Language Learning Strategies of EFL Students

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Abstract

For ESL/EFL students, developing self-sufficiency in language acquisition is crucial Learning through projects is among the most successful strategies for the educators to empower students to self-regulate. Though, many EFL teachers and high school students seem to be ignorant of Learning through projects. The purpose of this education, is to see how students in Project-based learning use self-regulated language learning methodologies. The questionnaire was completed by 147 EFL students, with forty of them participating in semi-structured interviews. The mean and ANOVA were used to assess the quantitative data from the questionnaire, while the subject analysis approach was utilized to evaluate the qualitative data from the interview. According to the findings, SRLL approaches were often employed by research participants for project-based learning. Furthermore, the technique strategy Set was employed more often than the other six strategy groups. Furthermore, the academic levels of the research had no effect on how often high school students employed SRLL strategies for Project-based learning. These preliminary findings are designed to aid academics in creating a better understanding of how SRLL methods might be utilized to boost Learning through projects uptake.

Keywords: Language Learning Strategies, EFL students

INTRODUCTION

Learning through projects is the most active ways to help students improve their self-control. Students get more in-depth information and abilities by executing and finishing essential projects connected to their real-world conditions, according to Wu (2020), a pioneer of Project-based learning. Similarly, because it necessitates students' solution of real-world problems, project-based learning is an alternative teaching and learning technique. Wang and Sun (2020), Furthermore, the use of project-based learning requires learners to control their own learning, highlighting the necessity of self-regulated learning. Project-based learning, according to Chen and Hsu (2020), may help students acquire self-regulation, which includes self-regulated learning approaches.

Recognizing the serious role of project-based learning in improving Language learning and creation among learners' creative surroundings in which learners can increase their wisdom abilities and self-will, they created new project-based English textbooks for high school students. The projects are designed to help EFL students apply their English knowledge and skills in each area. Students must work together to create and present their projects. Nonetheless, instructors report that the method by which pupils prepare for assignments remains a mystery to them. As a result, thepurpose of this case learning is to see how learners in Project-based learning use self-regulated language learning approaches.

The following are the research questions that will be addressed:

1.What plans are high school students using to participate in peer-to-peer learning?

2.Do SRLL techniques for Project-based learning vary by grade level among EFL students? If that's the case, how would you go about doing it?

Literature Review

There are many types of project-based learning. "A systematic teaching style that involves students in learning information and skills via an extended inquiry process based around demanding, realistic questions and well-crafted products and assignments," according to Cho et al. (2020). Project-based learning, according to Garciaet al. (2018), is also a constructivist teaching style since it promotes students to work in groups and develops self-regulation so that they can deal with real-world problems utilizing the core knowledge they've received. In a word, learning through projectsis a learner-centered strategy that encourages learners to collaborate, self-regulate, and think critically by exposing them to real-world challenges.Xiao& Yang (2019) In SRLL, self-regulation is defined as the level to which learners establish their knowledge goals and actively and constructively manage their ideas, motives, and actions.It's also the process through which students try to govern complicated learning activities in their own learning experience.

Goal formulation, Development, Self-purpose, attention management, modifying procedures, Self-observing, and Self-assessment are the seven SRLL approaches used in this study for Project-based learning.

Setting Objectives

Setting objectives is an important part of encouraging children to improve their academic performance. According to academics Tengand Zhang (2020), goal development is an essential component of SRLL approaches since it is used to manage students' behaviour. According to Azevedo and Gaevi (2019), clear goals are essential for students to grasp and support the learning material throughout the project's process and in the final deliverables. When applied effectively and appropriately in project-based learning, creating objectives has the potential to have a long-lasting beneficial effect on students' learning.

Attention management

When students participate in project-based learning, one of the most important skills they must acquire is attention control, since they have the ability to choose what they concentrate on and what they ignore. Nakata (2019) believes that in order to manage their attention, children must be able to self-regulate their learning. When using this method, he thinks that students must keep their thoughts free of distractions and work in a favorable learning atmosphere. Furthermore, sufficient time is necessary to finish the projects, which includes the time required for each specific work. Hooshyar (2020).

Use of tactics that are adaptable

It is much simpler for pupils to fulfill their academic objectives when they employ a variety of approved approaches in their studying and project execution. One successful method for supporting students in their learning process, according to (Sanai et al., 2019), is to use a variety of learning tactics and activities, then tweak and select the most appropriate and successful techniques for the desired outcomes.However, not all children, especially those in elementary school, demonstrate a wide range of learning styles. Choosing the most effective learning techniques might be time consuming for them at times. As a result, instructors may help students gain confidence in their ability to apply innovative tactics more successfully by encouraging them to try new things.

Self-observing

Self-observation is utilized efficiently in the classroom to meet students' requirements and encourage their independence. Self-observing, according to (Boykin et at (2019), Setting Objectives, Development, Self-Purpose, Attention Control, and Tactical Flexibility are all principles that are integrated. Students can also self-monitor their learning by creating their own knowledge objectives, preparation ahead, pushing to reach their objectives on their own, focusing their devotion on responsibilities, and adopting knowledge techniques to increase their knowledge. Students may profit from this, according to Song et al (2021), by enhancing their learner autonomy. To be successful with this technique, students must create a clear plan for the activities, using a schedule, they can keep track of the tasks assigned to them and adjust them as needed to achieve the desired goals or finish the tasks.(Bai, and Shen (2020).

Self-assessment

It is believed that when students can independently evaluate their learning process, they become more self-regulated learners. Bai and Wang (2021). Finn (2020) stresses the importance of evaluating students' projects at the completion of the project work.Teachers must assess pupils based on clearly stated criteria. Before using the evaluation rubric, students are also given the chance to evaluate and reflect on it. Students must reflect on the language and subject matter they learned during the project, make suggestions for future projects, and receive feedback from their professors on their language and content acquisition. Students may be able to improve their learning capacities as a result, leading to improved future outcomes.

Despite the fact that various research on SRLL and PBL have been conducted separately, there have been relatively few contemporary studies that have studied the link between PBL and SRL. The relationship between student self-regulation and problem-based learning was investigated by Bai and Wang (2021). The data was analysed by two faculty members from two private universities over the course of two academic years with 77 students. Students that engaged in PBL had better self-control when studying, according to the study's findings.Theobald (2021) showed a second learning to examine the effect of PBL and self-regulation on mathematics education.In terms of mathematics, the study discovered that PBL and self-regulation appeared to have reciprocal interactions and links among EFL students.Recently, a few papers on SRLL techniques for PBL were published. Viberg et al. (2020) conducted ground-breaking research on project-based learning's implications on learner autonomy.The study included fifty people, each of whom had a different major.

Can University provide English language instruction. Data were collected and analyzed using a self-assessment questionnaire and in-depth interviews. According to the study's results, Students' learner autonomy grew as a result of PBL. Self-regulation, self-responsibility, and attitudes, among other aspects of learner autonomy, remained stable.In general, the majority of research suggests that PBL is one of the elements that contribute to the enhancement of learners' self-regulation. However, little study has been undertaken on the SRLL methodologies utilized by EFL high school students in combination with PBL.

METHOD
Participants and the Research Setting
Learners were required to take an entrance exam in order to participate in courses that used new English materials in this case study, which used English textbooks produced by Learners were required to take an entrance exam in order to participate in courses that used new English materials in this case study.Projects were allocated to five or six students at random. They were then asked to work together for a week to finish their allotted assignment and present it verbally in class. Students were required to complete five to eight projects every year out of a total of 10. The research included 148 EFL students in grades 10, 11, and 12 who used freshly published English textbooks. Participants were recruited from three grade levels, had a frequency of 48, 55, and 44, respectively, as shown in Figure 1. Furthermore, 78.5 percent of pupils had been studying English for more than nine years, and 36.7 percent had taken additional English lessons.
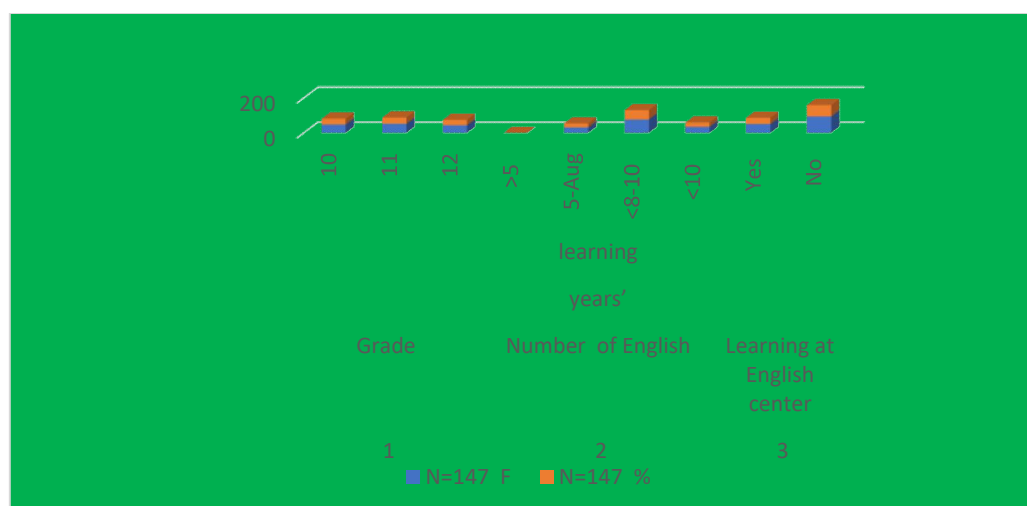
Figure 1. General information about the participants

Note: F: Frequency; %: Percentage

Because this study includes a focus Set interview, 45 students were requested to participate in semi-structured interviews after completing the questionnaire. Three groups of three males and females were formed (17 learners from grade 10; 15 learners from grade 11; 13learners from grade 12).

Instruments for Research

Data was gathered via a questionnaire and a semi-structured interview. The former comprises of 29 closed-ended questions divided into two pieces based on the literature study: Part A obtains background information from respondents, while Part B evaluates the SRLL approach's implementation in PBL.To answer 29 closed-ended questions grouped into seven categories, a five-point Likert scale is employed (Setting Objectives: 4 Entries; Development: 8 Entries; Self-purpose: 4; Attention management: 5 Entries; Compliance with tactics: 4 Entries; Self-observing: 5 Entries; Self-assessment: 3Entries).The following is included of five basic queries intended to elicit more information about respondents' SRLL technique usage and to double-check the survey results.

To ensure that respondents had no language difficulties while responding to the questionnaire and interview, both the questionnaire and interview questions were translated into their home language. A pilot research was done to assess the questionnaire's and semi-structured interviews' validity.The questionnaire's Cronbach Alpha was.905. This illustrates the validity of the questionnaire.

Data was gathered via a questionnaire and a semi-structured interview. The former is made up of 29 closed-ended questions that are separated into two sections based on the literature review: Part A collects baseline data from respondents; Part B evaluates the SRLL approach's application in PBL. To answer 29 closed-ended questions grouped into seven categories, a five-point Likert scale is employed (Setting 4 Entries for objectives; 8 Entries for development; 4 Entries for self-purpose; 5 Entries for attention management; 4 Entries for strategy compliance; 5 Entries for self-observation; 3 Entries for self-assessment).The latter consists of five basic questions designed to elicit more information about respondents' SRLL technique usage and to verify the survey findings.

To ensure that no language obstacles existed throughout the questionnaire and interview replies, The respondents' native language was used to translate the questionnaire and interview questions.A trial study was conducted to evaluate the questionnaire and semi-structured interviews. Cronbach The questionnaire's alpha score was .905. This illustrates the validity of the questionnaire.

Data Collection and Analysis Procedures

After students completed their assigned work at the conclusion of the 2018-2019 academic school year, the data was collected. At a local high school, a total of 155 questionnaires were distributed to students in grades 10, 11, and 12, but only 147 were returned. The survey took approximately 20 minutes to complete. In an informal interview, ten four-student groups

were asked to participate. Each interview lasted approximately 45 minutes.

SPSS 21.0 was utilized for data analysis, and descriptive statistics and ANOVA were employed to evaluate quantitative data from surveys. The SRLL scores of the pupils were interpreted as follows: 1–1.80: constantly, 1.81-2.60: seldom, 2.60-3.40: seldom, 3.41–4.20: on a regular basis, and 4.32–6.00.The content analysis method was used to assess high-quality data. The cassettes have to be meticulously transcribed. From S1 to S45, all 45 interviews were coded. threeexaminers were asked to re-analyse three randomly chosen qualitative information to boost the study's credibility, and the agreed-upon results had to be at least 96% accurate.

SRLL Tactics Used by EFL Students for PBL FINDINGS

SRLL tactics are frequently used in PBL, as illustrated in Figure 2 (M=3.64; SD:.47), suggesting that SRLL strategies were frequently used by students. Flexible application of PBL strategies was the most popular strategy among EFL students (M=3.86; SD=.62), followed by Development (Set 2: M=3.64; SD=.60), Attention management (Set 4: M=3.61; SD=.62), Self-observation (Set 6: M=3.57; SD=.60), and Setting Objectives (Set 1: M=3.55; SD=.73). Self-purpose (M=3.51; SD=.62; Set 3) and self-assessment (M=3.52; SD=.77; Set 7) were the two least common methods used by EFL students. To summarize, when EFL students collaborated on a project, they used adaptive strategies.
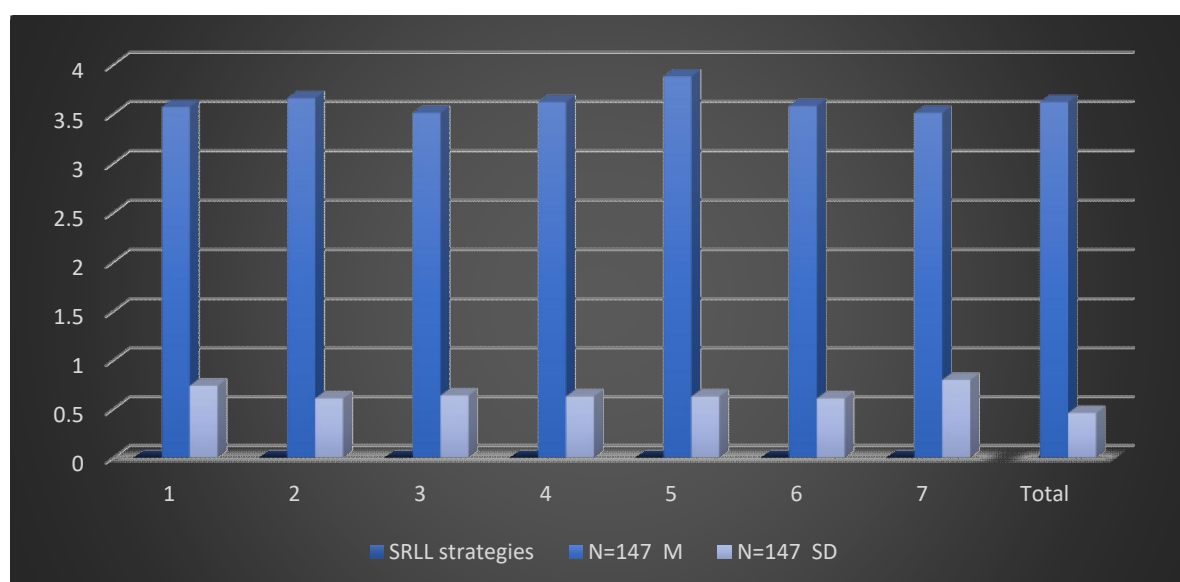

Figure 2. The application of SRLL tactics in PBL by EFL students

The letters M and SD stand for mean and standard deviation, respectively

EFL students frequently employed goal-setting processes for PBL (M=3.57; SD=.74), as shown in Figure 3. When utilizing Entry 2, students were more likely than when using the other two goal-setting techniques to "develop an action plan for the projects" (M=3.84; SD=.94). "Setting goals before starting initiatives" (Entry 1: M=3.57; SD=1.07) was followed by "reviewing goals on a frequent basis" (Entry 3: M=3.32; SD=1.04). When EFL students worked on projects, it's only natural that they developed plans and set goals for themselves. They did, on occasion, go through the goals again and again during the project's implementation.
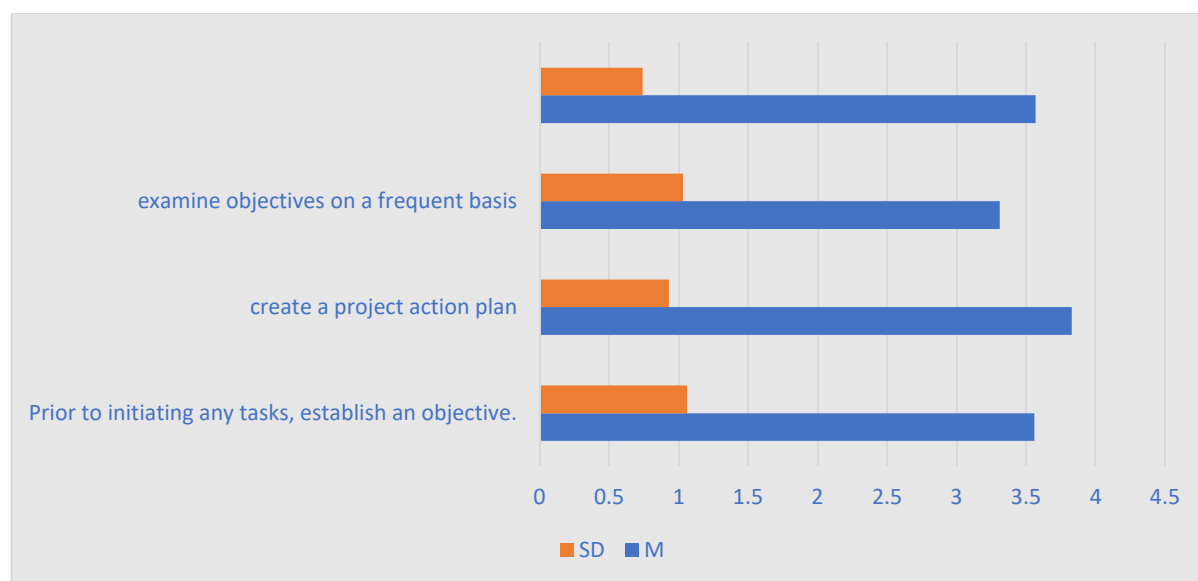
Figure 3. The percentage of EFL students who use Setting Objectives approach for PBL

Setting Objectives, according to survey data, is the most important PBL method for more than half of the students. For a number of reasons, they regarded this method as the most important. The following are some simple illustrations of the reasons:

Setting Objectives is the most important SRLL method since it is the initial step.

Setting Objectivesis the most important SRLL approach since it is a necessary step for the other stages.

Setting Objectives, a vital SRLL approach. Setting Objectives has helped me realize what I need to achieve and how to do it effectively.

Five questions were used to investigate the PBL development techniques of EFL students. Figure 4 shows that students used Development methods more frequently

(M=3.65; SD=.61). On a frequent basis, students "discussed appropriate strategies for [their] projects" (Entry 7: M=3.86; SD=1.04) and "determined an adequate amount of time to finish the projects" (Entry 6: M=3.84; SD=1.12).The price of the Entries was higher than that of the rest. The utilization rate decreased as a result of "[setting] a target for each project activity" (Entry 4: M=3.56; SD=1.06). Regardless, students occasionally "[made] note to track the development of the projects" (Entry 8: M=3.18; SD=1.24).It is plausible to assume that EFL students discussed project subjects, completion deadlines, and acceptable project procedures on a regular basis. They did not, however, make it a practice to keep track on the project's progress on a regular basis.
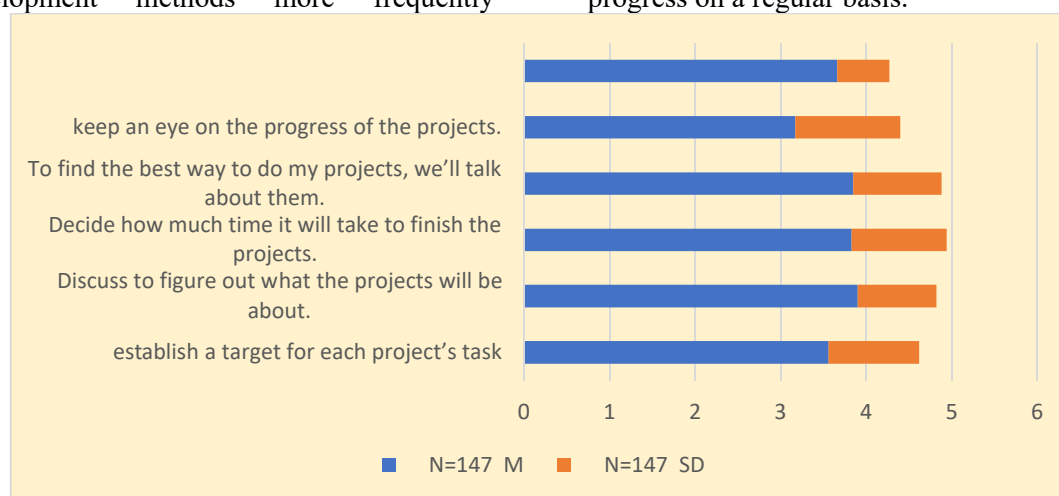

Figure 4. The use of Development techniques for PBL by EFL students

According to the findings of interviews, many EFL students believed that knowing how to undertake project-based learning (PBL) was vital while working on projects. When asked why they believed it was essential, EFL students ranked development as the most significant technique. They came up with a variety of causes for this. There were several ways in which they responded to the question:

Many people believe that the most essential thing you can do with a project-management tool like SRLL is develop since it offers you directions to follow while you work on the project.

Development is the most effective technique for me to ensure that I have a clear strategy to follow.

Four factors were utilized to assess EFL students' PBL Self-purpose techniques. As demonstrated in Figure 5, this strategy was adopted by a large number of students while working on their projects. The aspects "getting performance feedback" (Entry 10: M=3.71; SD.95) and "raising the ability to complete projects" (Entry 11: M=3.71; SD.95) both received 3.70 mean ratings. This was a pleasant surprise. The third factor influencing the mean score value in Entry 9 was "finding new talents to execute the task." PBL students were the least likely to use the phrase "taking time to consider the job" (Entry 12: 3.22; SD: 1.06). In order to complete their projects. They also took breaks from time to time to reflect on the projects and their labor. According to this study, EFL students used the fewest Self-purpose PBL approaches.
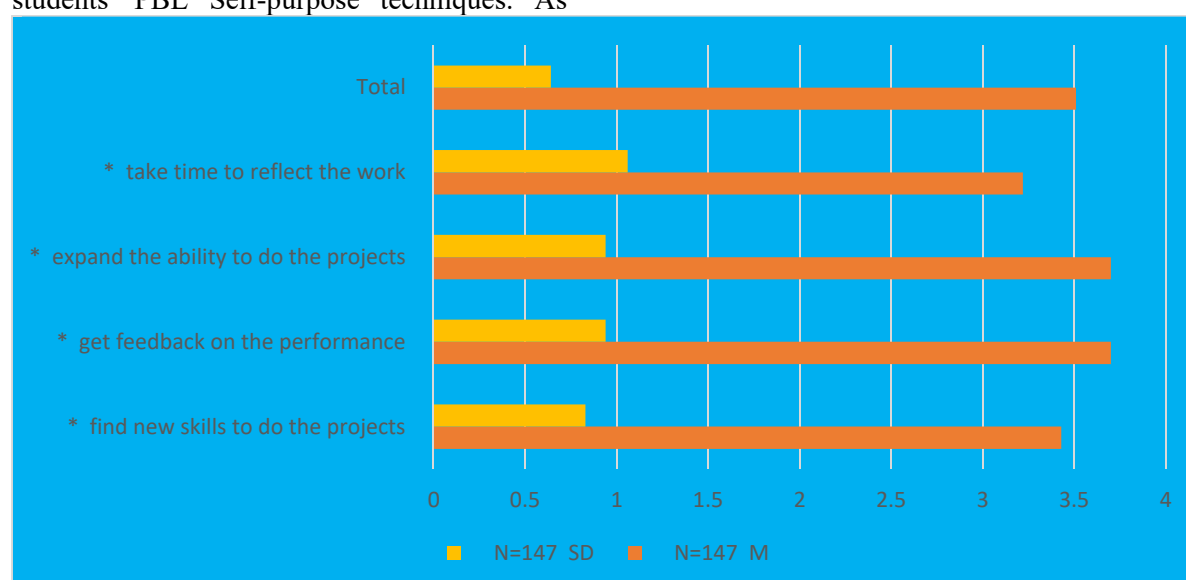

Figure 5. The use of Self-purpose techniques for PBL by EFL students

According to a qualitative assessment, just two out of forty EFL students thought Self-purpose techniques for PBL were beneficial during project completion.The following are some examples of their decision-making process in action:

Self-purpose is the most significant technique for me because it encourages me to complete my projects.

I choose Self-purpose as the most significant technique since it pushes me to complete my tasks.

The frequency with which EFL students employed attention management approaches for PBL was assessed using five metrics.

Figure 6 depicts how frequently students utilized this method (M=3.64; SD=.65). The three most frequently used Entries by students among the five mentioned in this strategy were "seek a suitable learning environment when working on projects" (Entry 14: M=3.87; SD=.88), "keeping the mind clear of distractions during project implementation" (Entry 15: M=3.76; SD=1.04), and "spending focused time on each task" (Entry 17: M=3.71; SD=.97).

On the other side, "shortening the length for each job" (Entry 16: M=3.49; SD=.97) and "selecting the sequence of assignments" (Entry 13: M=3.34; SD=1.14) took up less time for

students. Students enrolling in an EFL usually identified a perfect studying atmosphere and had a proclivity to avoid distractions while

doing duties. They did, however, exhibit a tendency to choose the order of tasks on occasion students.
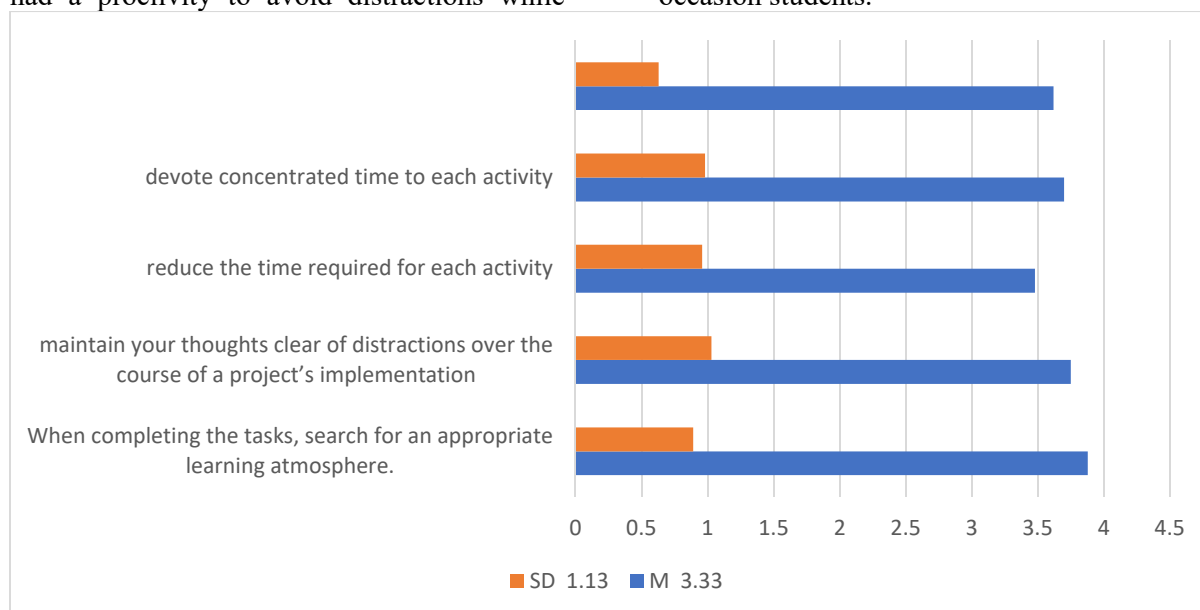

Figure 6. The use of attention management tools for PBL by EFL Student

Attention management

According to the qualitative data, attention regulation was the most essential SRLL method for five out of forty EFL students. The following self-evident explanations were provided by students:

The most essential SRLL method, in my opinion, is attention management, because it reduces project completion time. I spend less time on a task when I pay more attention to it.

Attention management, I believe, aids me in prioritizing my work. As a result, it's one of my most critical methods.

Flexible PBL techniques with four Entries were used more frequently than the other plans (M=3.86; S=.64). Figure 7 demonstrates that EFL learners were equally proficient in

"select[ing] effective procedures for each project" (Entry 18: M=3.96; SD=.92) and "using[d] appropriate strategies for each Set member" (Entry 20: M=3.96; SD=.86). They also used "techniques suited for each project" on a regular basis (Entry 19: M=3.93; SD=.94). "Using a variety of various learning approaches for each project" (Entry 21: M=3.67; SD=.97) was the least often used Entry under Flexible strategy usage. Finally, in PBL, adaptive approaches were frequently used. EFL students were more likely to apply a variety of learning ways for each project and Set member, as well as to choose acceptable and effective project methods.
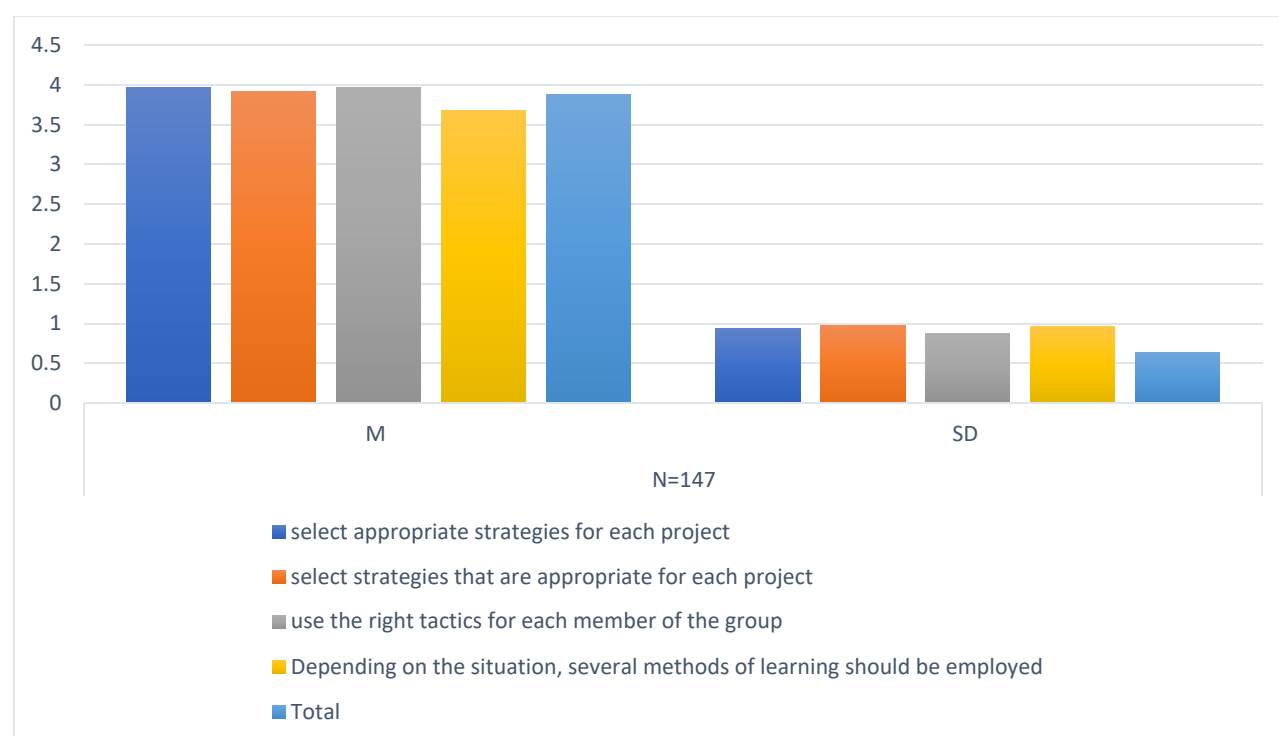
Figure 7. The frequency with which EFL students employ compliant PBL tactics

According to qualitative data, five out of forty EFL students thought this method was one of the most important tactics they needed to learn when working on their projects.The following are two examples:

It is vital that I employ a range of strategies in my projects, and flexible strategy usage is my preference since it enables me to determine which strategies are most appropriate for my plans.

This is the most important way, in my opinion, because strategy flexibility allows me to select the most effective tactics for my tasks.

Another set of methods employed by EFL students during PBL implementation was a five-Entry Self-observing technique for PBL. Self-observing devices for PBL were not as common as expected among EFL students (M=3.59; SD=.86), as shown in Figure 8. "Using applicable learning approaches to aid in lesson understanding" (Entry 26: M=3.86; SD=.86) and "concentrating their attention on the work at hand" (Entry 25: M=3.76; SD=.88) were the two most often used Self-observing

techniques for PBL among EFL students. "Creating an overview for each phase of the project" (Entry 23: M=3.52; SD=1.05) and "identifying learning goals" (Entry 22: M=3.56; SD=1.07) were the next two Entries on the list. Students utilized the approach of "creating a Self-observing timetable for the projects" (Entry 24: M=3.27; SD=1.03) when Self-observing their PBLs on occasion. In conclusion, via self-observation, EFL students used suitable learning methodologies to more simply and effectively absorb their course content. They also emphasized on chores that needed to be accomplished ahead of time. Furthermore, they set learning goals prior to beginning work and maintained a consistent structure for each stage of the project. Nonetheless, they devised and regularly used a Self-observing method on occasion and throughout the project's execution.
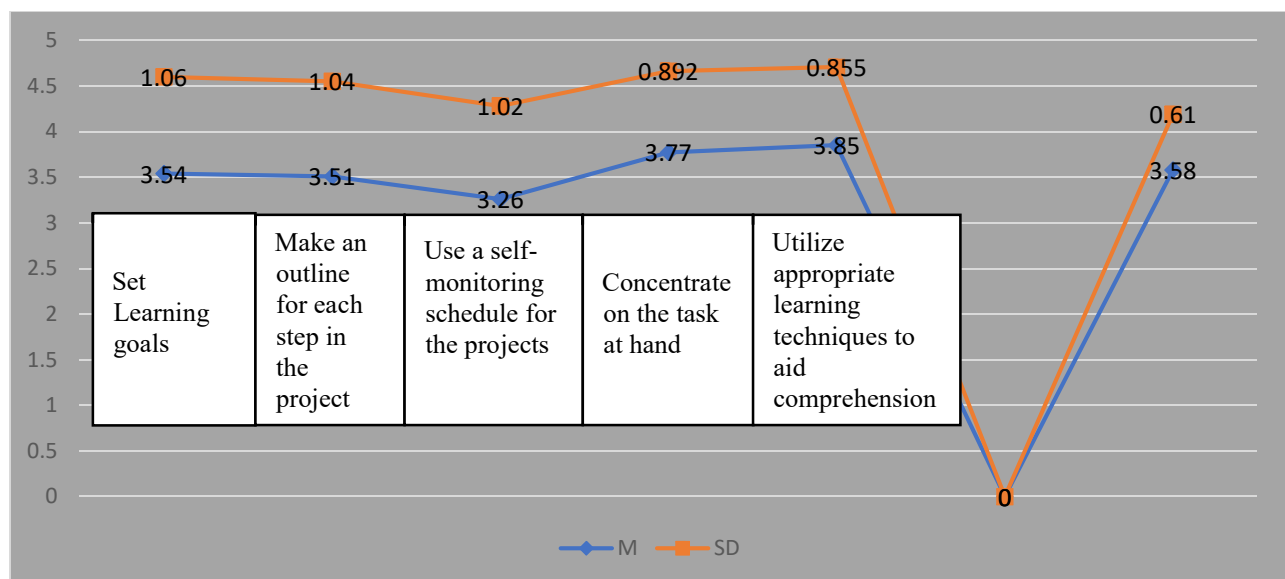
Figure 8. The frequency with which EFL students use self-observation methods for PBL

The letters M and SD stand for mean and standard deviation, respectively

According to qualitative data, two EFL students indicated that self-observing measures for PBL were the best crucial way for conducting the PBL process.This statistic matched the value of the Self-purpose approach. The following is an example of one of the children's ideas:

Self-observing is, in my view, the most important method for adopting PBL since it allows me to track my progress toward my goals and make required changes.

Figure 9 shows that EFL students often employed PBL Self-assessment techniques (M=3.52; SD=.81). Students who "self-assess

final products independently" (Entry 28: M=3.57; SD=.92) were more likely to do so than students who "changed similar assignments in the future" (Entry 29: M=3.51; SD=1.08) or "self-assess the learning process independently" (Entry 27: M=3.46; SD=.96). To conclude, the two least often used SRLL procedures indicated in this study among EFL students were self-assessment and self-observing processes for PBL. They did, however, display a proclivity for scrutinizing both their own learning processes and their final deliverables. More crucially, they changed related duties in succeeding projects on a regular basis.
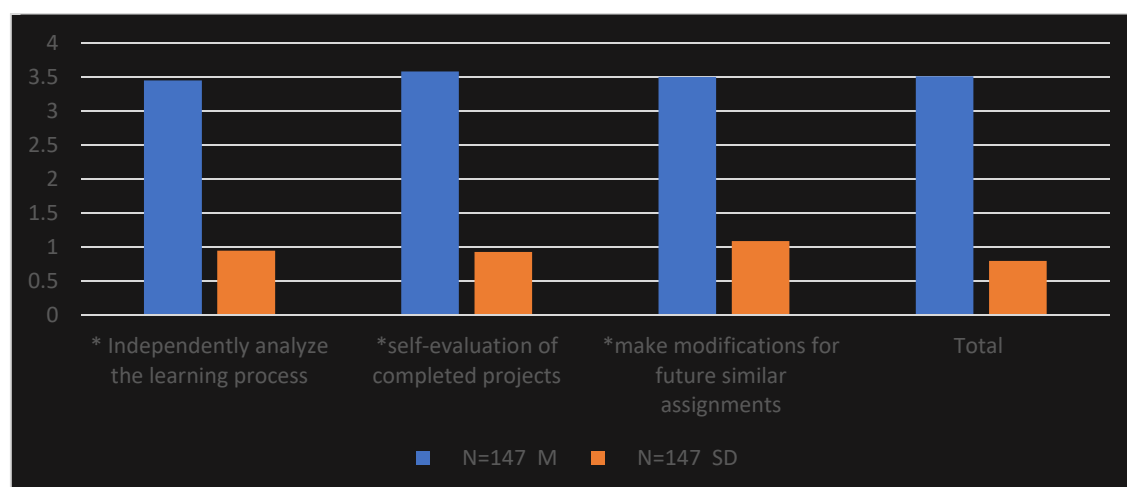

Figure 9. Independently analyze the learning process

The letters M and SD stand for mean and standard deviation, respectively

Furthermore, the interview data revealed that the same number of EFL students used Self-assessment techniques for PBL, as well as attention management strategies and approach flexibility, with five out of forty admitting that these strategies were required while working on projects. Consider the following example:

Self-assessment is a useful technique since it allows me to analyze my own efforts..

SRLL strategies are used by EFL students for PBL in terms of grades

SRLL techniques for PBL were used equally by EFL students ($F=1.588$; $p=.207$), according to Figure 10. SRLL methods employed in PBL did not differ significantly between students in seven groups (Setting Objectives: $F=.493$, $p=.602$; Development: $F=.333$; Self-purpose: $F=.802$; Attention management: $F=.073$, $p=.932$; Compliant application of strategies: $F=.217$; Self-observing: $F=.94$). This indicates that the academic level of students had no bearing on their SRLL use for PBL.
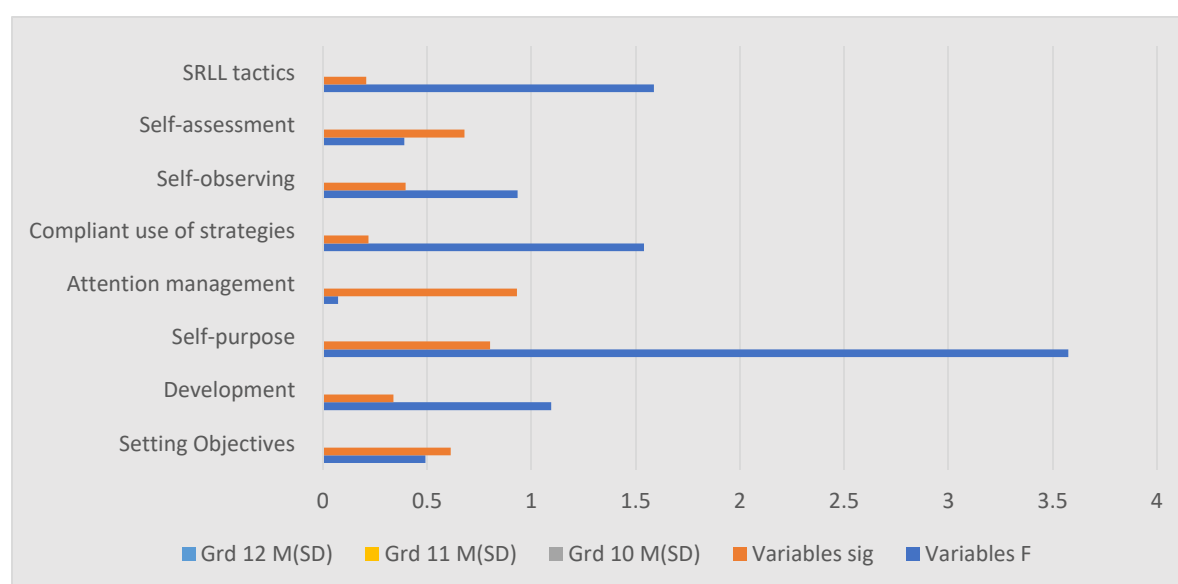

Figure 10.The impressions of PBL among students differ according to grade level (one-way ANOVA)

* At the.005 (2-tailed) level, the mean difference is statistically significant.)
The letters M and SD stand for mean and standard deviation, respectively

DISCUSSIONS

Several important discoveries were made as a result of this inquiry. SRLL approaches for PBL were often used by EFL students, it was discovered. Flexible strategy utilization was shown to be the most often used SRLL strategy for PBL, followed by Development, Attention management, Self-observing, Setting Objectives, Self-purpose, and Self-assessment. One possible explanation is that research participants were required to complete a high number of projects, necessitating their project management skill. they put a premium on developing methods for selecting relevant project approaches and implementing Development projects. Participants were also asked to dedicate 2 hours each day to self-

learning, thus explaining the emphasis placed on the adaptability of PBL techniques. This results are consistent with the findings of Hwang, G. J., Wang, et al. (2021), who show that learners choose appropriate and effective project techniques.

They developed PBL Setting Objectives techniques, which are a key component of SRLL-based PBL methodology (Moning and Roelle, 2021). This method was often used by EFL students, according to the statistics. Furthermore, they planned ahead of time for their projects' goals and methods, and they assessed the goals on a regular basis throughout the project's execution. For example, when students were instructed to write a report on the families of their

classmates. Initially, they needed to define goals and a plan. Throughout the task, they had to evaluate their performance. This is an efficient approach for students to check their progress while working on their projects, according to Wakamoto and Rose (2021). This method was commonly utilized by EFL students for PBL Development, since Development is a vital ability for students when working on projects. J. Broadbent and colleagues (2021). Despite the fact that this study emphasizes the importance of learners keeping daily notes to the progress of the project, learners in this study only did so on a few occasions.Self-purpose methods for PBL are a crucial component of PBL that leads to student independence in SRLL, according to Viberg and Kukulska-Hulme (2021), EFL students used Self-purpose strategies for PBL the least frequently of the seven strategies identified in this study.Learners spent more time collecting comments on their own presentation, strengthening their project implementation ability, and learning new skills to complete the tasks, but they also reworked the project's tasks to avoid duplication.\, comparable to the PBL Setting Objectives and Development techniques. According to the results of this research, EFLstudents used attention management methods for PBL while working on their projects on a regular basis. According to Choe(2020) comment on the importance of the study environment, EFL students usually choose a distraction-free setting for applying PBL. (Guoet al., (2021) emphasized the importance of having adequate time to complete tasks in her study. According to the study's results, EFL students often cut their time in half while increasing the amount of time spent on each activity. PBL Self-observing strategies were frequently used by EFL students, as Teng (2021) Setting Objectives, Development, Self-purpose, Attention management, and Compliance with tactics are just a few of the SRLL approaches for PBL that have been highlighted.When students worked on projects, it was observed that they did not apply the same PBL strategies. They were able to use SRLL in a variety of PBL methodologies. Students, for example, created goals, made a plan of action, and used the internet to gather material for a project on how a city/country has coped with urbanization. Students, on the other hand, created goals, coordinated activities, and were

self-motivated to complete the project, which included completing a survey on students' green lifestyles. Palalas and Wark (2020) discovered that students used appropriate learning ways to acquire their lesson quickly, which benefited students' self-regulation. Furthermore, Students consistently stated their learning objectives and created an outline for each phase of their projects, which mostly mirrored the findings of Reimann's prior research (Reimann, 2021). EFL students, on the other hand, employed the Self-observing approach in their tasks on occasion. EFL students often used the fourth PBL Self-assessment technique. The results corroborated those of Qiu & Lee (2020). Regardless, it was the least common of the seven approaches. According to the study, students were starting to assess their own learning process and final result. They also kept the power to examine and change such roles in future endeavors. For example, while working on a project for a known person, students were obliged to evaluate whether or not the prescribed duties were completed properly in order to make appropriate adjustments.

The SRLL approach was employed for PBL regardless of the students' academic level of study, which is the second important finding. This could be enlightened by the detail that the EFL learners in this study were provided detailed instructions on how to complete their activities when they were first given them.Although students in the 12th grade used SRLL strategies more often than their counterparts in the 10th and 11th grades, the difference in frequency was not statistically significant. As a consequence, regardless of academic level, EFL students use comparable SRLL strategies for PBL.

CONCLUSION
This study's findings shed light on the SRLL strategies used by EFL students in PBL. SRLL tactics were frequently used by EFL students when participating in PBL, according to the findings of the study.This research identified seven SRLL techniques for PBL, flexible use of tactics was the most commonly utilized strategy among EFL students, followed by Development, attention management, Self-observing, and Setting Objectives. EFL students utilized the fewest Self-purpose and Self-assessment techniques when it came to project execution. Furthermore, regardless of

their academic position, students employed SRLL strategies for PBL in the same manner.

In terms of educational suggestionsThe study's findings highlight the significance of SRLL procedures in PBL. SRLL strategies must be applied to PBL in order to be effective, students must participate in more PBL practice at school. PBL should be made a mandatory activity in schools, according to Abdelrahman (2020), so that students develop favorable attitudes toward it, and instructors and students should shift their traditional learning roles, despite the fact that this appears to be a difficult undertaking Shao et al (2020). Students must cultivate the practice of self-regulating their PBL. Additionally, both teachers and students should attend SRLL strategy training sessions so that they may use the strategies in a flexible and realistic manner.

REFERENCES

Abdelrahman, R. M. (2020). Metacognitive awareness and academic motivation and their impact on academic achievement of Ajman University students. *Heliyon*, *6*(9), e04192.https://doi.org/10.1016/j.heliyon.2020.e04192

Azevedo, R., & Gašević, D. (2019). Analyzing multimodal multichannel data about self-regulated learning with advanced learning technologies: Issues and challenges. *Computers in Human Behavior*, *96*, 207-210.https://doi.org/10.1016/j.chb.2019.03.025

Bai, B., & Wang, J. (2021). Hong Kong secondary students' self-regulated learning strategy use and English writing: influences of motivational beliefs. *System*, *96*, 102404.https://doi.org/10.1016/j.system.2020.102404

Bai, B., Shen, B., & Mei, H. (2020). Hong Kong primary students' self-regulated writing strategy use: Influences of gender, writing proficiency, and grade level. *Studies in Educational Evaluation*, *65*, 100839.https://doi.org/10.1016/j.stueduc.2020.100839

Boykin, A., Evmenova, A. S., Regan, K., & Mastropieri, M. (2019). The impact of a computer-based graphic organizer with embedded self-regulated learning strategies on the argumentative writing of students in inclusive cross-curricula settings. *Computers & Education*, *137*, 78-90.https://doi.org/10.1016/j.compedu.2019.03.008

Broadbent, J., Sharman, S., Panadero, E., & Fuller-Tyszkiewicz, M. (2021). How does self-regulated learning influence formative assessment and summative grade? Comparing online and blended learners. *The Internet and Higher Education*, *50*, 100805.https://doi.org/10.1016/j.iheduc.2021.100805

Chen, Y. L., & Hsu, C. C. (2020). Self-regulated mobile game-based English learning in a virtual reality environment. *Computers & Education*, *154*, 103910.https://doi.org/10.1016/j.compedu.2020.103910

Cho, H. J., Yough, M., & Levesque-Bristol, C. (2020). Relationships between beliefs about assessment and self-regulated learning in second language learning. *International Journal of Educational Research*, *99*, 101505.https://doi.org/10.1016/j.ijer.2019.101505

Choe, D. (2020). Parents' and adolescents' perceptions of parental support as predictors of adolescents' academic achievement and self-regulated learning. *Children and Youth Services Review*, *116*, 105172.https://doi.org/10.1016/j.childyouth.2020.105172

Finn, B. (2020). Exploring interactions between motivation and cognition to better shape self-regulated learning. *Journal of Applied Research in Memory and Cognition*, *9*(4), 461-467.https://doi.org/10.1016/j.jarmac.2020.08.008

Garcia, R., Falkner, K., & Vivian, R. (2018). Systematic literature review: Self-Regulated Learning strategies using e-learning tools for Computer Science. *Computers & Education*, *123*, 150-163.https://doi.org/10.1016/j.compedu.2018.05.006

Guo, W., Bai, B., & Song, H. (2021). Influences of process-based instruction on students' use of self-regulated learning strategies in EFL writing. *System*, *101*, 102578.https://doi.org/10.1016/j.system.2021.102578

Guo, W., Lau, K. L., Wei, J., & Bai, B. (2021). Academic subject and gender differences in high school students' self-regulated learning of language and mathematics. *Current Psychology*, 1-

16.https://doi.org/10.1007/s12144-021-02120-9

Hooshyar, D., Pedaste, M., Saks, K., Leijen, Ä., Bardone, E., & Wang, M. (2020). Open learner models in supporting self-regulated learning in higher education: A systematic literature review. *Computers & Education*, *154*, 103878.https://doi.org/10.1016/j.compedu.2020.103878

Hwang, G. J., Wang, S. Y., & Lai, C. L. (2021). Effects of a social regulation-based online learning framework on students' learning achievements and behaviors in mathematics. *Computers & Education*, *160*, 104031.https://doi.org/10.1016/j.compedu.2020.104031

Jivet, I., Scheffel, M., Schmitz, M., Robbers, S., Specht, M., & Drachsler, H. (2020). From students with love: An empirical study on learner goals, self-regulated learning and sense-making of learning analytics in higher education. *The Internet and Higher Education*, *47*, 100758.https://doi.org/10.1016/j.iheduc.2020.100758

Moning, J., & Roelle, J. (2021). Self-regulated learning by writing learning protocols: Do goal structures matter?. *Learning and Instruction*, *75*, 101486.https://doi.org/10.1016/j.learninstruc.2021.101486

Nakata, Y. (2019). Encouraging student teachers to support self-regulated learning: A multiple case study on prospective language teachers. *International Journal of Educational Research*, *95*, 200-211.https://doi.org/10.1016/j.ijer.2019.01.007

Palalas, A., & Wark, N. (2020). The relationship between mobile learning and self-regulated learning: A systematic review. *Australasian Journal of Educational Technology*, *36*(4), 151-172.https://doi.org/10.14742/ajet.5650

Qiu, X., & Lee, M. K. (2020). Regulated learning and self-efficacy beliefs in peer collaborative writing: An exploratory study of L2 learners' written products, task discussions, and self-reports. *System*, *93*, 102312.https://doi.org/10.1016/j.system.2020.102312

Reimann, P. (2021). Methodological progress in the study of self-regulated learning enables theory advancement. *Learning and Instruction*, *72*,

101269.https://doi.org/10.1016/j.learninstruc.2019.101269

Sanaie, N., Vasli, P., Sedighi, L., & Sadeghi, B. (2019). Comparing the effect of lecture and Jigsaw teaching strategies on the nursing students' self-regulated learning and academic motivation: A quasi-experimental study. *Nurse education today*, *79*, 35-40.https://doi.org/10.1016/j.nedt.2019.05.022

Shao, K., Pekrun, R., Marsh, H. W., & Loderer, K. (2020). Control-value appraisals, achievement emotions, and foreign language performance: A latent interaction analysis. *Learning and Instruction*, *69*, 101356.https://doi.org/10.1016/j.learninstruc.2020.101356

Song, D., Hong, H., & Oh, E. Y. (2021). Applying computational analysis of novice learners' computer programming patterns to reveal self-regulated learning, computational thinking, and learning performance. *Computers in Human Behavior*, *120*, 106746.https://doi.org/10.1016/j.chb.2021.106746

Sun, T., & Wang, C. (2020). College students' writing self-efficacy and writing self-regulated learning strategies in learning English as a foreign language. *System*, *90*, 102221.https://doi.org/10.1016/j.system.2020.102221

Teng, L. S. (2021). Individual differences in self-regulated learning: Exploring the nexus of motivational beliefs, self-efficacy, and SRL strategies in EFL writing. *Language Teaching Research*, 13621688211006881.https://doi.org/10.1177%2F13621688211006881

Teng, L. S., & Zhang, L. J. (2020). Empowering learners in the second/foreign language classroom: Can self-regulated learning strategies-based writing instruction make a difference?. *Journal of Second Language Writing*, *48*, 100701.https://doi.org/10.1016/j.jslw.2019.100701

Theobald, M. (2021). Self-regulated learning training programs enhance university students' academic performance, self-regulated learning strategies, and motivation: A meta-analysis. *Contemporary Educational Psychology*, *66*, 101976.https://doi.org/10.1016/j.cedpsych.2021.101976

Viberg, O., & Kukulska-Hulme, A. (2021). Fostering learners' self-regulation and collaboration skills and strategies for mobile language learning beyond the classroom. *arXiv preprint arXiv:2104.12486*.https://arxiv.org/abs/2104.12486

Viberg, O., Mavroudi, A., & Ma, Y. (2020, September). Supporting second language learners' development of affective self-regulated learning skills through the use and design of mobile technology. In *European Conference on Technology Enhanced Learning* (pp. 173-186). Springer, Cham.https://link.springer.com/chapter/10.1007/978-3-030-57717-9_13

Wakamoto, N., & Rose, H. (2021). Learning to listen strategically: Developing a listening comprehension strategies questionnaire for learning English as a global language. *System*, *103*, 102670.https://doi.org/10.1016/j.system.2021.102670

Wu, T. T., & Wu, Y. T. (2020). Applying project-based learning and SCAMPER teaching strategies in engineering education to explore the influence of creativity on cognition, personal motivation, and personality traits. *Thinking Skills and Creativity*, *35*, 100631.https://doi.org/10.1016/j.tsc.2020.100631

Xiao, Y., & Yang, M. (2019). Formative assessment and self-regulated learning: How formative assessment supports students' self-regulation in English language learning. *System*, *81*, 39-49.https://doi.org/10.1016/j.system.2019.01.004