-tailed)	.000			

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4. Mean comparisons between the two components

		Paired Differences			t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
			Lower	Upper			
-.047	.486	.061	-.168	.074	-	63	.443
					.772		

The computations show that the two components (KC and RC) are significantly correlated with $r=.533$ (with $p=.000 < 0.01$ level). At the same time, their mean scores are insignificantly different ($p=.443 > 0.05$), although the mean score of the knowledge-of-cognition component is a little lower than that of the other component, 3.28 and 3.32, respectively.

(c) The correlation between self-regulated learning strategies and academic achievements (GPA)

Another Pearson test was done to examine the correlation between the total scale means and the GPA of the target students. The statistic results are reported in table 5.

Table 5. *Correlation between total scale means and GPA*

Correlation	Total scale	GPA
(1) Total scale	Pearson Correlation	1
	Sig. (2-tailed)	.093
	Mean	3.30
	SD	.496
(2) GPA	Pearson Correlation	.093
	Sig. (2-tailed)	.467
	Mean	3.30
	SD	.496

Table 5 shows that although the correlation is positive $r=0.093$, it is not statistically significant ($p=.443 > 0.05$). In other words, the target learners achieve a high level of self-regulated learning strategies ($M=3.30$), but they do not gain an equivalent level of learning outcomes ($M=2.49$).

Discussion and Implication

Given the significant role of self-regulated/directed learning strategies and a lack of research on this issue at my workplace university, the present study was conducted to answer three research questions: (1) What is the level of EFL undergraduates' self-regulated learning strategies? (2) Is there a correlation between the two components of the target learners' self-regulated learning strategies? (3) Is there a correlation between the target learners' self-regulated learning strategies and their current academic achievements?

For the first research question, as seen above from table 2, the overall level of the EFL target students is high ($M=3.30$ out of 4.00). It is possibly because they are all fourth-year undergraduates, having been trained at the tertiary education for more than three years and being expected to entirely self-regulate their learning activities on graduating from college in less than one year. Since they are learning English as a foreign language, i.e., the exposure to natural communicative environments of the target language (speaking and listening in particular) is still limited in Vietnam contexts (especially during the Covid-19 pandemic), these students are required to develop their self-regulated learning strategies for obtaining learning outcomes and life-long self-education in the 21st century (Ministry of Education and Training, 2021). It is clearly shown in the study by (Karatas & Zeybek, 2020) that self-directed learning strategies, including self-monitoring, are positively correlated with essential skills of the 21st century. This finding in the present study is in line with that reported by Tekkol and Demirle (2018), revealing the high level of self-directed learning skills among Turkish undergraduates across disciplines (Natural sciences, Social sciences, Health sciences, and Fine arts). The same finding was also recorded in the study by Boran and Karakus (2022), involving gifted and talented school students whose high metacognitive awareness significantly affected their problem-solving skills directly displayed in many creative solutions. Similarly, a high level of motivation self-regulation strategies among Yemeni college seniors was uncovered by Alotumi (2021). Thus, drawing on the first finding of the present study and those of previous research, it can be inductively concluded that self-regulated learning strategies are essentially and beneficially grown with learners' educational advancements over the years across cultures, disciplines, and learning contexts.

The second finding (for the second research question, see table 3 and 4 above) in the present study is that the correlation between the first component of cognition knowledge (declarative, procedural, and conditional knowledge) and the second component of cognition regulation (planning, information management strategies, monitoring, debugging strategies, and evaluation) is firmly applied to this sample group of EFL undergraduates from a local university in current Vietnam's contexts. In other words, these students are not merely aware of self-regulated learning strategies but also put them into practice of regulation, albeit different magnitudes. This symmetric relation between the two components (intellectual operations) is also reported in past research. For instance, the levels of affect regulation and classroom environment regulation to enhance English speaking performances were both high (Alotumi, 2021; Uztosun, 2020). When self-regulated learning strategies increased, there was a positively corresponding increase in reading comprehension skills (Amini et al., 2020; Yaghi (2021), in listening comprehensions skills (Nosratinia et al., 2015; Yang, 2020), and in writing skills as well (Sun & Wang, 2020; Teng & Zhang, 2020). However, the fact that the subcomponent of Debugging strategies gains the highest mean score ($M=3.51$) is first noted in the present study. Thus, it indicates that the target students frequently implement multiple strategies to correct comprehension and performance errors by reviewing, rereading, changing plans, seeking for help, etc. (item 10, 11, 25, 40, and 41, Appendix A). Their Conditional knowledge is also reported at high level, i.e., knowledge about when and why to use learning procedures (demonstrated in item 15, 18, 26, 29, and 35). At the lowest level is the subcomponent Declarative knowledge, only reaching the upper-medium. These students are particularly not good at organizing information (item 12, $M=2.81$) and remembering information (item 17, $M=2.73$). Additionally, they are still weak at other learning strategies related to dynamically processing and effectively retaining information/input for long-term memory (item 31, 37). The finding is significant because it provides valid premises pinpointing the deficits of the students so that EFL teachers (from my university in particular) should consider modifying instructional activities, in one way or another, incorporated with helpful guidances/training on these critical self-regulated learning strategies.

For the third finding, as seen in table 5, there is no significant correlation between the target students' self-regulated learning strategies and their current GPA, i.e., although their overall self-regulation is at high level, their academic achievement is still at the medium. This finding, therefore, does not confirm the one recorded in the survey by Ghanizadeh and Mirzaee (2012), revealing that self-regulation could predict about 53% of learner achievement. It is partly because the sample in the present study is small (only 64 participants) and because the first outcome (level of students' self-regulated learning strategies) is self-assessed. In contrast, the second outcome, i.e., GPA, is other-assessed. The former is obviously subjective, but the latter is entirely objective. Moreover, the former's construct definitely encompasses much smaller components than the latter, which involves a repertoire of integrated (meta)cognitive skills and on-the-spot performance strategies. Given the complexity of mastering a foreign language, this finding also implies that the target students are still at their developing stage of EFL education. As a result, it calls for teachers (including the researcher) to constantly assist students, on the one hand, consolidate their self-regulation; on the other hand, to create dynamic learning environments (both online and offline; outside and inside the classroom) for them to optimize the self-regulation in relevant academic tasks and gradually raise GPA.

Conclusion

The present study is the first to investigate the ongoing issue of self-regulated learning strategies in a local university, where online-learning is currently applied due to the spread of the Covid-19 pandemic. The participants were EFL seniors partaking in a questionnaire survey. The obtained results discover a high level of the involved students' self-regulation, a correlation between their cognition knowledge and cognition regulation, but a gap between their self-regulation level and current GPA. These results should not be widely generalized owing to a limited participant sample and a lack of data triangulation. As a consequence, it is open to further in-depth inquiries. Future research should hold larger samples and include empirical data (under a self-regulation training program, for instance). Prospective studies can also consider the gender factor (males and females). A comparison between EFL students' self-regulation and those of other majored students from this university is another possible direction for further research.

About the author

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Appendix

Descriptive statistics of 42 items (N=64)

Declarative knowledge (DK), Procedural knowledge (PK), Conditional knowledge (CK), Planning (P), Information management strategies (IMS), Debugging strategies (DS), Evaluation (E).

Items	Min	Ma x	Mean	SD
1. I often ask myself if I am meeting my learning goals. (M)	2	4	3.52	.535
2. I consider several alternatives to meet my learning goals. (M)	2	4	3.22	.659
3. I try to use learning strategies that have worked in the past. (PK)	2	4	3.41	.613
4. I pace myself while learning in order to have enough time. (P)	2	4	3.37	.630
5. I understand my intellectual strengths and weaknesses. (DK)	1	4	3.32	.877
6. I ask myself questions about the subject/course before I begin learning. (P)	1	4	2.92	.809
7. I know how well I did once I finish a test or exam. (E)	1	4	3.54	.643
8. I set specific goals before I begin a semester in my learning. (P)	1	4	3.41	.733
9. I slow down when I meet important information in learning. (IMS)	2	4	3.35	.600
10. I stop and go back over new learning information that is not clear. (DS)	2	4	3.40	.708
11. I stop and reread when I get confused. (DS)	1	4	3.52	.669
12. I am good at organizing information in my learning. (DK)	1	4	2.81	.859
13. I consciously focus my attention on important information. (IMS)	2	4	3.52	.644
14. I have a specific purpose for each learning strategy I use. (PK)	1	4	3.24	.734
15. I learn best when I know something about the topic. (CK)	2	4	3.59	.557
16. I know what the teacher expects me to learn. (DK)	1	4	3.63	.655
17. I am good at remembering information. (DK)	1	4	2.73	.846
18. I use different learning strategies depending on the situation. (CK)	2	4	3.48	.64

19. I ask myself if there was an easier way to do things after I finished a learning task. (E)	2	4	3.35	.69 9
20. I ask myself if I learned as much as I could have once I finish a task. (E)	2	4	3.16	.67 7
21. I often review what I have learned to help me understand important relationships. (M)	1	4	3.10	.68 9
22. I try to break studying down into smaller steps. (IMS)	1	4	3.19	.91 3
23. I think of several ways to solve a learning problem and choose the best one. (P)	1	4	3.43	.66 5
24. I summarize what I've learned after I finish. (E)	1	4	3.19	.66 9
25. I ask others for help when I don't understand something well in learning. (DS)	2	4	3.78	.52 2
26. I can motivate myself to learn when I need to. (CK)	1	4	3.43	.81 7
27. I am aware of what strategies I use when I study. (PK)	1	4	3.25	.69 5
28. I analyze the usefulness of strategies while I study. (M)	2	4	3.11	.74 3
29. I use my intellectual strengths to compensate for my weaknesses. (CK)	1	4	3.25	.74 0
30. I focus on the meaning and significance of new information. (IMS)	1	4	3.32	.73 7
31. I make my own examples to make information more meaningful. (IMS)	1	4	2.87	.92 4
32. I am a good judge of how well I understand something. (DK)	1	4	3.08	.80 9
33. I use helpful learning strategies automatically. (PK)	1	4	3.33	.69 6
34. I pause regularly to check my comprehension in learning. (M)	1	4	3.17	.85 3
35. I know at what time of the day I learn most effectively. (CK)	2	4	3.63	.63 0
36. I ask myself how well I accomplish my goals once I'm finished. (E)	1	4	3.32	.80 0
37. I draw pictures or diagrams to help me understand while learning. (IMS)	1	4	2.95	.90 6
38. I ask myself if I have considered all options after I finish a learning task. (E)	1	4	2.94	.84 0
39. I try to transform new information into my own words. (IMS)	1	4	3.38	.83 1
40. I change learning strategies when I fail to understand. (DS)	2	4	3.54	.64 3
41. I re-evaluate my comprehension when I get confused in learning. (DS)	2	4	3.30	.71 0
42. I organize my time to best accomplish my goals. (P)	1	4	3.49	.64 4