EFL Students' Readiness for independent Learning Observed from their Self-Regulation in Post COVID-19 Outbreak

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Abstract: In the last couple of years, the students have experienced full online learning due to pandemic outbreak. In this mode of instruction, independent learning (also known as self-study) becomes the essential part of learning. This study aims to investigate the students' readiness in doing independent learning after experiencing it for two years and find out how they perceive technology in doing so. 127 sophomores participated to fill in two Likert-scale questionnaires. Quantitatively speaking, the students were deemed ready to do more independent learning in the future as they were aware of metacognitive skills needed, more comfortable learning environments, high persistence and the act of help-seeking. However, time-management was still the issue in which the students struggle to set it. In addition, in regard to students' perception on the use of technology in doing independent learning, almost all participants were in one voice to affirm that technology is necessary part of learning and they were highly informed of technological merits.

Keywords: Covid 19 Outbreak, EFL Students' Readiness; Independent Learning; Self-regulation

INTRODUCTION

In the three years, independent learning has been implemented massively as the Corona Virus 19 struck at the end of 2019 because of all schools being closed. Therefore, all students studied at home via online and independent learning practice is inevitable. It has been a frustrating time particularly for those who have not done online classroom previously such as many public schools in Indonesia. In fact, learning process in most public schools in Indonesia has been conducted face to face in class until Covid-19 attacked. Thus, this sudden transition has been very challenging and stressful for both teachers and students due to insufficient preparation in terms of cognitive and mental aspects (Pratiwi, & Prayana, 2022)

In fact, long before Covid-19 independent learning has been a topic of interest of many scholars due to the rapid advancement of technology. The technological development continues to make progress which has impacted the education system greatly. Thus, a lot of breakthroughs have happened in the last decade such as the practice of blended learning, flipped leaning and online learning which leads to students' independency in learning. Based on the previous literature, there are a plenty of factors that contribute to the success of independent learning. One of which is students' self-regulated learning skill (Zimmerman 2002; Karatas & Arpaci, 2021).

According to Zimmerman (2002), self-regulation is a directive process in achieving certain goals in which the person's mind, feeling and behavior are put into it. Barnard-Bak et al (2010) define self- regulation as individual process which involves proactive behaviors such as managing the time, working on learning strategies, structuring environment and seeking for help in achieving a goal. In other words, the person takes in charge of his/ her own learning and does whatever necessary to accomplish the target. Based on this idea, students must be aware of what they are capable of and what they are lack of in order to set the learning goals. This skill is indeed very essential not only in education but also in students' future carrier (Bidokht, & Assareh, 2011). However, to acquire this skill requires more than just motivation; it needs self-management, determination and control (O'Shea, 2003).

One of the merits of self-regulated learning skill is the ability to do lifelong learning as it is proven by the strong relationship these variables have (Tekkol & Demirel, 2018). Lifelong learning has become the goal of 21th century education as Goodwilll & Chen (2021) pinpoint the role of lifelong learning for people' future life as it keeps them sustainable to maximize their ability in achieving the target. Besides, they believe that lifelong learning is a way to cope with the rapid change in regards to globalization and digitalization.

In addition, possessing the skill to learn by oneself, to some extent, seems challenging, yet with the help of technology, it is highly attainable. The rapid advancement of technology has brought blistering change in educational milieu. One of fundamental change is the availability of a plethora of materials which is easily accessed. This undeniably benefits the students as the resources of learning do not limit on textbooks. Furthermore, in this digital era, technology undoubtedly makes it easier for students to manage their own learning. Compared to the past, independent learning in some ways is easier to conduct as technology offers various learning options and resourceful assistance (Chen et al, 2016).

In brief, the abovementioned elaboration concludes that self-regulated learning skill and technological assistance contribute greatly to students' success in independent learning. Due to its significance on students' learning, this study seeks to find out students' current level of readiness to do independent learning after two years experiencing online learning. Furthermore, students' independency is observed from their self-regulation and perspective on the use of technology.

BACKGROUND OF THE STUDY

The importance of self-regulated learning skill for higher education students has been acknowledged as it equips the students with the skills needed to quickly adapt in this extremely dynamic world (Stewart, 2007). One of the latest changes that happened not along ago is the sudden transition to online learning in which the students most of the time study independently. Furthermore, several studies have been carried out to figure out how students worldwide perceive independent learning practice. Taqi (2019) conducted a study aiming to find out Kuwait students' perception on the effectiveness of doing self-study. 324 students filled in the questionnaire about the students' ability to find learning resources, learn independently, and manage the time and pace of study. Some highlighted points from the results were that students were mostly doing self-study because of the course requirement. They admitted that they still needed teachers' assistance even this independent learning required them to study independently.

The next study was conducted by Al-Amri (2020) who investigated the student teachers' (pre-service teacher) perception of self-study in Saudi Arabian Context. Through focus group interview, the results showed various responds to self-study. The students admitted that they enjoyed the freedom to obtain the material online, while others favored teacher's guidance through some models. Besides, some were still score-oriented and disregarded the learning progress. Similarly, the studies carried out by Tamer (2013) and Imran et al (2021) showed similar findings in which the students were aware of the merits and yet they realized that in order to do so they were in need of teachers' assistance.

Farhani (2014) did a study to uncover gap between students' unconsciousness of being autonomous learner in which they could manage their own learning and their practice. Through questionnaire and interview, the students showed their readiness to be independent learners by showing how motivated they were; however, unconsciously the practice said differently. The students were very much dependent on teacher.

Unlike other studies, Wahyudi et al (2021) investigated teachers' perception on Self Directed Learning (SDL) and the practice in online classroom. The observation of practice lied on the assigned activities instructed to students. The results showed inconsistency between teachers' perception on SDL and the activities assigned. According to Gürsoy (2021), to develop students' independence in learning, they need 4C learning skills- critical thinking, creativity, collaboration and communication. Thus, the activities designed must include these learning skills. From the above-mentioned studies, it is so vivid that the students are not yet ready, so are some teachers.

Based on above-cited studies, apparently the students' level of readiness in doing self-study or independent learning before Covid-19 was still low. Even some have understood the concept; yet, when it came to practice, their dependency on teachers was still tight. In addition, several studies have examined the students' readiness at the beginning of Covid 19. A study carried out Mohideen et al (2020) aimed to measure the students' readiness from several aspects-Computer Internet Literacy (CIL) Competence, Self-Directed Learning (SDL) and motivation of learning. The results showed that online learning increased students' CIL; however, the students were not yet prepared in terms of SDL and motivation of students were reported low. Anwar & Mu'tiah (2022) examined Biochemistry students' critical thinking and their readiness observed from five categories-metacognitive skills, time management, environment structuring, persistence, and help-seeking. The results showed that metacognitive skills component was the highest, while the help-seeking was the lowest. Muhab et al (2022) did study at Chemistry department aiming to find out the effect of self-regulation program and measure the level of student' self-regulation after the treatment. The high score was on Environment structuring.

The studies conducted before and at the beginning of pandemic Covid-19 show that students' readiness for independent learning is somewhat low since a lot of students are very likely depended much upon teachers' assistance. In the last two years, the students worldwide experienced a very sudden change in which the instruction was carried out fully online. This lasted for two years which is fair to assume that students have been able to adjust to this new learning situation; however, this is not solid since no research have been conducted to figure out the students' readiness in post Covid-19 pandemic. To address this gap, this study aims to investigate the level of students' readiness on doing independent study and their perception on the use of technology in the process.

METHODOLOGY

As the purpose of this study was to examine students' level of learning independency after Covid 19 outbreak observed from their self-regulation as well as their technological perspective, this study employed quantitative design and used a survey as the instrument to collect the data. This study was undertaken at Universitias Negeri Padang – one of prestigious public universities in Indonesia. Moreover, 127 sophomores at English Department were the subjects of research. The sample selection was based on two reasons. First, these students had one-year full online class at high school indicating that it was their first experience on independent learning and spent another year at higher education/ college. Second reason was that these students have undertaken English Proficiency Course – a required four credits course, and succeeded. This course is very essential for freshmen as it equips them with all the basic knowledge for the four English skills. Besides, students are assigned to do more independent learning as they are given the workbook. In fact, when they fail this course, they are suggested to move to other departments.

The data were collected through two Likert-scale questionnaires, students' readiness on self-study and the use of technology in assisting the students. Because of the convenience, the questionnaires were distributed online. The self-regulation questionnaire which was adapted from Jansen et al (2016) comprised of five components; metacognitive skill (14 statements), the Time management (3 statements), environmental structuring (4 statements), persistence (6 statements), and Help-seeking (5 statements). This questionnaire was selected as all the components represent the aspects in self-regulated learning skill. The second questionnaire was about students' perception on the role of technology. In addition, this questionnaire has been validated before distributing it to the participants.

FINDINGS AND DISCUSSION

Students' Readiness of Self-study

As it has been mentioned previously, there were 5 components measured in order to investigate the students' readiness in doing self-study. The results are presented in the following table.

Table 1: The results of metacognitive skill component

No.	Statement		Responses (%)			
NO.	Statement	Α	0	R	N	MS
1	I think about what I really need to learn before I begin a task in this online course	33.9	55.9	10.2	0	3.39
2	I ask myself questions about what I am to study before I begin to learn for this online course.	32.3	59.1	8.7	0	3.39
3	I set short-term (daily or weekly) goals as well as long-term goals (monthly or for the whole online course).	15.7	46.5	35.4	2.4	2.90
4	I set specific goals before I begin a task in this online course.	33.9	50.4	15	0.8	3.34
5	I think of alternative ways to solve a problem and choose the best one for this online course.	45.7	48	6.3	0	3.57
6	I try to use strategies in this online course that have worked in the past	26	59.1	13.4	1.6	3.24
7	I have a specific purpose for each strategy I use in this online course.	26.8	55.9	16.5	0.8	3.24
8	I am aware of what strategies I use when I study for this online course.	31.5	54.3	14.2	0	3.33
9	I find myself pausing regularly to check my comprehension of this online course.	8.7	48	38.6	4.7	2.73
10	I ask myself questions about how well I am doing while learning something in this online course.	35.4	54.3	10.2	0	3.41
11	I think about what I have learned after I finish working on this online course.	27.6	60.6	11.8	0	3.31
12	I ask myself how well I accomplished my goals once I'm finished working on this online course.	31.5	54.3	14.2	0	3.33
13	I change strategies when I do not make progress while learning for this online course.	27.6	56.7	15.7	0	3.28
14	I find myself analyzing the usefulness of strategies while I study for this online course	17.3	52	27.6	3.1	2.97
	Average	•			•	3.25

A: Always R: Rarely MS: Mean Score (scale 1-4)

O: Often N: Never

The first component was metacognitive skill which had 14 statements. The first item was about whether the students thought of the upcoming lesson before studying. The results showed only few students, 10% to be exact, were not ready to study. In the second statement, the mean score showed in the table was 3.39 that it was similar with the mean score of the first statement. It means that almost all the students did questions about what they were about to learn. However, when it was about setting the weekly goal, more than 30% students did not do it. In addition, in regard to the setting specific goal, finding alternatives to solve problem, reusing strategies that worked, understanding strategies being used, less than 15% students rarely did it indicating that mostly students were able to prepare the goal and strategies used as well as understanding them. On the other hand, in terms of pausing to check whether they were on the right track, more than 50% students had done it. Furthermore, when it comes to checking how they were doing, what they had accomplished, and changing the strategy when it did not work more than 85% were highly committed showing their readiness. Lastly, about analyzing the efficient strategy in doing self-study, slight below 70% had done it. To summarize, based on the results, it can be said that most students, in terms of metacognitive skill, were prepared even some students showed reluctance and doubt in checking their comprehension and accomplishment. Thus, overall, the students were moderately ready.

Table 2: The results of time management component

No.	Statement	Responses (%)				MS
		Α	0	R	N	IVIS
15	I find it hard to stick to a study schedule for this online course	8.7	40.9	42.5	7.9	2.63
16	I make sure I keep up with the weekly readings and assignments for this online course.	47.2	44.9	7.9	0	3.58
17	I often find that I don't spend very much time on this online course because of other activities	11	54.3	32.3	2.4	2.87
	Average					3.02

A : Always R : Rarely MS : Mean Score (scale 1-4)

O: Often N: Never

The second component measured was time management. There were 3 statements indicating the self-time management in doing self-study during online learning. The first was about the hardship of sticking to schedule for online learning, and the results showed the balance in terms of number implying that half of students were ready, while the other half were not. It means that not all students were able to follow the timetable. Furthermore, in terms of managing time in doing assignment and reading, 90% of them were able to keep up. However, in the third statement regarding the time spent in self-study and doing other activities, around 34.7% responded that they did other activities instead of learning. Briefly, based on the data presented, it can be concluded that not all of students were good in organizing the time allocated for learning and other activities. Roughly 40% students were struggling to organize their time.

Table 3: The results of environmental structuring component

No.	Statement	Responses (%)				МС
		Α	0	R	N	MS
18	I choose the location where I study for this online course to avoid too much distraction.	40.9	35.4	22	1.6	3.31
19	I find a comfortable place to study for this online course.	41.7	36.2	22	0	3.36
20	I know where I can study most efficiently for this online course.	51.2	37	11.8	0	3.57
21	I have a regular place set aside for studying for this online course.	30.7	42.5	19.7	7.1	3.11
·	Average	•				3.34

A : Always R : Rarely MS : Mean Score (scale 1-4)

 $O: Often \qquad N: Never$

The third component was about environmental structuring which had four items. The first statement was about whether the students chose a less distracted location. From the results, it showed that around 75% used their privilege to select the place where to study. Moreover, in regard to the convenient place to study, the results showed similarity with the previous one in which slightly below 80% students studied in their most comforted places. It also indicates that most of the students discovered comfortable place before they started to study. The third statement was about whether the students really know the most efficient place to study. Most of students seemed to have found one indicated by high percentages on the always and often scales. Lastly, more than 70% of students had regular place to study. Based on the presented data, it can be stated that regarding environmental structuring more than 70% of students were able to set up the place that could provide good atmosphere while studying.

Table 4: The results of persistence component

No.	Statement	Responses (%)				MS
		Α	0	R	N	IVIS
22	When I am feeling bored studying for this online course, I force myself to pay attention.	11.8	40.9	39.4	7.9	2.68
23	When my mind begins to wander during a learning session for this online course, I make a special effort to keep concentrating.	33.9	52.8	13.4	0	3.37
24	I work hard to do well in this online course even if I don't like what I have to do.	30.7	57.3	11.8	0	3.35
25	Even when materials in this online course are dull and uninteresting, I manage to keep working until I finish.	26.8	61.4	11	0.8	3.30
	Average					3.17

A: Always R: Rarely MS: Mean Score (scale 1-4)

O: Often N: Never

The fourth component was about persistence. It is similar with environmental structuring; this component also consists of 4 items. The first item was students' self-encouragement to stay focus when they started to feel bored. The results revealed that almost half students did not make an attempt to keep focus in the boring situation. Unlike the first situation, the majority of students, slightly below 85%, were able to get back on lesson when their mind was wandering somewhere else. In addition, the students proved their persistence when it came to undesirable activity or material. 30.7% students always worked and 57.3% students often maintained their consistency even the materials were boring and not interesting. To conclude, it is right to conclude that the students' persistence in doing self-study during online learning was categorized adequate indicating that in terms of persistence the students were ready to do self-study.

Table 5: The results of help-seeking component

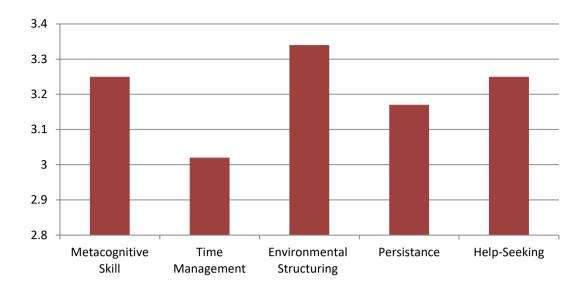
No.	Statement	Responses (%)				
		Α	0	R	N	MS
26	When I do not fully understand something, I ask others for ideas.	44.1	44.1	11.8	0	3.49
27	I share my problems with my classmates in so we know what we are struggling with and how to solve our problems	37.8	41.7	17.3	3.1	3.30
28	I am persistent in getting help from the instructor.	13.4	41.7	40.9	3.9	2.78
29	When I am not sure about some material, I check with other people.	35.4	53.5	10.2	0.8	3.39
30	I communicate with my classmates to find out how I am doing in this course.	34.6	48	15	2.4	3.31
	Average	•		•		3.25

A : Always R : Rarely MS : Mean Score (scale 1-4)

O: Often N: Never

This component aimed to figure out students' action in seeking for the help. The results showed that most of students were not hesitant to ask for help from others when they did no fully understand. The similar results were shown in the second statement in which about 80% were always and often sharing the problem and finding the solution. However, more than 40% students showed hesitancy when it came to seeking help from instructor and even 3.9% students were not persevering. The fourth item was about checking the understanding with other students. From the results, it can be shown that most of the students, slightly less than 90%, did it. The last one was about whether the students communicate with their classmates in order to know how he/ she did it. The presented data showed that the students were willing to discuss about how they were doing during the learning process. To conclude, the students willingly seek for help or discuss the matter with classmates; however, when it came to seeking help from instructor, there were some hesitancy.

Among the five categories measured in this study, the highest score was in environmental structuring category, while the lowest one was time management. The comparison score of each category is presented in the following diagram.



Figuret 1: The average score of each category

Students' Perception on the Use of Technology in Independent Learning

To find out how the students perceive the role of technological assistance in doing self-study, this questionnaire was distributed. The results were presented in the following table.

Table 6: Students' perception on the role of technology in self-study

No.	Statement	Responses (%)					
		SA	Α	D	SD		
1	Technology can be used in self-study processes outside the classroom	70.8	26.7	1.6	0.8		
2	The use of technology is very useful in conducting self-study.	70	27.5	1.6	0.8		
3	Technology makes it easy for students to access material whenever and wherever they are.	72,4	25.1	1.6	0.8		
4	Technology makes it easy for students to do assignments and exercises without having to use paper and pen.	73.2	24.4	0.8	1.6		
5	Technology makes learning more fun and interesting.	73.2	24.4	1.6	0.8		
6	The use of technology increases student motivation in learning.	64.4	30.7	3.9	0.8		
7	Technology makes it easy to access authentic material from various sources.	73.2	25.2	0.8	0.8		
8	Technology makes it easy to access authentic audio and video.	74.8	24.4	0	0.8		
9	Technology makes it easy to practice with various devices such as laptops, cell phones, tablets, etc.	77.9	21.2	0.8	0.8		
10	Technology facilitates the process of evaluating the results of the exercises carried out	70.1	26.7	2.4	0.8		

SA: Strongly Agree SD: Strongly Disagree

A : Agree D : Disagree

There were 10 statements about the use of technology in assisting the students while doing self-study. Overall, it can be seen that almost all students had positive attitude toward technology in which the percentages of students who strongly agreed and agreed with statements were more than 95%. For instance, in the statement "Technology makes it easy to practice with various devices: there were only two students disagreed. It also applied to the other statements such as statement no 7. Besides, the number of students who did not acknowledge the use of technology was less than 5%. Hence, it can be concluded that the students had very positive attitude toward the technology in learning independently.

Students' readiness is an essential part of learning especially when they experience the changes in learning process. In the past when the technological integration penetrated the educational field, abundance of research calculated and measured how the students adapted and adjusted with the circumstance. This also applies to students' independency in online learning which gains more attention particularly during the pandemic situation in the last two years. Thus, this research addresses this issue to fill the gap on the literatures.

Students' independency in learning in this study is observed from students' self-regulation and their perspective on technology. In self-regulation questionnaire, there are five elements measured which are metacognitive skills, time- management, environment structuring, persistence, and help-seeking aspects. The findings show that in terms of metacognitive skills, environment structuring, persistence and help-seeking, the students are ready proven by high average score for each category. The highest score is environmental structuring, while the lowest one is time management indicating that the students are still struggling in setting up the time to learn.

This finding of the study is in line with study conducted by Muhab et al, (2022). In this study, Muhab et al (2022) distribute questionnaire to find out students' self-regulation level after conducting experiment research on self-regulation strategy in chemistry. The results show that Environment Structuring was the highest score. Furthermore, the study conducted by Anwar & Muti'ah (2020) show slight distinction that metacognitive skill comes first which is followed environment structuring. However, in this study the order is reversed in which environment structuring is the first. It is believed that after undergoing full online classes for two respective years, the students have mostly been able to select and set the most comfortable places to study. Hence, it is no wonder that this category ranks first. Meanwhile, time management is still the issue in this study and the previous one, which is presumably caused by the massive distraction of technology, particularly social media in which, according to Dontre (2021), social media and texting while studying are the main distractors of students' learning.

The results of this study, however, contradicts with the studies by Taqi (2019), Al-Amri (2020), Tamer (2013), and Imran et al (2021) focusing on students' perception on self-study or independent learning. These studies show students' high dependency on teachers' assistance and the students' motives in doing self-study such as getting score. In fact, the students' independency in learning is driven by a lot of factors both internal and external, one of which is the persistence. During Covid-19, the students were trained to be consistent and persistence in the forceful situation which becomes the adjustment.

In addition, the students also perceived that technology is deemed very useful and efficient in assisting the students to do self-learning. As a matter of fact, students' readiness in independent learning is due to the fact that the participants have gone through online learning for two years in a row in which they have got used to it. Based on the study conducted by Adams et al (2018), students' readiness in doing online learning among students in Higher Education can be accomplished if students have high level of Self-regulated learning skill and high technology usage, better technology availability and facility. Therefore, high level of self-regulation and the computer competence are able to determine the students' success in independent learning.

Another study conducted by Chinaza et al (2015) also confirms that technology competence is the key to prepare the students' readiness to be independent and autonomous. In other words, when the students are technologically prepared, the chances to be independent learner are high. However, in the beginning of Covid-19 outbreak, the students were not be able to manage their own learning due to the fact that they were not mentally, psychologically and physically prepared to transform completely into online learning Mohideen et al (2020). Thus, it is obviously caused by the sudden changes. However, in terms of Computer Internet Literacy, the students' competence in CIL improves in which the students think highly of technology in assisting them while doing independent learning. This association may be connected to activities done during the learning process in which the students must be able operate the computer to complete the task (Li & Lee, 2016).

Based on the findings of this study, the students' readiness in doing independent learning in post Covid- 19 Outbreak can be seen in some aspects such as metacognitive skills, environment structuring, persistence, and help-seeking aspects. Meanwhile, in terms of time management, the students show some struggling in setting up the time. In addition, the students also perceived that technology is deemed very useful and efficient in assisting the students to do self-learning. As a matter of fact, students' readiness in doing self-study is due to the fact that the participants have gone through online learning for two years in a row in which they have got used to it. Based on the study conducted by Adams et al (2018), students' readiness in doing online learning among students in Higher Education can be accomplished if students have high level of SDL (Self Directed Learning) and high technology usage, better technology availability and facility. Therefore, high level of SDL and the computer competence are able to determine the students' success in independent learning.

CONCLUSION AND RECOMMENDATION

Students' readiness to adjust to new situation is essential to be studied especially in the new situation. After undergoing completely full online learning in the last two years, this study investigates students' readiness in doing independent study. The findings reveal that the students are ready to do independent learning in the future observed from four categories: metacognitive skill, environmental structuring, persistence and help-seeking. However, the students are not yet able to adjust with the time management. Furthermore, in regards to students' perception on the use of technology, it is true that the students are very positive of the merits they get when they use technology in doing self-study

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REFERENCES

- Adams, D., Sumintono, B., & Mohamed, A. (2018). E-Learning Readiness Among Students of Diverse Backgrounds in A Leading Malaysian Higher Education Institution. *Malaysian Journal of Learning and Instruction*, 15(2), 227–256.
- Al-Amri, M. (2020). Investigating EFL Students' teacher perception of self-study in Saudi Arabian Context. *Journal of Education for Teaching*, 47(1), 75-88.
- Bidokht, M.H., & Assareh, A. (2011). Life-long Learners through Problem-based and Self-Directed Learning. *Procedia Computer Science*. 3, 1446-1453.
- Chen, N. S., Cheng, I. L., & Chew, S. W. (2016). Evolution is not enough: Revolutionizing current learning environments to smart learning environments. International Journal of Artificial Intelligence in Education, 26(2), 561-581.
- Chinaza, N.K., Juliana, A.C.B.A., & Efeyaelu, U.H. (2015). Computer Self-Efficacy, Computer-Related Technology Dependence and Online Learning Readiness of Undergraduate Students. *International Journal of Higher Education Management (IJHEM)*, 1 (2), 60-71.
- Dontre, A.J. (2021). The Influence of Technology on Academic Distraction; A Review. *Hum Behav & Emerg*, 3, 379-390.
- Farahani, M. (2014). From spoon feeding to self-feeding: are Iranian EFL learners ready to take charge of their own learning? *Electronic Journal of Foreign Language Teaching*, 11, 98–115.

- Goodwill, A., & Chen, A. S. H. (2021). *The science of lifelong learning*. The United Nations Educational, Scientific and Cultural Organisation Institute for Lifelong Learning.
- Gürsoy, G. (2021). Digital Storytelling: Developing 21th Century Skills in Science Education. *European Journal of Educational Research*. 10 (1), 97-113.
- Imran, M., Kalantan, S.A., Alkorbi, M.S., & Shamim, M.S. (2021). Perceptions of Saudi Medical Students Regarding Self-Directed Learning; A Qualitative Study. *J Pak Med Assoc*. 71 (5), 1403-1408.
- Jansen, R.S., Leeuwen, A.V., Janseen, J., Kester, L., & Kalz, M. (2016). Validation of the Self-Regulated Online Learning Questionnaire. J. Comput High Educ. DOI 10.1007/s12528-016-9125-.
- Karatas K., & Arpaci I. The Role of Self-Directed Learning, Metacognition, and 21st Century Skills Predicting the Readiness for Online Learning. *Contemp Educ Technol*. 2021;13(3):371-377. doi:10.30935/cedtech/10786
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers.* New York: Association Press.
- Li, L., & Lee, L. (2016). Computer Literacy and Online Learning Attitude Toward Gsoe Students In Distance Education Programs. *Higher Education Studies*, 6(3), 147–156.
- Moore, M. G. (1973). Toward a theory of independent learning and teaching. *Journal of Higher Education*, 44(9). 661-679. https://doi.org/10.2307/1980599.
- Mohideen, R.S., Ramlan, A.F., & Kamal, R,M. (2020). Online Distance Learning Readiness During Covid-19 Outbreak among Undergraduate Students. *International Journal of Academic Research in Business and Social Sciences*. 10 (5), 642-657.
- Omar, S., Shaharuddin, W.Y.W., Azim, A.F., Nawi, N.S.M., Zaini, M., & Syahfutra, W. (2021). Academic Motivation in English Online Course; A Comparative Study of Universities in Malaysia and Indonesia. *Indonesian Journal of Applied Linguistics*, 11(2), 477-487.
- O'Shea, E. (2003). Self-directed learning in nurse education: A review of the literature. *Journal of Advanced Nursing* 43, no. 1: 62_7
- Stewart, R.A. (2007). Investigating the link between self-directed learning readiness and project based learning outcomes: the case of international Masters Students in an engineering management course. *European Journal of Engineering Education*, 6 (1), 59-62. doi. 10.1080/03043790701337197
- Tamer, O. (2013). Students' Readiness for Autonomous Learning of English as a Foreign Language. *Unpublished MA thesis*, University of Sunderland, UK.
- Tekkol, I.A., & Demirel, M. (2018). An Investigation of Self-Directed Learning Skills of Undergraduate Students. Students. Front. Psychol. 9, 1-14. https://doi.org/10.3389/fpsyg.2018.02324
- Taqi, A.A. (2019). The perspective of Kuwaiti Students Towards the Effectiveness and Value of Self-Study. *International Education Studies*, 12(9), 105-116.
- Wahyudi, G,S., Artini, L.P., & Padmadewi, N.N. (2021). Self-directed learning in EFL During Covid-19 Pandemic: An Analysis of Teachers' Perception and Students' Learning Autonomy. *International Journal of Language and Literature*, 5 (2), 93-104.