

**EFL UNDERGRADUATE STUDENTS' SELF-REGULATED LEARNING USING
DIGITAL TECHNOLOGIES: A SURVEY STUDY**

A Thesis

**Presented to the Department of English Language Education as Partial Fulfillment of the
Requirements to Obtain the *Sarjana Pendidikan* Degree in English Language Education**



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YOGYAKARTA
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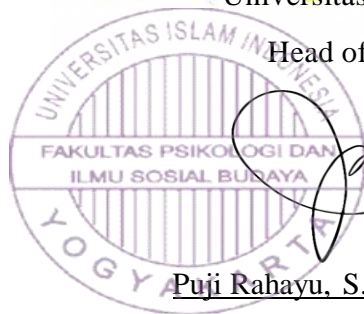


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STATEMENT OF WORK ORIGINALITY

I honestly declare that the thesis that I am writing does not contain the work or part of the work of other people, except those that have been mentioned in the quotations and bibliography, as befits a scientific paper.

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DEDICATION

I dedicate this thesis to my beloved parents, Mr. Salamun and Mrs. Maryuni, who always provide support and encouragement. I also dedicate this thesis to my sister and friends who have tried to help me.

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All praise and gratitude to the presence of Allah SWT, for the abundance of mercy and grace that has been given to me while I was studying and completing this thesis well.

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EFL UNDERGRADUATE STUDENTS' SELF-REGULATED LEARNING USING DIGITAL TECHNOLOGIES: A SURVEY STUDY

ABSTRACT

Self-Regulated Learning using digital technology is a strategy that can apply to manage their own learning during a pandemic COVID-19. Several studies have investigated how the SRL strategy uses digital technology in tertiary institutions, but there is still limited research that focuses on student self-regulated learning strategy digital technology in the context of post-pandemic among students majoring in English Education, especially in Indonesia. Therefore, this study aims to determine the types of self-regulated learning strategies used by post-pandemic students. This is a quantitative study with 127 students of English Education as the respondents. This research used a questionnaire called Self-Regulated Learning with Technologies at the University (SRLTU) developed by Yot-Dominguez and Marcelo (2017). There were 32 question items divided into 9 aspects (share information, active presence, documentation and classification, superficial use with limited information processing, expansion and deepening, monitor and feedback, personal management, self-evaluation, collaborative learning). Then, the data were analyzed using SPSS and Microsoft Excel. The result reveals that the most-used self-regulated learning strategy was collaborative learning, while the least-used strategy was personal management strategy. This implies that these students lack a personal management strategy, such as using google calendar to manage their tasks and schedules. Further implications are also proposed in this thesis.

Keywords: Digital Technology, EFL Undergraduate Students, Self-Regulated Learning strategy

CHAPTER I

INTRODUCTION

1.1. Background of the Study

Nowadays, since the COVID-19 pandemic occurred, the use of digital technology has been massively implemented, including in the education area. The term technology and digital technology in this article will be used interchangeably. According to Castell (2004), technology is a collection of tools, rules and procedures that constitute the application of scientific knowledge to a particular job in a way that allows repetition. While digital technology is the development of technology itself. The development of new learning opportunities and options that support the acquisition of self-regulation abilities are made possible by digital technology (Bernacki et al., 2011; Schneckenberg et al., 2011). Digital technology is popular among students, yet it is not a new thing. However, the post pandemic might bring some changes on the use of those digital tool.

According to Gosling (2008), the teaching approach used at tertiary institutions is no longer teacher-centered but rather student-centered. Students' learning processes must adapt as a result of the learning system. Students engaged in a variety of online learning activities during the pandemic, allowing them to do their coursework whenever and wherever they pleased. This means that students indirectly increase study time while maintain the same level of assignment expectations as before the pandemic. Therefore, students must be able to use technology, especially during the pandemic. Even after the pandemic is over, online platforms for learning are still used by teachers and students. Those in tertiary or university level tend to interact and use more online platforms and digital technologies for learning. Though students have been through online learning for two years, many of them still complain about distance learning, as they do not want to study alone and review the material that has been delivered until they understand. There are also students who complain because the teacher only provides materials without any explanation about the material. So that many students only rely on friends or other people when given assignments by the teacher, because they do not understand the material that has been delivered. There is one solution for the students so that they do not have difficulty while studying online is by implementing self-regulated learning (SRL) strategies.

1.2. Identification of the Problems

During the pandemic, there are several problems faced by students when online learning takes place, one of which is an internet connection. It is difficult for many students during online learning to get a stable internet connection in their home environment, so they cannot follow the lesson well. During this pandemic, the learning process is also less effective. Many students complain because they cannot master and understand the material that has been delivered, due to time constraints. There are also students who complain because the teacher only provides materials without any explanation about the material. So that during the pandemic many students only rely on friends or other people when given assignments by the teacher, because they do not understand the material that has been delivered. There is one solution for the students so that they do not have difficulty while studying online is SRL, but not many students have SRL and use technology to develop SRL. Due to practical constraints, this research will only focus on EFL Undergraduate Students' Self-Regulated Learning using Digital Technologies.

A number of studies have been conducted under the themes of self-regulated learning in the context of English courses/subjects (e.g., Mahmoodi et al 2014; Zumbrunn et al, 2015; Zimmerman, 2002). Perhaps a limited study that focuses on student self-regulated learning using post-pandemic digital technology among students majoring in English Education, especially in Indonesia. As a result, a study to investigate self-regulated learning using digital technology by EFL undergraduate students to find out their self-regulated learning using technology to plan their own learning is urgent to be conducted.

1.3. Formulating of the Problems

This research attempts to answer the following question: what types of Self-Regulated Learning strategies using digital technology do English Education students use mostly?

1.4. Objectives of the Study

This research aims to determine the type of Self-Regulated Learning strategies using digital technology during the post pandemic.

1.5 Significances of the Study

This research is intended for students. During the post pandemic, SRL really helped students to organize their own learning and achieve their goals according to the desired target. This study also aids the lecturer in knowing student learning targets, so that lecturers can prepare learning strategies for students. Besides that, this research is also useful to other researchers used as a reference for further research.

CHAPTER II

LITERATURE REVIEW

2.1. Self-Regulated Learning in Digital Technology Usage for EFL Context

In the current situation and conditions, self-regulation is very important for every student, so that they are able to plan what they will learn. During self-regulation practices, students can use digital technologies as a means of their learning and also can help them to organize and plan what they will do next. The students can use many technologies as tools, plan, organize, and facilitate their learning. However, to use technology as a learning support tool, they need a lot of information related to the use of digital technology that will be used. In addition, the support and motivation from the teachers is very important for the development of students using digital technology as their learning media.

SRL can be developed using technology. Kisantas and Dabbagh (2011) show that software 2.0 technologies (i.e., Communication tools, tools for sharing resources and experiences, social networking tools) have considerable capacity to promote SRL, although empirical research in this context is still limited. Digital technology supports the acquisition of SRL skills and an alternative way of learning (Bernacki et al., 2011; Scheckenberg et al., 2011).

Several studies have investigated self-regulated learning with technology. An example is from Yot-Dominguez and Marcello (2017) who found that students either do not believe in the importance of using digital technology in their own academic learning process or do not have the appropriate skills to do so. When it comes to technology, students only employ SRL methods infrequently. They claim that the digital technology they employ is primarily used for simple tasks such as searching, storing, and exchanging data. These activities, while vital for learning, are restricted unless they are supplemented with others that aid in comprehension, monitoring, or self-assessment of the actual student during the learning process. Furthermore, Barak et al (2016) found that when compared to the on-campus group, students who attend online courses had better levels of SRL and transfer abilities. They also scored higher on their finals and examinations on average.

Zimmerman (1990) states that self-regulated learning is the ability of students to actively and encourage thoughts (cognition), feelings (affection), and actions that have been planned systematically and repeatedly which have the potential to achieve a goal in learning. In addition, SRL is an active and constructive process in which students set goals for their learning process and seek to monitor, regulate, and control cognition, motivation and behavior, all in a goal-directed, encouraged and context-adjusted manner (Boekaerts et al., 2000).

According to Zimmerman (1989), SRL consists of three general aspects in an academic learning setting, namely cognition, motivation, and behavior. The first, cognition includes the process of understanding awareness and self-awareness, as well as knowledge that identifies learning methods as ways of thinking processes. Cognition in SRL is an individual's ability to plan, organize or manage, instruct, supervise, and evaluate in learning activities. The second motivation in SRL is the encouragement that exists in the individual which includes the perception of self-confidence, autonomy, competence in learning activities. Motivation is a function of the basic need for control and is relates to the individual's feeling of competence. The third aspect of SRL behavior is individual efforts to organize, choose, and utilize the environment, or create an environment that supports learning activities. In addition, Boekaerts et al. (2000) stated that SRL is determined by three factors, namely person factors, behavioral factors, and environment factors. The first factor is the personal factor. Students who have knowledge and goals in learning as a result of students' thinking processes are a form of emotion possessed by students. The second factor is the behavioral factor. The behavior of students who can manipulate the surrounding environment to minimize distractions in learning, regulate light and arrange the right study table is one of the formulas that support success in SRL. The third factor explains that environmental conditions and thought processes that influence each other can make students more active. SRL is students who can organize plans and strategies for appropriate learning according to targets.

Pintrich (2000) explained that the students who have self-regulation techniques can increase motivation for learning and improve their learning. Being independent for language learners to organize their own learning is very important (Fahim et al., 2014; Tsuda & Nakata, 2013). Su and Duo (2010) stated that EFL students majoring in English at a university in northern Taiwan had moderate to high levels of self-regulation readiness. They can motivate and review their own English learning process.

2.2. Review of Relevant Studies

Yot-Dominguez and Marcelo (2017) investigated which self-regulated learning strategies applied and which technology used among 711 students at a university in the area of Andalusia (Spain). The study consisted of 38.3% male and 61.2% female, and 59.8% of the students aged 21 and 25 years, another 27% under 21 years of age. The students were from 9 universities in Andalusia (Spain), consisting of five majors. The results of the study found that students often use technology not to structure their own learning. Of all the technologies, which are often used are internet information retrieval and instant communication. Social support is the most common SRL strategy. However, there are also students who use technology to organize their own learning process. This study identified that there are two groups that show different levels of self-regulation.

The results of the study Yot-Dominguez and Marcelo (2017) found that students utilize technology for social, personal, and recreational purposes rather than to control their own learning process. Their constrained perspective on the application of technology to learning accounts in part for this. Despite their familiarity with technology, students still struggle to use it to supplement their own learning.

Another study was from Lucy Barnard-Bark et al. (2010) who investigated two different studies at a major public university in the Southwestern United States. First study, 279 students responded to an online survey. The participants were 117 males, and 162 were females. Of all participants aged between 20 and 65 years, the average age was 34 years. There are 19 different academic degree programs. Meanwhile, in the second study, there were 197 students who completed the survey. 84 were men, and 113 women. Of all the participants

aged 22 to 65 years, the average age of participants was 38 years. There are 22 different academic degree programs. The results show five different profiles of applied SRL across the two samples: super self-regulation, competent self-regulation, forward thinking self-regulator, performance/reflection self-regulator, and non or minimal self-regulation.

The study from Lucy Barnard-Bark et al. (2010) shows that individuals differ significantly in academic achievement according to their profile, e.g., minimal, and disorganized self-learning profiles are both associated with poorer academic outcomes (e.g., lower GPA). Profiles in self-directed learning can contribute to the theory development by explaining how to properly and not self-regulate during their learning process.

2.3. Conceptual Framework

This study aims to investigate SRL using digital technology that uses references from Zimmerman (1990) and Bernacki et al. (2011) and Scheckenberg et al. (2011). SRL can be implemented with and without technology. An adopted instrument Self-regulated Learning with Technology at the University (SRLTU) from Yot- Dominguez and Marcelo (2017).

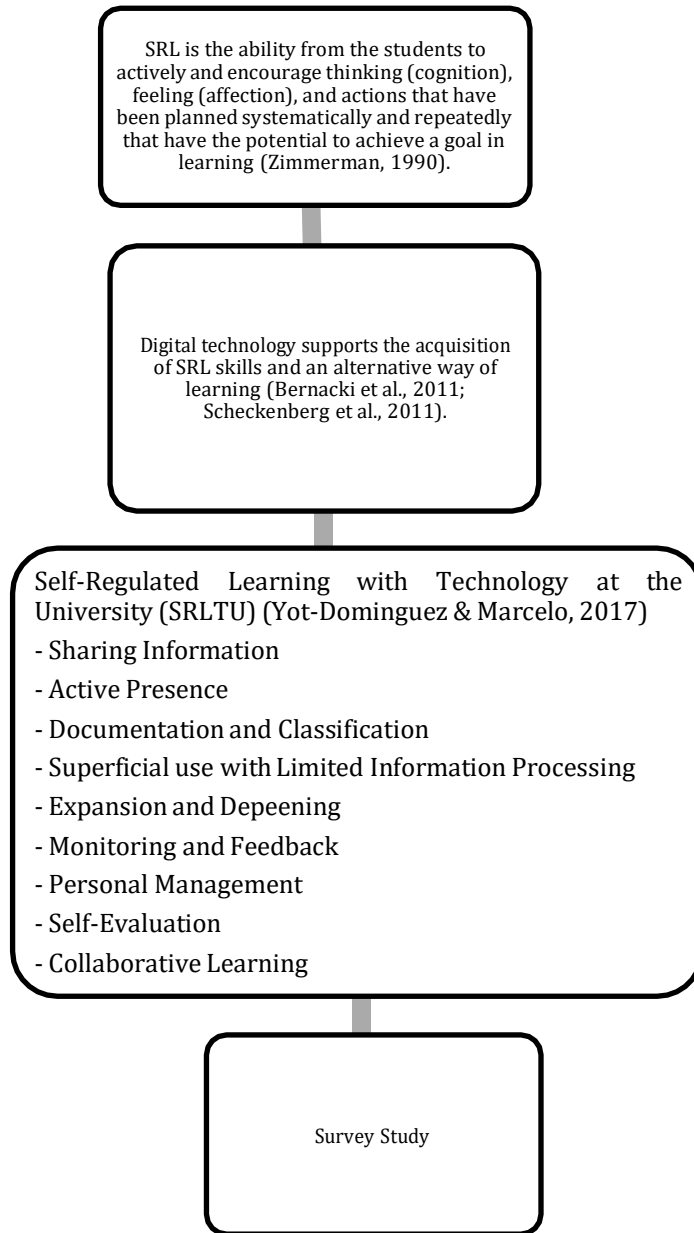


Figure 2.1 Conceptual Framework

CHAPTER III
RESEARCH METHOD

3.1 Research Design

This research is designed to identify Self-regulated learning (SRL) using technology by undergraduate students. This study uses quantitative methods, specifically survey methods. A survey method is a procedure by which a researcher surveys a sample or distributes a questionnaire or scale to describe the attitudes, opinions, behaviors, or characteristics of the research participants. From the result of this survey, the researchers draw statements about existing trends in the population (Asmadi Alsa, 2004). Data collection has been carried out by distributing online questionnaires. This data collection uses a questionnaire created by Yot-Dominguez and Marcelo (2017).

3.2. Population and Sample

This research focuses on undergraduate students, especially English education students in batch 2020 and 2021 who have been studying online since their first semester. There are 189 students from two batches. The following table shows the population based on academic data in the selected universities.

Table 3.1 Description of Population

Batch	Total
2020	124
2021	65
Total of Population	189

In terms of determining the sample, the researcher used the Sample Size Calculator. The sampling method has used non-probability techniques, especially convenience sampling. Non-probability is a sampling technique that does not provide equal opportunities for every

individual from the population (Sugiyono, 2018). Furthermore, convenience sampling can be chosen by researchers if the research already has information about elements that have met the requirements to be used as research samples. Thus, based on the sample size calculator, from a total population of 189, this research required around 127 students as respondents.

Table 3.2 Sample Size Calculation

What margin of error can you accept?	5	%
What confidence level do you need?	95	%
What is the population size?	189	
What is the response distribution?	50	%
Your recommended sample size is:	127	

3.3. Data Collection Technique

3.3.1 Instrument

This study used an instrument called Self-Regulated Learning with Technologies at the University (SRLTU) developed by Yot-Dominguez and Marcelo (2017). There are 32 items in the original questionnaire from Self-Regulated Learning with Technologies at the University (SRLTU). There are 5 Likert scales for responding to questions, ranging from "never" to "always", (1= never, 2= seldom, 3= sometimes, 4= ever, 5= always). This questionnaire describes SRL using technology by undergraduate students. This questionnaire is distributed by students through the online platform (Google form).

Table 3.3.1. The Blueprint of SRLTU Questionnaire adapted from Yot-Dominguez and Marcelo (2017)

Aspect	Number of item(s)	Item(s) number
Share Information	6	28, 29, 26, 14, 25, 10
Active Presence	4	18, 17, 15, 1
Documentation and Classification	2	8,16
Superficial use with Limited Information Processing	2	9, 32
Expansion and Deepening	4	31, 5, 33, 3
Monitoring and Feedback	4	7, 2, 6, 22
Personal Management	4	19, 21, 27, 30
Self- Evaluation	2	24, 23
Collaborative Learning	4	4, 11, 12, 13

3.3.2 Validity

The previous research from Yot-Dominguez and Marcelo (2017) was validated by eight students, constructed with the use of an online survey service, and then disseminated to professors at ten universities throughout Andalusia. Then the survey was explained to the teacher, who in turn informed the students. From this research, it was revealed that the questionnaire was valid.

3.3.3 Reliability

Furthermore, the questionnaire from Yot-Dominguez and Marcelo (2017) also reported its reliability. The Cronbach's Alpha value was found to be 0.877, this indicates that the grouping of items is reliable. The researcher has also calculated the reliability using SPSS of 9 categories consisting of 32 items. It has a Cronbach's Alpha reliability value of 0.880, which means that all items are reliable.

3.4. Data Analysis Technique

The data were analyzed by using descriptive statistics measuring mean score, frequency, and standard deviation. All of those analyses have been carried out using SPSS and Microsoft Excel.

CHAPTER IV

FINDINGS AND DISCUSSIONS

4.1. FINDINGS

4.1.1. Overall Findings

There are 32 question items in the questionnaire consisting of 9 aspects (i.e., share information, active presence, documentation and classification, superficial use with limited information processing, expansion and deepening, monitoring and feedback, personal management, self-evaluation, collaborative learning). Based on the analysis descriptive statistics using SPSS, the research findings are described in the chart below.

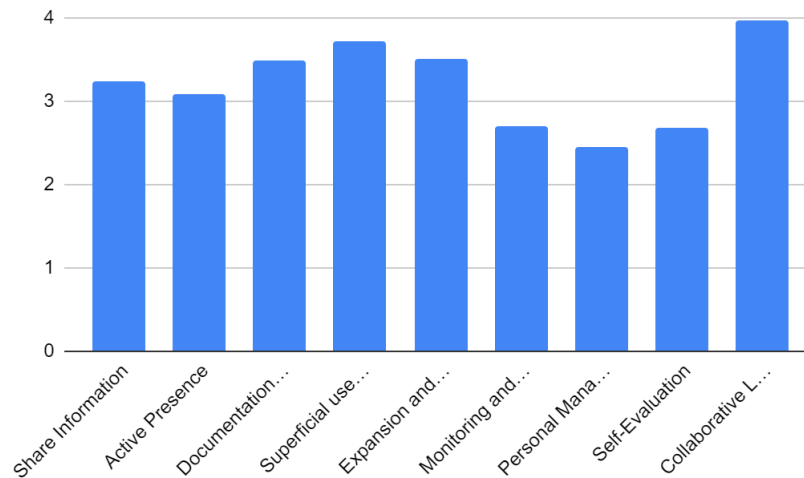


Figure 4.1 Self-Regulation Learning Use Digital Technologies

The overall results show that the collaborative learning aspects obtained the highest score ($M=3.97$), while the lowest aspect is personal management ($M=2.44$). From this result, English Education students use collaborative learning more than any other aspect. As seen in this figure, the aspect that got the lowest score was personal management. Then, we can conclude that students in this present study

lack a personal management strategy in terms of regulating themselves in the digital environment.

4.1.2. Collaborative Learning

Based on the result of questionnaire, the average of the “collaborative learning” shown in below.

Table 4.2 Collaborative Learning

Statement	N	Mean	Std. Deviation
32. I communicate with my classmates via videoconference (Zoom, Google Meet...) to solve or discuss topics related to the subjects.	138	4.20	.873
31. I interact outside the classroom with classmates using apps (WhatsApp, Line...) and we exchange information, solve doubts, etc.	138	4.16	.697
30. I produce collaborative work using tools such as wikis, Google Drive...	138	3.95	1.062
29. I share material with my classmates using Dropbox, Google Drive.	138	3.57	1.250
Valid N (listwise)	138		

From the results above statement number 32 is the highest score “I communicate with my classmates via videoconference (Zoom, Google Meet...) to solve or discuss topics related to the subjects.” ($M=4.20, SD=.873$), and the lowest score is statement number 29 “I share material with my classmates using Dropbox, Google Drive.” ($M=3.57, SD=1.250$). In the collaborative learning aspect based on the statement with the highest score that English language education students are stated to use Zoom or Google Meet to communicate with friends and discuss certain topics rather than using Dropbox or Google Drive to share material with classmates.

4.1.2. Superficial use with Limited Information Processing

Based on the result of questionnaire, the average of the “superficial use with Limited Information Processing” shown in below.

Table 4.3 Superficial use with Limited Information Processing

Statement	N	Mean	Std. Deviation
13. I use a web translator to understand content-related texts written in other languages.	138	3.89	.941
14. I resort to Wikipedia or any other online dictionary when I need to clarify a content-related topic or concept.	138	3.55	1.095
Valid N (listwise)	138		

In the table above the aspects of “superficial use with limited information processing” there are 2 statements. The highest score is statement number 13 "I use a web translator to understand content-related texts written in other languages" ($M=3.89$, $SD=.941$). In this aspect, English education students sometimes use web translators to understand text related to content in other languages rather than use Wikipedia or any other online dictionary to clarify a content-related topic or concept.

4.1.3. Expansion and Deepening

Based on the result of questionnaire, the average of the “expansion and deepening” shown in below.

Tabel 4.4 Expansion and Deeping

Statement	N	Mean	Std. Deviation
16. When studying, I search for content-related videos on Youtube, Vimeo...	138	3.81	.917
15. I follow Youtube video channels where there are videos related to the topics I'm studying.	138	3.80	.903

18. When studying, I look for multimedia, content-related presentations (Slideshare, Prezi...)	138	3.49	1.048
17. I follow blogs by experts who publish content-related work.	138	2.91	1.177
Valid N (listwise)	138		

From the above result the highest score is statement number 16 “When studying, I search for content-related videos on YouTube, Vimeo...” aspects of “(M=3.81, SD=.917), and the lowest score is statement number 17 “I follow blogs by experts who publish content-related work” (M=2.91, SD=1.177). Based on the statement with the highest score, English education students sometimes look for videos on YouTube to learn about content rather than following blogs by expert who publish content-related work.

4.1.4. Documentation and Classification

Based on the result of questionnaire, the average of the “documentation and classification” shown in below.

Table 4.5 Documentation and Classification

Statement	N	Mean	Std. Deviation
11. I locate scientific, content-related texts in a specialized database (Google scholar, Dialnet...)	138	3.95	1.062
12. I use citation management tools such as RefWorks, Mendeley.... When I need to draft reports or essays.	138	3.03	1.214
Valid N (listwise)	138		

In the table above the aspect of “documentation and classification” there are 2 statements. The highest score is statement number 11 “I locate scientific, content-related texts in a specialized database (Google scholar, Dialnet...)” (M=3.95, SD=1.062). In this aspect English education students use Google Scholar etc., to search scientific texts than use RefWorks, Mendeley etc. to manage citation for draft report or essays.

4.1.5. Share Information

Based on the result of questionnaire, the average of the “share information” shown in below.

Table 4.6 Share Information

Statement	N	Mean	Std Deviation
1. When designing a multimedia presentation, I share it through repositories such as Slideshare or Canva.	138	4.04	1.100
5. Before turning in my work, I verify its originality using anti-plagiarism software.	138	3.48	1.005
3. I use social markers to register information found on the internet.	138	3.36	1.249
6. When studying, I create concept maps with Specific software.	138	3.22	1.157
2. I turn my work and notes into an ebook (Issuu, Calameo..) to facilitate its distribution.	138	3.17	1.189
4. I have a blog where I comment on topics regarding contents.	138	2.09	1.070
Valid N (listwise)	138		

From the result above statement number 1 is the highest score “when designing a multimedia presentation, I share it through repositories such as Slideshare or Canva” (M=4.04, SD=1.100), and the lowest score is statement number 4 “I have a blog where I comment on topics regarding contents” (M= 2.09, SD= 1.070). Based on the statement with the highest score, English education students more often use Canva or Slideshare to prepare presentations rather than having blogs to comment on topical content.

4.1.6 Active Presence

Based on the result of questionnaire, the average of the “active presence” shown in below.

Table 4.7 Active Presence

Statement	N	Mean	Std. Deviation
8. I look at content-related information, news, etc., distributed on social networks.	138	3.92	.989
7. I'm a member of groups on social networks that discuss, exchange information, etc, about content-related topics.	138	3.25	1.252
9. I share pictures on Instagram, Pinterest... About practical work carried out for the subject.	138	2.80	1.213
10. I discuss the information facilitated by teachers during class using Twitter, Facebook.	138	2.34	1.264
Valid N (listwise)	136		

From the above results the highest score is statement number 8 “I look up content-related information, news, etc., distributed on social networks.” ($M=3.92$, $SD = .989$), and the lowest score is statement number 10 “I discuss the information facilitated by teachers during class using Twitter, Facebook...” ($M=2.09$, $SD=1.070$). Based on the statement with the highest score, English education students sometimes seek information on social networks rather than using facebook or twitter facilitated by the lecturers to discuss certain information.

4.1.7. Monitoring and Feedback

Based on the result of questionnaire, the average of the “monitoring and feedback” shownin below.

Table 4.8 Monitoring and Feedback

Statement	N	Mean	Std. Deviation
22. When preparing a presentation, a practical exam... I record myself using a handheld device.	138	3.03	1.226
20. I record the teacher’s presentation with my mobile device.	138	2.84	1.160
21. When studying, I listen to content-related podcasts found on iTunes, iVoox, Spotify.	138	2.69	1.317
19. I record my own content-related podcasts to use when I’m studying.	138	2.20	1.225
Valid N (listwise)	138		

From the above results the highest score is statement number 22 "when preparing a presentation, a practical exam... I record myself using a handheld device" ($M=3.03$, $SD=1.226$), and the lowest score is statement number 19 "I record my own content-related podcasts to use when I’m studying" ($M=2.20$, $SD=1.225$). Based on the statement with the highest score that English education students sometimes record using a cellular phone when preparing presentations rather than recording podcasts related to certain content for them to study.

4.1.8. Self-Evaluation

Based on the result of questionnaire, the average of the “self-evaluation” shown in below.

Table 4.9 Self-Evaluation

Statement	N	Mean	Std. Deviation
27. I look for content-related, self-evaluation exercises online and I use them to prepare for exams.	138	3.02	1.156
28. I create online exam samples (ExamTime, Google Forms...) and I share them with my classmates when preparing exams.	138	2.33	1.308
Valid N (listwise)	138		

In the table above the aspect of self-evaluation there are 2 statements. The highest score is statement number 27 "I look for content-related, self-evaluation exercises online and I use them to prepare for exams" (M=3.02, SD=1.156). In this aspect, English education students are stated to be more likely to seek self-evaluation regarding content to prepare for exams than creating sample exams online using ExamTime or Google Forms.

4.1.9 Personal Management

Based on the result of questionnaire, the average of the “personal management” shown in below.

Table 4.10 Personal Management

Statement	N	Mean	Std. Deviation
23. I use programmers such as Google Calendar, EverNote.. To handle my academic activity agenda.	138	2.77	1.280
24. I download content-related material through my institution’s repository of learning objects (RODAS< RiUMA, ets) or from open learning resource libraries such as Universia.	138	2.65	1.150
25. I use Really Simple Syndication (RSS) feeds to receive updated information about topics I am interested in.	138	2.33	1.128
26. I use specific apps (such as scientific calculator Kaljulilo, Whiteboard Lite...) to solve problems and exercises included in the subjects.	138	2.02	1.063
Valid N (listwise)	138		

Among the nine dimensions, personal management has got the lowest mean scores. It can be seen from Table 4.8, the mean score highest ($M=2.77$), while other dimensions have the highest average score above 3. From the above results the highest score in Personal Management is statement number 23 "I use programmers such as Google Calendar, Evernote... To handle my academic activity agenda" ($M=2.77$, $SD=1.280$), and the lowest score is statement number 26 "I use specific apps (such as scientific calculator Kaljulilo, Whiteboard Lite...) to solve problems and exercise included in the subjects" ($M=2.02$, $SD=1.063$). Although statement number 23 got the highest score, we can interpret that the students still rarely used Google Calendar, Evernote etc., to arrange academic activities, as well as rarely used specific apps such as scientific calculator Kaljulilo, Whiteboard Lite etc. to solve problems and exercise included in the subject.

4.2. DISCUSSIONS

4.2.1. Overall findings

From the findings, the most-used self-regulated learning strategy was collaborative learning, while the least-used strategy was personal management strategy. This means that these students lack a personal management strategy, such as using google calendar to manage their tasks and schedules. Students still have a limited awareness of how technology is used in education. Although they are proficient with technology, they nevertheless struggle to use it effectively to aid in their own learning (Littlejohn et al., 2010).

4.2.2. SRL Strategies using Digital Technology

In the collaborative learning aspect, based on the statement with the highest score that English language education students are stated to use ZOOM or Google Meet to communicate with friends and discuss certain topics rather than using Dropbox or Google Drive to share material with classmates. Yot Dominguez and Marcelo (2017) claim that students frequently use this messaging application and to share files over the cloud for class project or group projects.

Concerning the superficial use of limited information processing, English education students more often use web translators to understand text related to content in other languages than use Wikipedia or any other online dictionary to clarify a content-related topic or concept. The result of Yot-Dominguez and Marcelo (2017) who discovered that students frequently used both for explicit aims and for basic information processing, are different from those presented here. More than 60% of students use Wikipedia, while about 50% of students use online translator. The students use Wikipedia when they need in-depth information about unknown facts or topics (Lim, 2009).

In the expansion and deepening aspect, based on the statement with the highest score, English education students more often look for videos on YouTube to learn about content than following blogs by experts who publish content-related work. According to Yot-Dominguez and Marcelo (2017) students search for videos related

to the content they learn and observe multimedia presentations they find themselves. Digital technology such as videos, blogs, presentations, etc., is a student facility to start self-learning more efficiently.

In the documentation and classification aspect, English education students use Google Scholar etc., to search scientific texts rather than use RefWorks, Mendeley etc. to manage citation for draft reports or essays. These results are consistent with earlier research by Yot-Dominguez and Marcelo (2017), which found that students frequently look for information rather than store and categorize sources when composing reports, essays, and other types of writing.

In terms of sharing information, students most likely collaboratively designed their presentation by using Canva or Slideshare to prepare presentations rather than having blogs to comment on topical content. According to Yot-Dominguez and Marcelo (2017) students show a high degree of self-control when choosing to share digital resources because by sharing their work they take the “risk” of being criticized by others. When students use blogs where everyone can comment and voice their thoughts, this is very clear. They demonstrate how open and textual forms of the environment force the understanding that SRL is not only a product of the individual environment but is also acquired collectively (collective self-regulation).

Regarding active presence, based on the statement with the highest score, English education students more often seek information on social networks than using facebook or twitter facilitated by the lecturers to discuss certain information. According to Yot-Dominguez and Marcelo (2017), the web is a resource not just for acquiring information, but also for social learning through interaction. Social network and microblogging services are a new type of communication that aids in informal learning (Ebner et al., 2010; Vivian, 2011).

In terms of monitoring and feedback, based on the statement with the highest score that English education students sometimes record using a cellular phone when preparing presentations rather than recording podcasts related to certain content for them to study. The degree of academic success when students record their own audio, they engage in transformation and communication or share information with others (Heilesen, 2010). The use of podcasts can also improve the will of good learning, students can listen more than once while they are checking their notes (McKinney et al., 2009; Scutter et al., 2010).

In the self-evaluation aspect, based on the statement with the highest score, English education students are stated to be more likely to seek self-evaluation regarding content to prepare for exams than creating sample exams online using ExamTime or Google Forms. In this aspect students must prove their own level of learning; they must practice to correct themselves or digital tests online. But 90,2% of them never practiced using online exams, 40,9% had practiced with self-correction activities, 58,4% took advantage of them (Yot Domunguez & Marcelo, 2017).

Regarding personal management, based on the statement with the highest score we can interpret that the students still rarely used Google Calendar, Evernote etc., to arrange academic activities, as well as rarely used specific apps such as scientific calculator Kaljulilo, Whiteboard Lite etc. to solve problems and exercise included in the subject. The findings are also in line with Yot-Dominguez and Marcelo (2017), stating that the level of use of this aspect is very low, students rarely use electronic sources and organize their academic agendas using management software.

CHAPTER V

CONCLUSION AND SUGGESTION

This chapter presents conclusions based on research findings and some suggestions regarding this study.

5.1 CONCLUSION

Basically, most students use digital technology to learn various academic subjects and/or conduct daily activities, and they have SRL. It is uncertain whether they will successfully execute the SRL, though. experts have offered broad recommendations for helping each learner's SRL become more effective. There are various suggestions that are like one another and some suggestions; however, these are not mutually exclusive and, in fact, work best together. Since the recommendations are general in nature, their application can be changed in accordance with the specifics of the field of study being taught. The purpose of this study is to determine the SRL strategy of using digital technology that students apply during the post-pandemic. According to the results of this study, some English language education students applied SRL using digital technology during the pandemic to manage their own learning process. However, some students stated that they did not apply SRL to manage their own learning. It can be seen from the overall findings that the most-used self-regulated learning strategy was collaborative learning, while the least-used strategy was personal management strategy. This means that these students lack a personal management strategy, such as using google calendar to manage their tasks and schedules. Meanwhile, the researchers concluded that students did used SRL strategies using digital technology in a limited way, they did so more frequently for tasks like finding, saving, and sharing information about specific subject or content.

5.2. SUGGESTIONS

The improvement to next study, researcher would like to suggestion to students, lecturers, and future researchers:

a. English Education Students

Students must apply a personal management strategy, such as using google calendar to manage their tasks and schedules. So they can manage their own learning process to achieve the goal according to the desired targets.

b. English Education Lectures

Lectures must support students to implement SRL strategies using digital technology. So that lectures know students' learning targets, so that lectures find it easier to prepare learning strategies for students. One of the supports that the lecturers could give to the students was training them in personal management, since this aspect has got the lowest scores among the other aspects of SRL. One of the trainings could be in the form of training students to use Google Calendar to manage the deadlines of some assignments given by the lecturers.

c. Future Researchers

For the current study, the researchers used quantitative methodologies to explore SRL strategies utilizing digital technology. Further researcher can expand the study to a large size and develop data collecting utilizing qualitative approaches like observation or interview to gain more in-depth results.

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APPENDIX

Appendix 1: Self-Regulated Learning using digital technologies

Assalamualaikum Wr.Wb.

I'm Yunita Salamatul Khoiroh, a student of the English Education study program, Islamic University of Indonesia. Currently I am conducting research in order to collect thesis data with the title "EFL Undergraduate Students' Self-Regulated Learning using Digital Technologies: A survey study". Therefore, I request your willingness to be a participant and fill out this research questionnaire.

You can fill out this questionnaire if you meet the criteria as a student of the English language education study program class of 2020 and 2021.

All data in this study will be kept confidential and will only be used for research purposes. If you encounter any problems or questions related to this research, you can contact me via :

Email: 19322027@students.uii.ac.id

Nomor : 081717298046

Thank you for your willingness and assistance in filling out this questionnaire.

Wassalamualaikum Wr.Wb

Sincerely,

Yunita Salamatul Khoiroh

Supervisor,

Banatul Murtafiah, S.Pd.,

Section 1

Please write and select according to your data:

Name (initial) :

Email :

Age :

Gender : male/female

Batch : 2020/2021

Availability to fill this forum: YES/NO

Section 2

Choose one: the first statement about your real situation

Note :

1. Tidak Pernah	2. Jarang	3. Kadang-kadang	4. Sering	5. Selalu
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English version

Category	Items	1	2	3	4	5
Share Information	1. When designing a multimedia presentation, I share it through repositories such as Slideshare.					
	2. I turn my work and notes into an ebook (Issuu, Calameo...) to facilitate its distribution.					

	3. I use social markers to register information found on the internet.					
	4. I have a blog where I comment on topics regarding contents.					
	5. Before turning in my work, I verify its originality using anti-plagiarism software.					
	6. When studying, I create concept maps with specific software.					
Active presence	7. I'm a member of groups on social networks that discuss, exchange information, etc, about content-related topics.					
	8. I look up content-related information, news, etc., distributed on social networks.					
	9. I share pictures on Instagram, Pinterest... about practical work carried out for the subject.					
	10. I discuss the information facilitated by teachers during class using Twitter, Facebook...					
Documentation and classification	11. I locate scientific, content-related texts in specialized databases (Google scholar, Dialnet...).					
	12. I use citation management tools such as RefWorks, Mendeley... when I need to draft reports or essays.					
Superficial use with limited information processing	13. I use a web translator to understand content-related texts written in other languages.					
	14. I resort to Wikipedia or any other online dictionary when I need to clarify a content-related topic or					

	concept.					
Expansion and in-depth information	15. I follow Youtube video channels where there are videos related to the topics I'm studying.					
	16. When studying, I search for content-related videos on Youtube, Vimeo...					
	17. I follow blogs by experts who publish content-related work.					
	18. When studying, I look for multimedia, content-related presentations (Slideshare, Prezi...).					
Monitoring feedback	19. I record my own content-related podcasts to use when I'm studying.					
	20. I record the teacher's presentations with my mobile device.					
	21. When studying, I listen to content-related podcasts found on iTunes, iVoox...					
	22. When preparing a presentation, a practical exam... I record myself using a handheld device.					
Personal management	23. I use programmers such as Google Calendar, EverNote... to handle my academic activity agenda.					
	24. I download content-related material through my institution's repository of learning objects (RODAS< RiUMA, ets) or from open learning resource libraries such as Universia.					
	25. I use Really Simple Syndication (RSS) feeds to receive updated information about topics I am interested in.					
	26. I use specific apps (such as					

	scientific calculator Kaljulilo, Whiteboard Lite...) to solve problems and exercises included in the subjects.					
Self-evaluation	27. I look for content-related, self-evaluation exercises online and I use them to prepare for exams.					
	28. I create online exam samples (ExamTime, Google Forms...) and I share them with my classmates when preparing exams.					
Collaborative learning	29. I share material with my classmates using Dropbox, Google+.					
	30. I produce collaborative work using tools such as wikis, Google Drive...					
	31. I interact outside the classroom with classmates using apps (WhatsApp, Line...) and we exchange information, solve doubts, etc.					
	32. I communicate with my classmates via videoconference (Skype, Google Talk...) to solve or discuss topics related to the subjects.					

Translated version

Category	Items	1	2	3	4	5
Berbagi Informasi	1. Saat mendesain tugas presentasi, saya membagikannya melalui repositori seperti Slideshare atau Canva.					
	2. Saya mengubah tugas dan catatan saya menjadi ebook atau pdf untuk memudahkan <i>sharing</i> .					

	3. Saya menggunakan <i>bookmark</i> untuk menandai informasi yang ditemukan di internet.						
	4. Saya memiliki blog tempat saya mengomentari topik tertentu.						
	5. Sebelum menyerahkan tugas, saya mengecek <i>similarity</i> nya menggunakan software anti plagiarisme.						
	6. Saat belajar, saya membuat peta konsep (<i>mind map</i>) dengan software tertentu.						
Kehadiran aktif	7. Saya adalah anggota grup di jejaring sosial yang membahas, bertukar informasi, dll., tentang topik tertentu.						
	8. Saya mencari informasi terkait konten, berita, dll., yang didistribusikan di jejaring sosial.						
	9. Saya membagikan gambar di Instagram, atau Pinterest... tentang tugas praktik yang dilakukan untuk mata kuliah tertentu.						
	10. Saya menggunakan Twitter, Facebook untuk mendiskusikan informasi tertentu di kelas, yang difasilitasi oleh dosen saya.						
Dokumentasi dan klasifikasi	11. Saya menemukan teks ilmiah di basis data khusus (Google scholar, Dialnet...)						
	12. Saya menggunakan alat manajemen kutipan seperti RefWorks, Mendeley... ketika saya perlu membuat draf laporan atau esai.						
Penggunaan yang kurang tepat dengan informasi yang terbatas	13. Saya menggunakan web penerjemah untuk memahami teks terkait konten yang ditulis dalam bahasa lain.						
	14. Saya menggunakan Wikipedia atau kamus online lainnya ketika saya perlu mengklarifikasi topik atau konsep tertentu.						

Perluasan dan pendalaman	15. Saya mengikuti saluran video Youtube di mana ada video yang terkait dengan topik.						
	16. Saat belajar, saya mencari video terkait konten di Youtube.						
	17. Saya mengikuti blog oleh para ahli yang menerbitkan karya terkait konten.						
	18. Saat belajar, saya mencari multimedia dan presentasi terkait konten (Slideshare, Prezi...)						
Pemantauan dan umpan balik	19. Saya merekam podcast terkait konten saya sendiri untuk digunakan saat saya belajar						
	20. Saya merekam presentasi guru dengan perangkat seluler saya.						
	21. Saat belajar, saya mendengarkan podcast terkait konten yang ditemukan di iTunes, iVoox, Spotify.						
	22. Saat mempersiapkan presentasi dan ujian praktik, saya merekam diri saya menggunakan perangkat seluler.						
Pengelolaan pribadi	23. Saya menggunakan program seperti Google Calendar, EverNote.. untuk menyusun kegiatan akademik saya.						
	24. Saya mengunduh materi terkait konten melalui repositori institusi objek pembelajaran atau dari sumber belajar terbuka perpustakaan seperti Universitas (misal: Dspace UII).						
	25. Saya menggunakan umpan <i>Really Simple Syndication</i> (RSS) untuk menerima informasi terbaru tentang topik yang saya minati.						

	26. Saya menggunakan aplikasi tertentu (seperti Whiteboard Lite) untuk memecahkan masalah dan latihan yang termasuk dalam mata kuliah..						
Evaluasi diri	27. Saya mencari latihan evaluasi diri terkait konten secara online dan saya menggunakannya untuk mempersiapkan ujian.						
	28. Saya membuat sampel ujian online (ExamTime, Google forms) dan saya membagikannya dengan teman sekelas saya ketika mempersiapkan ujian.						
Belajar kolaboratif	29. Saya berbagi materi dengan teman sekelas saya menggunakan Dropbox, Google Drive.						
	30. Saya menghasilkan karya kolaboratif menggunakan alat seperti Wiki, Google Docs, Google Slides, Canva.						
	31. Saya berinteraksi di luar kelas dengan teman sekelas menggunakan aplikasi (WhatsApp, Line) dan kami bertukar informasi untuk menjawab keraguan terkait tugas, dll.						
	32. Saya berkomunikasi dengan teman sekelas saya melalui konferensi video (Zoom, Google Meet) untuk memecahkan atau mendiskusikan topik yang berkaitan dengan mata kuliah tertentu.						