

INDONESIAN EFL STUDENTS' USE OF TECHNOLOGIES FOR SELF-DIRECTED LEARNING IN ACCOMPLISHING ACADEMIC ENGLISH WRITING TASKS

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Received on 17 June 2024 / Approved on 19 October 2024

Abstract

This study examines the use of technology for self-directed learning in accomplishing English writing tasks by Indonesian EFL students. The study are guided by two research questions: 1) How did university students use technologies to accomplish their academic English writing tasks?; 2) How did the use of technologies support university students' self-directed learning (SDL)? A mixed-method approach was adopted in investigating these issues. Data were collected using questionnaire and in-depth interviews. The participants were students from three universities in Banten, South Jakarta, and Central Java. There were 51 students who filled out the questionnaire and only 13 of them were willing to be interviewed. The findings revealed that the majority of students used online apps to assist them in the process of drafting and editing their English writing tasks. The data indicate that knowledge on these online apps and how to utilize them are able to maintain their SDL in accomplishing their writing tasks. Their SDL is mostly influenced by their drive to obtain academic achievement. The findings also show that trainings on some technical skills and knowledge on editing apps are needed to maximize the students' use of technology for their SDL.

Keywords: Self-directed Learning; Technology Enhanced Language Learning; EFL; academic English writing

Abstrak

Studi ini bertujuan menelaah penggunaan teknologi untuk pembelajaran mandiri dalam proses menyelesaikan tugas-tugas menulis berbahasa Inggris oleh para mahasiswa program studi Bahasa Inggris. Penelitian ini dilaksanakan untuk menjawab 2 pertanyaan penelitian: 1) Bagaimana mahasiswa menggunakan teknologi dalam menyelesaikan tugas-tugas menulis ilmiah?; 2) Bagaimana teknologi mendukung kemampuan pembelajaran mandiri para mahasiswa? Penelitian ini mengadopsi metodologi mixed-approach untuk dapat mendapatkan informasi yang dibutuhkan untuk menjawab pertanyaan penelitian di atas. Pengumpulan data dilakukan melalui kuesioner dan interview. Partisipan di penelitian ini adalah mahasiswa dari universitas di Banten, Jakarta Selatan, dan Jawa Tengah. Ada 51 mahasiswa yang mengisi kuesioner dan 13 diantaranya bersedia untuk diwawancarai. Hasil yang ditemukan adalah mayoritas mahasiswa menggunakan aplikasi online untuk membantu mereka dalam proses penulisan dan pengeditan tugas-tugas menulis Inggris mereka. Data juga menunjukkan bahwa pengetahuan mengenai aplikasi online ini dan bagaimana menggunakan teknologi ini dapat mengakomodasi SDL mereka dalam menuntaskan tugas menulis ilmiah mereka. SDL ini juga dipengaruhi oleh keinginan mahasiswa untuk dapat meraih pencapaian akademis.

Kata Kunci: Self-directed Learning; Technology Enhanced Language Learning; EFL; academic English writing

INTRODUCTION

The use of technology and the internet in assisting learning has undoubtedly been felt during the pandemic times. The internet, for example, provides various kinds of online resources

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that can support the learning process, such as articles, journals, videos, and other digital resources. Technology and the internet afford learners the opportunity to engage in independent learning and become self-directed learners (Adil, 2021). Knowles (1975) coined and defined the term 'self-directed learning' (hereinafter, SDL) as a process within a person to foster a sense of initiative to carry out independent learning, starting from planning, implementing, and reflecting on the results of this learning process. Furthermore, Gurlen (2010, as cited in Turan & Koc, 2018) adds that self-directed learners possess several characteristics, such as critical thinking, great curiosity, assertiveness and motivation, persistence, responsibility in learning, self-efficacy in learning, and can reflect on oneself. It can be inferred that the use of technology and the internet can enhance learners potential to be self-directed in their learning.

Several studies have been conducted to analyse the phenomenon of using technology in promoting SDL in English language learning. Although some researchers have found that the use of technology can present challenges for both teachers and students (Dewi et al., 2020; Farrah & Al-Bakry, 2020; Rahmawati, 2016; Efriana, 2021), it also enhance English language learning process (Farrah & Al-Bakry, 2020; Rahmawati, 2016; Krishnan et al., 2020). Finally, several perceptions have emerged regarding the use of technology (Boulmerka, 2016; Umam et al., 2019; Jamalifar & Chalak, 2014).

Additionally, research has been carried out regarding the utilization of technology in connection with SDL, such as the effectiveness of technology for SDL (Monica & Fitriawati, 2020; Haqien & Rahman, 2020; Nalurita, 2021), the positive impacts that technology provides in SDL (Lasfeto & Ulfa, 2020; Monica & Fitriawati, 2020), technology provides challenges in SDL (Cheng, 2014), perceptions of the use of technology from learners in SDL (Lasfeto & Ulfa, 2020; Rahardjo et al., 2016; Nalurita, 2021), and some reasons for using technology in SDL (Monica & Fitriawati, 2020; Rahardjo et al., 2016; Cheng, 2014). Even so, these studies discuss the use of technologies and SDL in a more general view on learning. Studies that focus on the use of technologies in specific language skill area, such as academic writing, ad how this technology use assists SDL still need more exploring. Therefore, this study investigated several issues related to the implementation of self-directed learning assisted by technology. It aims to identify technologies commonly used in assisting students' English writing tasks, writing strategies, as well as to inquire the obstacles that are often encountered in accomplishing their writing tasks and how technology assist them in overcoming these obstacles. To be more focused, this study is guided by two main research questions:

1. How did university students use technologies to accomplish their academic English writing tasks?
2. How did the use of technologies support university students' self-directed learning (SDL)?

LITERATURE REVIEW

Technology Enhanced Language Learning (TELL)

The integration of technology has become integral to language teaching and learning activities. In the realm of English language instruction, Technology-Enhanced Language Learning (TELL) has emerged to encompass various approaches, was used to describe this phenomenon from method of learning that uses technology to the idea of technology as supporting tools leading to self-directed learning. Tereseviciene et al. (2015) describes TELL as a method of learning or teaching that has been adapted to enable remote access through technology, organization of the learning or teaching process, peer interaction, and the completion of supplementary tasks associated with the process online. Similarly, Radhakrishnan (2017) views TELL as the utilization of computers as technological innovation to show multimedia in support of language teachers' teaching strategies. Zhou & Wei (2018) elaborate the idea of TELL to encompass any language learning

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activity that leverages technology to enhance efficiency, motivation, adaptability to various learning style.

Riasati et al. (2012) outline the benefits that TELL can offer to the users, including fun learning media (via playing games), improving language learners' academic skills, shifting the focus of learning in the classroom from the teacher to the students, allowing students to evaluate their efforts to pass assignments, improving collaboration and communication in learning (both inside and outside the classroom), and lowering students' anxiety. However, there are also some challenges in using TELL reported in the study, these include the fact that not all teachers or students have access to the internet, that some teachers lack the necessary training to operate technology effectively, that some teachers worry that technology will take the place of teachers in the process of teaching and learning, that some students may reject the use of technology in the classroom, and that integrating technology into the classroom can take some time and effort.

In addition, previous studies also examined the use of TELL in academic writing. Oxford (2004), for example, investigated the use of two software programs that focus on grammar and vocabulary practice (Spanish Partner) and writing assistant (Atajo) on some intermediate-level students in a Spanish class at a university. The findings show that the two softwares were able to help students to improve the quality and quantity related to the writing composition of the students. Sandolo's study (2010) looked at how technology, specifically Microsoft Word, affects writing skills in the classroom. The results show that the software assist students to improve their essay writing skills clearly and accurately. This is due to the features that Microsoft Word provides, such as a word counter, that enable students to learn to write concisely according to the expected words limit requirement of the task. In addition to the word counter, Microsoft Word 'review' features enable teachers to provide revisions more effectively that allow students to learn about the coherency and cohesion of their writings. A study, conducted by Ghahri, et al. (2015), examined the impact of technology, particularly websites on the internet, on the accuracy of the writing performance of 60 intermediate level EFL students. The study found that students who accessed various websites related to the writing process achieved higher writing proficiency levels than those who did not use the internet. Using sites such as spellcheckplus.com and online text correction allows students to recognize mistakes and realize a more precise form of their writing. A more recent study conducted by Pratama, et al. (2020) investigated the role of technology, particularly a software program called Adobe Animate, in academic writing lesson. It is found that Adobe Animate played a role in (1) increasing teacher-student interaction, (2) increasing students' self-confidence in learning to write essays, (3) enabling students to gather as much information as possible so that they can grow and develop ideas in their minds (or improve students' thinking and understanding skills), (4) improve students' writing skills, (5) reduce tension and create a pleasant atmosphere in the classroom. In summary, the use of technology in the teaching and learning process have shown to enhance students' approach to learning and this enhancement of learning can be connected to the notion of self-directed learning.

Self-Directed Learning (SDL) principles in TELL

Early definition of self-directed learning (SDL) was offered by Knowles (1975). He defines SDL as the process through which individuals take the initiative to diagnose their own learning needs, formulate learning goals, locate human and material resources for learning, select and apply learning strategies, and assess learning outcomes. According to Kasworm (1983), SDL can be thought of as a collection of general, finite behaviors, a belief system that reflects and develops from a process of self-initiated learning activity, or as the ideal condition of the mature self-actualized learner. Beard (2010), echoing Brockett & Hiemstra (1991), explain that SDL describes both the internal and exterior elements of an instructional process in which the student is given main responsibility for a learning experience. An important conclusion can be made if we take a closer look at a few of the concepts that were previously discussed. SDL is focused on letting the students

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choose their own path during the learning process. However, Knowles argued that the SDL process might take place when individuals decide their own learning process and assumes responsibility for it, either with or without assistance from others. Knowles' viewpoint is consistent with Candy (1975, as described in Bilqis, 2010), who draws a distinction between SDL and autodidacticism, noting that while SDL still requires instruction from lecturers or teachers, autodidacticism entails the learners making their own decisions.

In the early 2000s, SDL began to be integrated with the concept of online and web-based learning. Oswalt (2003) put forward nine concepts related to SDL: opportunity, support, collaboration, motivation, context, cognitive skills, content, skills with SDL, and willingness to control one's learning process. Song and Hill (2007) put SDL into three stages as follows.

1. Planning stage: the learners organize their learning process based on their abilities, such as when they start learning, where they learn, how long they learn, and how fast they learn.
2. Monitoring stage: the learners monitor their own learning process, such as assessing their understanding of the material they are learning. This is where the learner's responsibility grows because they plan their own learning process.
3. Evaluating stage: the learners assess the learning process they have completed, and then the teacher provides feedback on their progress and collects all the knowledge obtained by the learners to build a comprehensive understanding of the topic.

In a similar vein, Kapur (2019) notes that SDL can cultivate awareness in learners. In traditional school settings, teachers would remind students about their homeworks, tests, and other responsibilities. In SDL, however, learners independently recognize the need to manage their own academic tasks, determine his own learning programs, select materials, develop learning strategies, and manage other activities themselves. SDL encourages curiosity and the desire to explore new things, view problems as challenges, and enjoy learning. While school education has its benefits, SDL offers distinct advantages as well.

Gurlen (2010) proposes that “a person must have two characteristics, namely cognitive and emotional, in which the two characteristics can be described as abilities such as critical thinking, curiosity, assertiveness and motivation, persistence, responsibility in learning, self-efficacy for learning, and being reflective” (cited in Turan & Koc, 2018). Ors (2018) describes that individuals who practice SDL are those who see learning as lifelong and independent, can self-regulate, control their learning, determine learning targets appropriately, and evaluate the results of their learning. Therefore individuals who wish to carry out self-directed learning are aware of their desire to learn and able to foster their motivation. When individuals realize their desire and know how to maintain their motivation, they understand what steps they will take next to achieve their goals.

It is the intention of this study to explore how the use of technology support university students' SDL in accomplishing their academic English writing tasks. The study identified students' knowledge on types of technology support that they can utilize to perform writing tasks and how students set their goals, maintain their motivation, and solve obstacles in accomplishing writing tasks with the support of technology.

RESEARCH METHODOLOGY

Research Design

This study employed a mixed-method research design. Therefore, the study collected two types of data: quantitative and qualitative data. For the quantitative data collection, this study selected respondents using the snowball sampling, in which the researcher posed an invitation to participate in the study at the first author's digital communities and asked the first volunteered respondents to suggest some of their friends or colleagues to participate by filling out a distributed questionnaire (Tracy, 2020). Moreover, to collect more respondents, the researcher also distributed the questionnaires to several student groups registered on one of the social media, i.e., Facebook. In

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the end, a total of 51 respondents replied to the invitation to participate in the study and filled out the distributed questionnaires.

For the qualitative data collection, this study used the maximum variation sampling method, in which the researcher selected respondents to be interviewed with different experiences to explore the variation regarding a particular case (Dornyei, 2007). The researcher interviewed the respondents who had filled in the willingness to be interviewed column in the questionnaire. A total of 13 respondents agreed to be interviewed.

Data collection instruments and data analysis

Since this study is a mixed-method research, two main instruments were used to collect quantitative and qualitative data. The first instrument was a questionnaire with closed-ended questions, allowing the researcher to get a higher response rate when the respondents did not need to type too much (Farrell, 2016). The questionnaire surveyed types of academic English writing tasks, types of TELL used, students' preparation process before drafting, and self-motivation challenges and strategies (SDL aspects). Questionnaire was firstly distributed to the participants who have given their consent in participating as respondents to obtain general information on the use of technology in relation to self-directed learning.

The second instrument was a semi-structured interview to gain depth descriptive accounts from the respondents regarding how the use of technologies supported their SDL. Respondents who indicated their willingness to be interviewed in the questionnaire were then contacted and interviewed through whatsapp call or zoom platform. The interview sessions ranged from 45 – 60 minutes. The interviews were recorded and transcribed to be analysed. Both questionnaires and interviews, the researcher used Bahasa Indonesia so that the respondents involved could feel comfortable both in filling out the questionnaire and during the interview process. All respondents in this study were given pseudonyms for confidentiality purposes.

The quantitative data (questionnaires) were analysed using descriptive analysis method to find absolute numbers to summarize individual variables (mean, median, mode, percentage, frequency, range) and find a pattern in the numbers (Bhatia, 2018). To analyse qualitative data (interview transcripts), the researcher used thematic analysis (TA) to systematically identify, organize, and provide insight into patterns of meaning (themes) across a dataset (Braun & Clarke, 2012). Triangulation of data was also executed to obtain holistic understanding of the inquiry.

FINDINGS AND DISCUSSION

Students' use of technologies to accomplish their academic English writing tasks

To better understand how the students use technologies to accomplish their academic English writing tasks, the questionnaire firstly surveyed respondents' most common academic English writing tasks they produced during their study. The result as presented in Table 1 revealed that there were three most frequent academic English writing tasks: essays, reports, and quizzes/written exams.

Table 1. Types of English writing tasks assigned to students

Items	Always	Often	Rarely	Never
	a. Academic paper	27% (14)	41% (21)	24% (12)
b. Short essay (summaries)	31% (16)	51% (26)	10% (5)	8% (4)
c. Report text	27% (14)	49% (25)	18% (9)	6% (3)
d. Written quiz / exam	23% (12)	51% (26)	22% (11)	4% (2)
e. reflective writing text	25% (13)	37% (19)	22% (11)	16% (8)

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f. Academic Poster	6% (3)	31% (16)	35% (18)	28% (14)
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The questionnaire responses also indicated the students' decision on selecting and using types of technology in processing and accomplishing the assigned tasks. These include the type of mobile devices, and apps and websites for text editing, translation, check grammar, plagiarism, and searching for academic references. The majority of the respondents still prefer to work on their writing tasks using two mobile devices: laptop and smartphone.

Table 2. Technologies used for processing and accomplishing writing tasks

Description Items	4-Likert scale options			
	Always	Often	Rarely	Never
2. Preferred mobile devices used to do English writing tasks:				
a. Laptop	74% (38)	20% (10)	6% (3)	0
b. Tablet	8% (4)	6% (3)	23% (12)	63% (32)
c. Smartphone	59% (30)	19% (10)	18% (9)	4% (2)
3. Apps or websites for text editing				
a. Notepad	12% (6)	12% (6)	29% (15)	47% (24)
b. Microsoft Word	65% (33)	27% (14)	6% (3)	2% (1)
c. Google Docs	41% (21)	29% (15)	18% (9)	12% (6)
d. WPS Office Writer	10% (5)	16% (8)	35% (18)	39% (20)
4. Applications or websites for translation				
a. Google Translate	45% (23)	43% (22)	12% (6)	0
b. Microsoft Translator	2% (1)	14% (7)	25% (13)	59% (30)
c. iTranslate	2% (1)	4% (2)	22% (11)	72% (37)
d. Linguee	2% (1)	2% (1)	18% (9)	78% (40)
5. Apps or websites to search for words in English				
Wiktionary	2% (1)	8% (4)	23% (12)	67% (34)
Google Dictionary	33% (17)	37% (19)	16% (8)	14% (7)
Free Dictionary	10% (5)	19% (10)	18% (9)	53% (27)
Merriam-Webster	20% (10)	27% (14)	16% (8)	37% (19)
Cambridge Dictionary	20% (10)	27% (14)	24% (12)	29% (15)
6. Apps or websites to check grammar				
Grammarly	47% (24)	23% (12)	18% (9)	12% (6)
ProWritingAid	2% (1)	2% (1)	23% (12)	73% (37)
Linguix	2% (1)	2% (1)	22% (11)	74% (38)
Ginger Online	2% (1)	4% (2)	22% (11)	72% (37)
Scribens	2% (1)	2% (1)	23% (12)	73% (37)
7. Apps or websites to check for plagiarism				
Grammarly	31% (16)	16% (8)	24% (12)	29% (15)
Turnitin	16% (8)	19% (10)	12% (6)	53% (27)
Plagiarisma	4% (2)	14% (7)	23% (12)	59% (30)
DupliChecker	6% (3)	10% (5)	21% (11)	63% (32)
Quetext	6% (3)	4% (2)	21% (11)	69% (35)
8. Apps or websites to search for academic references (e.g. journals, articles)				
Google	69% (35)	25% (13)	4% (2)	2% (1)
Google Scholar	35% (18)	23% (12)	24% (12)	18% (9)
Google Books	12% (6)	12% (6)	35% (18)	41% (21)
Microsoft Academic	4% (2)	8% (4)	23% (12)	65% (33)

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ResearchGate	16% (8)	14% (7)	31% (16)	39% (20)
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From table 2 above, the high use of app or websites such as google scholar, translate, dictionary, and grammarly indicate that respondents mostly work online in drafting their writing tasks. This also suggests that their learning behaviour is quite mobile and not tied to one limited physical space (such as classroom) in nature in which they can work from anywhere as long as there is internet connection. Observing their use of technologies for various purposes, it can be inferred that these technologies played prominent role in the process of 'drafting':

- searching for readings online as references to be used for writing: the use of Google (scholar) search engine;
- looking up for English words (dictionaries) in the online dictionaries;
- translating a text into English and Bahasa Indonesia using Google translate;
- writing up and editing text through Mswords and Gdoc features;
- checking the accuracy of their sentence structure and grammar using grammarly.

In the next section of the questionnaire, detailed micro activities of using technology in the process of writing was also inquired. Table 3 presents the way students use technology for their writing process. Of the various options provided, there are three writing strategies with the highest percentage. First, the respondents claimed that they often searched the internet for writing samples to see the writing format because they might want to imitate the writing format and apply it to their own writing. Second, the respondents claim that they often outline their writing in Microsoft Word because they want to focus on what they want to write. The rigid features of Ms Word that need to be mediated by keyboards assist students to stay in focus on the digital word sheet, compared to using doodling technique on a piece of paper that offered them the flexibility of handwriting and the freedom to stretch the topic to endless ideas which they considered to be sometime distracting. Finally, the respondents claim that they often download and collect reading materials before working on their tasks because they want to focus more on the theme for the tasks given by their lecturers and they feel that these reading materials can support their arguments in their writing.

Table 3. Students' strategies in using technology for writing process

Items				
	Always	Often	Rarely	Never
a) Make a scribble in the book first before typing the text in a doc file	23% (12)	22% (11)	45% (23)	10% (5)
b) Make a scribble in notepad first before typing the text in a doc file	20% (10)	20% (10)	23% (12)	37% (19)
c) Make a scribble in Google Translate first before typing the text in a doc file	16% (8)	28% (14)	27% (14)	29% (15)
d) Collect and download reading materials/information first before doing the tasks	37% (19)	45% (23)	16% (8)	2% (1)
e) Create an outline in Ms Word	29% (15)	51% (26)	14% (7)	6% (3)
f) Read readings related to the topic and mark readings using endnote or other reference apps	24% (12)	41% (21)	29% (15)	6% (3)
g) Using the online thesaurus to find synonyms or antonyms of a word	12% (6)	22% (11)	27% (14)	39% (20)
h) Look for writing samples on the internet to see the writing format	19% (10)	61% (31)	16% (8)	4% (2)
i) Asking friends' opinions to read my writings using Google Share Doc or other document	16% (8)	39% (20)	27% (14)	18% (9)

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sharing applications				
j) After my writing is done, I use Grammarly.com to correct my grammar and sentence structure in English	27% (14)	33% (17)	24% (12)	16% (8)
k) After my writing is done, I use Turnitin to prevent plagiarism	12% (6)	16% (8)	25% (13)	47% (24)

Slightly different from the questionnaire, the statements from the interview respondents revealed that their writing strategies could somehow be assembled into a complete process. From the respondents' statements, it was revealed that the writing strategies they usually do are as follows: (1) preparation process, (2) outlining, and (3) final drafting, as can be seen in excerpt (1) and (2) below.

- (1) Usually, when I do the tasks about writing, I always look for references from certain journals or articles on the internet. After that, I noted down the important points of those references. Then, make an outline. Finally, I started developing the outline into a final draft. (AF)
- (2) For example, when making a research paper, I usually look for a topic, look for the materials on the internet, make an outline in Microsoft Word, and then make a final draft. (AH)

It can be inferred that for the preparation process, the respondents carried out many activities, such as choosing topics, collecting reading materials, and making doodles. For outlining, the students adopt this strategy to provide the basic idea for content related to their main idea that can guide them in what to write in their drafting process. Finally, for the final drafting, they use the outline to write up paragraphs and stay focussed on their writing to avoid being sidetracked while finishing up their draft. In addition to the use of the outline, students also use accompanying notes they made to the outline that helps them to provide details to add to each section.

Use of technologies for students' SDL

After knowing what the process is like for the respondents to work on their tasks (types of tasks, technology selection, and writing strategies), another important point that needs to be considered is their process of evaluating themselves when working on their English writing tasks. The first point is the self-monitoring process that they do (specifically, the obstacles they encounter and the solutions to overcome them). From the questionnaire, there were three most common obstacles encountered by respondents when doing their English writing tasks. These obstacles are (1) unable to access paid websites on the internet, (2) lack of knowledge to operate technology and websites on the internet, and (3) being distracted due to listening to songs online or watching videos on video sharing sites (YouTube). However, the respondents also described several solutions to overcome these obstacles. For barriers related to not being able to access paid websites, respondents said that they would ask someone or the university library for help to find reading materials that could not be found on these paid websites. For obstacles related to the lack of knowledge to operate technology and websites on the internet, the respondents explained that they needed training in operating technology to support their English writing tasks. Finally, for barriers related to reduced concentration due to listening to music online or watching videos on YouTube, they claim that they will do their tasks in silence, such as doing tasks in the middle of the night.

Table 4. Students' writing obstacles

Items				
	Always	Often	Rarely	Never
a) Lack of knowledge to operate technology	8% (4)	35% (18)	43% (22)	14% (7)

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and resources/sites on the internet				
b) Unable to access resources on the internet because they are paid sources	27% (14)	49% (25)	20% (10)	4% (2)
c) Do not have an adequate internet connection	2% (1)	27% (14)	45% (23)	26% (13)
d) Being distracted due to listening to songs online or watching videos on video sharing sites (YouTube)	12% (6)	31% (16)	26% (13)	31% (16)
e) Unsupported technological specifications (laptops, computers, smartphones, tablets, etc.)	6% (3)	24% (12)	33% (17)	37% (19)

From the interviews, the respondents also expressed several obstacles in carrying out their writing tasks. Interestingly, these barriers can be grouped into two main types. First, internal barriers refer to barriers that come from within the respondents (Excerpt 3). Second, external barriers refer to barriers that come from outside the respondents (Excerpt 4).

- (3) The challenge is that there must be a feeling like the task is difficult, then it makes me think, "Just do it tomorrow." So, I procrastinate to do the task. (H, February 17, 2022)
- (4) When it comes to working on the tasks, the most common problem I encounter is the internet connection because I download the tasks from Schoology and send them via F-Learn. And, my internet connection is often less stable. (ENM, February 21, 2022)

Furthermore, the respondents also stated several solutions to overcome these obstacles. These solutions can also be categorized into two main strategies. First, they overcome these obstacles independently (Excerpt 5). Second, they overcome these obstacles with the help from others (Excerpt 6).

- (5) Usually, I double-check my writings in books, dictionaries, or the internet. (AF)
- (6) For my laptop problem yesterday, I had to go to my friend to borrow his laptop or go to the internet cafe to do my homework for two weeks. (SW)

Next, Table 5 summarizes the students responses related to how they motivate themselves when they want to do their tasks and how they maintain these motivations so that they are able to complete their tasks. The highest drive of motivating themselves before doing their writing assignments is the desire to get good grades (item 5.c). This indicates that academic achievement is still the main goal and drive for the respondents. To reduce the intensity of writing stress and maintain their goal for accomplishing the task, the students explain that they would listen to music online (item 6.a). By listening to music, respondents can be more focused, calmer, or more enthusiastic when doing their tasks, which is similar to Prabandari's (2021) finding in his study. This also indicates that students utilize what they can access from the internet connection not only for task accomplishment purposes but also for affective purposes to maintain their drive to accomplish the task.

Table 5. Students' self-motivation in accomplishing tasks

Items	Always	Often	Rarely	Never
5. The process of motivating yourself before doing writing assignments in English				
a) Want to finish quickly	47% (24)	41% (21)	8% (4)	4% (2)
b) In order to understand the material taught in class	41% (21)	43% (22)	14% (7)	2% (1)
c) Want to get good grades	61% (31)	33% (17)	6% (3)	0

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6. The process of maintaining motivation during the process of working on writing assignments in English				
a) Doing homework while listening to music online	39% (20)	37% (19)	14% (7)	10% (5)
b) Doing assignments while watching videos online	10% (5)	16% (8)	45% (36)	29% (15)
c) Play a game first then do the tasks	16% (8)	16% (8)	27% (14)	41% (21)

In addition to the self-motivation process, the interview respondents also mentioned several other ways to maintain their motivation to complete their tasks. The first strategy is self-regulation, where they make personal schedules or deadlines (Excerpt 7). The second one is emotional self-motivation, where a person maintains their motivation by cultivating a deep internal and external feeling that can remind them to complete what they are doing, for example, staying positive (Excerpt 8). The last one is engaging in a self-pleasure activity, where a person maintains their motivation by making themselves comfortable by doing things specific to them, for example, playing a game for a while or listening to music (Excerpt 9).

- (7) Usually, to maintain motivation, I set the alarm or make a schedule to remind myself so that the task can be completed according to my expectations. (SW, February 17, 2022)
- (8) I always tell myself that I am capable of completing my tasks. Besides that, my older brother also said that I go to college only once in my life, that is why I try to enjoy my time during college. (DPA)
- (9) Sometimes, I feel bored during the writing process. In order not to feel bored, I sometimes eat snacks during the writing process or usually take a short break and look for random reading materials on the internet. (AH)

In addition to identifying motivations and obstacles, the questionnaire also surveyed the students' perception of kinds of IT training they needed to accomplish English writing tasks (see **Table 6**). Of the several options given, there are several trainings that the students think they needed. The two most needed training the data show are finding quality and trusted sources of information on the internet (item 6.a) and using text editing applications (item 6.c). These are very relevant to their needs for academic writing tasks, especially writing academic essay and thesis. They find it most important to be able to know how to search for journals/articles as well as knowing how to evaluate whether the articles/journals are from peer-reviewed and trusted source of information. The majority of the respondents also agreed on the necessity for knowing how to use applications for editing text (Microsoft Word, Notepad) so that they can work on their drafting efficiently and effectively. Other trainings needed are on how to use applications for checking both grammar and plagiarism (Grammarly and Turnitin) so that they can check the grammar in their writings (6.f) and whether their writings contain any plagiarism or not (6.g). It can be inferred that these trainings are skills that support their self-directed learning ability that can lead to autonomy learning. By acquiring these skills, students can autonomously manage their time, tasks, and choose the most effective and efficient method and strategies in accomplishing their tasks.

Table 6. Students' needs on IT trainings

Items	4-Likert scale options			
	Strongly Agree	Agree	Disagree	Strongly Disagree
a) Looking for quality and trusted sources of information (Researchgate)	55% (28)	43% (22)	2% (1)	0

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b) Using translation applications (Google Translate)	39% (20)	47% (24)	12% (6)	2% (1)
c) Using text editing applications (notepad, Microsoft Word)	45% (23)	53% (27)	2% (1)	0
d) Using applications for reference (EndNote, Zotero)	21% (11)	51% (26)	20% (10)	8% (4)
e) Using online dictionaries (Thesaurus, Wiktionary, Google Dictionary)	37% (19)	51% (26)	8% (4)	4% (2)
f) Using grammar checking apps (Grammarly)	39% (20)	53% (27)	4% (2)	4% (2)
g) Using plagiarism checking applications (Grammarly, Turnitin)	37% (19)	53% (27)	6% (3)	4% (2)

Just like the statement from the respondents of the questionnaire, the interview respondents revealed that there are three kinds of training that they need to improve their skills to operate technology related to working on English writing tasks. First, they need training to access websites to find and download reading materials related to their tasks (Excerpt 10). Second, they also need training to develop their writing skills (Excerpt 11). Finally, they need training to operate software related to their English writing tasks (Excerpt 12).

- (10) Perhaps, training in using the internet is related to finding the information needed according to the keywords you are looking for and how to access locked or paid sites. (AP, February 23, 2022)
- (11) Maybe it needs to be held like ICT (TIK) training to make the writing process more precise, neat, and effective. (DPA, February 18, 2022)
- (12) So, in the first semester, there was an introductory math course. The course used RStudio to calculate. Of course, we were taught to login to RStudio, how to count in RStudio, so it is necessary to hold such training. (ENM, February 21, 2022)

In conclusion, the findings reveal that technology enables, or even plays an important role, for students to engage in self-directed learning. Technology in this study enables students in carrying out activities related to their academic goals, namely following lectures, outlining, drafting, and finishing up English writing tasks. In addition, technology also provides various facilities for students to implement self-directed learning. First, technology makes it easier for students to find the learning materials they need. When lecturers provide materials through groups on social media (for example, WhatsApp groups) or in the form of website links, students can find and download the materials themselves on the internet. Second, technology also allows students to do learning or work on tasks whenever and wherever they are. In times of pandemic, online learning is encouraged so that the learning process can continue. Students are now accustomed to utilizing the technology to do academic tasks. They only need to have a sufficient internet subscription package, or look for places that provide Wi-Fi services, and they can do online learning or search for learning materials via their laptops or smartphones either at home or elsewhere. However, it is undeniable that students still need help from others, especially their friends or lecturers, to implement self-directed learning. Indeed, the concept of "self-directed" implies a learning process that is completely done independently. As Knowles (1975) assert that a learner can carry out learning independently or assisted by other parties, such as lecturers. In addition, the data reveals that the students still need training in operating technology and searching relevant and reliable information. Therefore, students still need help from others to support their self-directed learning process. In essence, the self-directed learning process requires a learner to be responsible for their own learning, starting from the learning process to the evaluation process.

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CONCLUSION AND SUGGESTIONS

Conclusion

The study provides an overview of the implementation of self-directed learning using technology in carrying out English writing tasks. The findings reveal that students mostly prefer two portable devices to use in participating in online learning and accomplishing their academic writing tasks: laptops and smart phones. Laptops are chosen for their endurance and higher memory capacities accomplishing their English writing tasks such as essays and reports that are usually given to them by lecturers as well as browsing the internet for information. Smartphones are more preferred by students due to its compact design that accommodates students mobility. Students are also utilizing the technology to serve their SDL goals. The students in this study adopted SDL as their learning method. Regarding the selection of learning resources, students can choose various applications to do several things, such as: (1) to type their flow of thoughts and feedback (Microsoft Word or Google Docs), (2) translate (Google Translate), (3) search for words in English or an online dictionary (Google Dictionary), (4) checking grammar and plagiarism (Grammarly), and (5) searching for learning materials (Google and Google Scholar). These apps are used in implementing their learning strategies. They enable students to carry out a complete process of working on English writing tasks, starting from the preparation process (choosing a theme, collecting writing materials, and making doodles), making an outline, and writing a final draft. As scholars like Knowles (1975) and Song & Hil (2007) demonstrate SDL puts forward the process of using an individual's initiative to plan the learning process (selection of learning resources), implement learning strategies, and evaluate learning outcomes.

The findings also revealed that most students claim that the main drives in accomplishing English writing tasks for the students are academic achievement (i.e. getting good grades) and obtaining inner satisfaction when they accomplish the task. These two drives are similar to Steinhilber (2018) categorization of motivation which are extrinsic (good grades) and intrinsic (inner satisfaction) motivations. Furthermore, students also adopt several strategies to maintain their motivation, such as self-regulation (keeping a personal deadline), emotional motivation (thinking positively), and engaging in self-pleasure activity (such as listening to music), during the process of working on those tasks. Lastly, the findings indicate students' IT training needs to develop their skills in maximizing the use of technology for their learning. These trainings are related to (1) technical knowledge on how to browse reading material from reliable websites, (2) develop writing skills by utilizing grammar and plagiarism check apps, and (3) editing apps. This training is considered essential in fostering and expanding students SDL capacity to grow and learn continuously.

Suggestions for futher research

There are several limitations to this study. The first limitation lies in the limited number of respondents, where only 51 students filled out the questionnaire and only 13 of them were willing to be interviewed. Therefore, the data obtained are less varied. Future research can complement this research by involving more students from different batches to see whether students at different study year have different approach and strategies in utilizing TELL.

The second limitation lies in the setting of this study. This study was conducted in three universities as the main setting of this research, which are located in Banten, South Jakarta, and Central Java in which access to internet is quite reliable. Future research could expand the scope of the settings to other universities outside of Java island to investigate whether other settings have different perspective on the form of TELL adopted at those settings and how it influence students SDL.

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