POMODORO TECHNIQUE ANALYSIS
IN ZOOM-BASED CLASSROOMS

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Abstract: This study aimed at finding out students’ state of motivation, engagement, and time management when Pomodoro teaching technique is implemented in ZOOM-based synchronous classroom. This study is naturally qualitative as it investigates the data from students’ during online learning as individual experiences. There were 53 freshman students from various majors involved in this study who had to attend ZOOM classroom for General English Course from August to December 2021. Ten meetings with the implementation of Pomodoro were carried out. In carrying out Pomodoro technique, the students were given break-time for 5 minutes in every 25-minute learning session. Afterwards, the students should answer the questionnaire consisting of 30 statements asking about motivation, engagement, and time management. Once the data collected, they were analyzed using Interactive Analysis (data reduction, data display, and data verification). The results uncover that, regarding motivation, 33 students had positively-oriented motivation; then in term of learning engagement, 40 students were actively engaged with online learning activities given; and concerning time management, 32 students had good time management. This result apparently implies that non-physical meeting—which lecturers probably presume that less stress is employed—demands regular break as well. Thence students can still learn efficiently and effectively.

Keywords: online learning, ZOOM synchronous classroom, learning motivation, learning engagement, and time management.
INTRODUCTION

Worldwide schools and colleges have been forcibly closed as a result of COVID-19 in 2020. Around 1.2 billion students worldwide are required not to interact in person at that time for school (Nielsen, 2013). As a result, with the realistic advancement of classroom e-learning, where learning was directed on a computer screen, teaching and learning has changed its procedures. Everywhere, COVID-19 had a fundamental impact on school systems, and that impact is still being felt until today. As a result, many countries now have online learning platforms which are used to deliver learning resources. Later, another problem is regarding the time-length meetings take to convey materials because there is less time available (Zeglen & Rosendale, 2018). Many parents and educators are debating whether this sudden switch to an online education system will continue in the post-pandemic period (Adnan & Anwar, 2020; Viner et al., 2020).

Evidently, web-based learning is more effective, and all of the advantages associated with this type of teaching can support instructional efforts while attempting to develop a typical framework for it. It is advised that teachers switch to a different, original teaching strategy in order to promote web-based learning. Teachers must introduce updated or new teaching methods that are truly compatible with the new learning model. Teachers and researchers in the field of teaching and learning must reevaluate the objectives and outcomes of new models of web-based learning as the educational strategy and new teaching methods go forward (Singh & Thurman, 2019). Collaboration between students and teachers is another important factor to the effectiveness of online learning. Electronic communication is unfamiliar and uncomfortable to both students and teachers. It is essentially undesirable for this new structure to change, which is in all or sudden. During the online learning process, there are communication gaps between teachers and students. In a traditional classroom when regular learning occurs and both students and teachers are actually present, this is very unlikely to occur. Therefore, it is critically necessary to advance the newly realized

notion in the teaching and learning process in order to supply learning materials, ideas, and also to socialize (Pace et al., 2020).

In addition, research shows that students’ maintenance on web-based learning model is higher than in normal face-to-face classrooms. This is on the grounds that students invest less energy on internet-based schooling systems (Hoq, 2020). By making additional time accessible, teachers can make this extra time to be more advantageous. Consequently, time is more sensible and useful. Indeed, there is no need to question that the pandemic significantly affects schooling systems all over the planet (Adnan & Anwar, 2020). Numerous researchers accept that the normal schooling system is immaterial (Nicola et al., 2020). These systems are less important today because of decisive reasoning and conventional ways to deal with scholastic abilities that adversely influenced by future versatility (Pace et al., 2020).

Then again, there are major areas of strength for a web-based learning ought to be another sound judgment of teaching due to its advantages (Hoq, 2020). Online instruction can even be more reliable on learning viability, supportability, development, absence of uniform admittance to computerized gadgets to accomplish online schooling, the possibility to outdate face-to-face schooling systems, and, however, issues connected with internet access. In this worldwide, conversation on these issues is major and the ongoing review is an endeavor to examine these factors in Indonesia’s online schooling system in the Indonesian during COVID-19 pandemic.

From another perspective, online learning should be a possible alert in agricultural nations, such as Indonesia (Basilaia & Kvavadze, 2020). It is necessary for Indonesia to think about all separated islands, yet there are as yet numerous districts in Indonesia that are a long way out of the span of internet connection. Furthermore, not all people have devices for virtual learning. Absence of admittance to quick, moderate, and solid web affiliations is hampering, particularly for people living in country or distant regions from the capital (Wains & Mahmod, 2008). People generally prepared prior to the beginning
of this pandemic only need to figure out how to begin something in a different technique during this pandemic. Meanwhile those who are not prepared and ‘unarmed’ cannot reach anywhere without given explicit trainings. Similarly, quick changes in web learning are moving to components of traditional abilities such as some teaching and learning abilities are automatically driven to it in the condition (Wu, 2020). This manifests in unequivocally manage innovation or online intercession during learning phases. Absence of legitimate correspondence with teachers also appears as one significant issue in online learning. Additionally, the learning material of online courses is generally explained by emails or videos. This shows that students’ need to be fully independent and are expected to manage their own learning without the teacher presence in real life. In this present condition, the students commonly drop to very low motivation to learn (Toquero, 2019).

By far, virtual classes cannot be considered essential to the students. The traditional outreach of real classroom teachers is the most important thing in regards to the lacking in internet learning. Understanding talks carefully with peers and never directly observes an individual student, and therefore the world of advanced learning is lacking a constant exchange of thoughts, information, and learning materials (Britt, 2006).

The zombie-like end results of spending too much time staring at a computer screen are perhaps the biggest complaint about online education. As a result, our attempts to replicate face-to-face teaching methods in online learning environments usually feel endless and can seem pointless. And it most likely does not function. Hence, this study aims at seeing students’ motivation, time management, and learning engagement when the classroom lecturer implemented Pomodoro learning technique. From the elaboration above, the research questions sought in this study is “What is the effect of Pomodoro technique on students’ motivation, learning engagement, and time management for General English students?
LITERATURE REVIEW

In this section, there in-depth elaboration is provided related to variables deployed in this manuscript; they are online learning during the pandemic era but still continues today, Pomodoro teaching technique, learning motivation, learning engagement, and time management in teaching and learning process.

Online Learning

The most popular platform used in online learning is meeting up through real-time video, or better known as video-conferencing. Using video conferencing such as ZOOM, Google Meet, Microsoft Teams, etc is useful in making classroom learning process happen when face-to-face classroom was not allowed. During the pandemic, face-to-face interaction was extremely limited even in the teaching and learning process. This learning process is later named online learning. However, online learning continues to be implemented until today even when the pandemic has changed into endemic situation. The online learning system can be carried out through synchronous and asynchronous learning model. Synchronous learning model is when the teacher and students meet in a digital platform where the teacher explains the materials, gives exercise, and has natural interaction with the students. Meanwhile, asynchronous learning model is when the teacher gives learning sources such as articles, videos, audios, Google classroom, LMS Moodle, etc for the students so that they can conduct independent learning without face-to-face meeting. Hence, in the following are several digital platforms that are generally used for online learning even after the pandemic seems to fade out. The platforms are WhatsApp application, Youtube, Zoom Meeting, Google Classroom, and Google form (Lasari, 2021).

Pomodoro Teaching Technique

Pomodoro is an Italian word for ‘tomato’. Indeed, this learning method was invented by an Italian student, Francesco Cirillo. She broke down her time into 25 minutes working on the task and
followed by 5 minutes resting, the the cycle repeated. This way, she could manage better on her task, time, as well as energy (Costales et al, 2021). She used a kitchen timer in the shape of a tomato with time unit measurement around it.

Figure 1. A Pomodoro (A kitchen timer) (Cirillo, 2006, p. 5)

The purpose of the Pomodoro Method is to give a basic device cycle to move along the time efficiency which can do the tasks such as putting at ease nervousness connected to becoming as it is; improving concentration and fixation by eliminating interferences; incrementing consciousness; keeping the motivation up; reinforcing the determination; helping inspiration and keeping it steady; refining the assessment interaction, both in subjective and quantitative terms; improving work and study; and strengthening the determination to move forward.

The Pomodoro Technique is founded on three basic assumptions. First, there should be an alternate approach to seeing time that can reduce and tackle anxiety that can prevent individual effective capacity. second, it portrays to better utilization of the brain empowers us to accomplish more prominent unwavering focus, higher awareness, and more honed concentrate, meanwhile working with learning (McDonnell, 2019). Third, it simply utilizes subtle instruments diminishes the intricacy of applying the method while inclining toward progression, and permits you to focus learners’ endeavors on the exercises they need to achieve. The essential motive for Pomodoro Method was drawn from the accompanying thoughts:
time-boxing (McConnell, 1996), the cognitive techniques portrayed by Buzan (1982), and relating to the game dynamics by Gadamer (2004).

**Learning Motivation**

According to Richardson and Abraham (2009), Self-Determination Theory (or SDT) portrays a continuum of learning motivation starting from highly autonomy-supportive to highly controlling motivation. High autonomy-supportive motivational strategies nurture learners from within—the inner motivation. Hence, this type of motivation works basically in increasing intrinsic motivation. In classroom setting, this strategy can be deployed in the autonomy of responsibility transfer, letting students to choose, giving opportunity for students’ interest, providing logical explanations, and creating meaningful learning activities. On the other hand, controlling motivational strategies try to dictate what students should think, feel, and act. The actions or thoughts as not commanded in considered not legible. Hence, this type of motivational strategies overrules students’ way of thinking and learning process becomes stiff. There is still good effect of controlling motivational strategy, anyhow. Controlling teachers induce students’ extrinsic motivation by, or examples, rewards, pressures, and control (Moore et al. 2010). It is often assumed that autonomy-supportive strategies and language learning is linear where language learning should be fun and not rigid (Nonis & Hudson, 2010). The learning explanation can be delivered by delivering the learning objectives clearly, give precise instructions and guidelines to the exercises or activities, and presenting the class rules. Furthermore, controlling motivation is rather unsuitable for language learning, because control implies that teachers exert pressure on students—which is a condition unexpected to take place in language learning atmosphere (Nonis & Hudson, 2010).

It is quite clear that autonomy-supportive teaching strategies are strongly related with higher intrinsic motivation and this type of motivational strategies are more favorable in achieving better learning outcomes (Miley, 2009). Similarly, studies from interpersonal
theory have shown that teaching styles characterized by highly performing students combined with moderate level students can manage to heighten student motivation (Miley, 2009). In addition, various studies show constructivist educational approaches including educational elements support autonomy-supportive teaching (for example Dedmond, 2009). On the contrary, when the teacher’s control is dominant, the motivation that appears is more likely to be in the form of extrinsic motivation, or even loss of motivation at all (Moore et al. 2010).

**Learning Engagement**

Basically, engagement is the second prolongation of motivation. When a student is engaged in the learning process, it means she/he is motivated; while when she/he is disengaged, it means no motivation in the process. In learning using technology, disengagement is not rare (Libbey, 2004). In engagement theory as mentioned by Shneiderman (1998), there are two major aspects that must be present: first, the learners are cognitively active in the activity, and second, the learners have high intrinsic motivation to fulfill his/her inner needs and satisfaction as s/he follows the meaningful and relevant nature of the provided learning activities.

Engagement, thusly, is tied in with learning exercises and how they are performed. According to the perspective of this theory, motivation brings about an emphasis on planning exercises to increment inspiration. Motivation is likewise a beginning stage for learning and can prompt inclusion in learning. In this way, there is a round connection between the two: the motivation and the engagement. There are additionally contrasts regarding explicitness and speculation. Engagement is connected with assignments/exercises, yet motivation is more extensive than that. The term engagement is regularly used to portray the way that the student is centered on the focus of a certain activity.
Time Management

Time management is the ability to manage various activities neatly in the balance of time and well-planned without getting the schedules overlapping with other activities. An individual needs to carefully choose and manage the entire responsibilities as well as priorities to be settled into effective and efficient time so that successful outcomes can be achieved. When an individual, regardless of age, comes to an activity that locks him/her into carrying out the entirety of his/her capacities, s/he should be more focused, efficient and proficient. Besides, when a person is able to use his/her time effectively, it gives him/her an amazing chance to deploy significant self-sources. It permits individuals to take advantage of the least in every responsibility; and it improves the way a person invests their energy in a beneficial way. That is the point when people will eventually become mindful of how to arrange and deal with their ways of life and not feel compressed or over troubled because of any work (Covey, 2004). Time management is an important expertise and people ought to acquire compelling ability in using time productively so that they can sort out more significant projects to be carried out first and which are less urgent or less important that can be procrastinated. Mastering time management consistently can keep an individual excels in work and studies (Häfner & Stock, 2010). Various techniques have been affirmed to have good skills in time management that are expected for successful time management effectively such as preparation, sorting out, staffing, coordinating, and evaluating. During the time spent to productively manage the time, interruptions really do occur however the people should not lash out or get disappointed, one ought to attempt to look for answers for any sorts of issues that could emerge throughout their tasks and work.

One more significant region is the management of procrastination, it is vital to lay out boundaries and assignments that are more significant, this factor ought to be done before the others that are less significant (Claessens, 2007). There have been rationales
behind procrastination and those reasons are vital for people to track down procedures to oversee delaying. Firstly, people might secure their job is disagreeable and rather unpleasant. For this situation, they ought to consider the compensation and the prizes that they will accomplish after achievement of this upsetting job. Second, it is when an individual is not organized. For this situation, he ought to figure out how to appropriately coordinate his records and different reports, browse his email and answer and plan practically everything obligations that he needs to carry out promptly. Third, when any task or venture is burdening. In this situation, the person ought to attempt to complete the assignments in pieces, step by step, whether it might take somewhat longer, doing a little piece of it every day will help in achieving it in a satisfied way. Fourthly, it is when an individual is a perfectionist that a person is afraid if anything can go wrong with the results of their work. In this condition, a person should constantly look for help instead of simply doing the errand exclusively on their own. Last, when an individual is confronting challenges in decision making. In this case, a person surely needs to talk to peer or close-friends so that the problems and difficulties can be shared (MTD Training, 2010).

METHOD

This study is qualitative in nature where the quality of data is more emphasized. The respondents of this study were 53 freshman students from various major during online learning from August to December 2021. They were instructed using Pomodoro technique to finish their tasks for 10 meetings. After these 10 meetings, the data were collected. They were given 3 types of questionnaires regarding academic motivation, engagement, and time management during the application of Pomodoro learning technique. The instrument was questionnaire for each variable (motivation, learning engagement, and time management). The instrument for motivation was adapted from Kubishta (2014); the academic engagement instrument was taken from Martin (2019); and the instrument for time management

was as recommended by Briton and Tesser (1991). During the data collection, the students were given 30 minutes to fill in the questionnaire and they had to answer with ‘agree’ or ‘disagree’ option. Later on, the data were analyzed using Interactive Analysis as suggested by Miles, Huberman, and Saldana (2014), where they are data reduction, data display, and data verification.

In the following table is shown the three types of questionnaires representing learning motivation, learning engagement, and time management. The code MO-1 stands for Motivation item 1, and so on; the code EN-1 stands for Engagement item 1, and so on; and the code MA-1 stands for Time Management item 1, and so on.

<table>
<thead>
<tr>
<th>Code</th>
<th>Questionnaire item (Kubischta, 2014)</th>
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<tbody>
<tr>
<td>MO-1</td>
<td>The activity of studying gives me deep personal satisfaction.</td>
</tr>
<tr>
<td>MO-2</td>
<td>When there is a topic I am not sure I understand, I will work harder to find out about that topic until I am satisfied.</td>
</tr>
<tr>
<td>MO-3</td>
<td>When I find new topics that are interesting to me, I usually spend more time researching about them.</td>
</tr>
<tr>
<td>MO-4</td>
<td>I usually do not do my best in class because classes are not interested for me.</td>
</tr>
<tr>
<td>MO-5</td>
<td>Academic topics are very interesting.</td>
</tr>
<tr>
<td>MO-6</td>
<td>When I find materials of a class are interesting, I work hard to complete all assignments given related to that material.</td>
</tr>
<tr>
<td>MO-7</td>
<td>When I come to classes, I usually have questions related to the class in my mind.</td>
</tr>
<tr>
<td>MO-8</td>
<td>When not in class, I search for interesting topics to be learned related to the materials delivered in class.</td>
</tr>
<tr>
<td>MO-9</td>
<td>I do not learn all materials given in class because not all of them will show in the examination</td>
</tr>
<tr>
<td>MO-10</td>
<td>I occasionally give myself a test to see if I master a topic very well already.</td>
</tr>
</tbody>
</table>
In the table above, it can be seen that there are ten items for each variable adopted from Kubischta (2014), Hart et al. (2011), and Briton and Tesser (1991). Basically, there are more items in each questionnaire but some items are not relevant to ask, so that they are considered to be left untaken.
FINDINGS

In There are three results after the data analysis, they are result on learning motivation, learning engagement, and time management. Firstly, below is shown the result from the variable learning motivation in ZOOM-based classroom.

From the figure 2, it can be seen that 43 respondents agree about MO-1 (The activity of studying gives me deep personal satisfaction), and there were 10 respondents who disagreed. Next, the majority of the respondents also agreed (40 respondents) regarding MO-2 (When there is a topic I am not sure I understand, I will work harder to find out about that topic until I am satisfied). Later, in MO-3, there were almost similar numbers of respondents who agreed (26 respondents) and disagreed (27 respondents). The MO-3 was asking about whether they usually spend more time researching about interesting topics. Then, there were only 14 respondents who agreed on MO-4 (I usually do not do my best in class because classes are not interested for me) and most of them agreed on this statement (39 respondents). This means that they protect their integrity and motivation while learning. In MO-5, there were 22 respondents agreed and 31 respondents disagreed. MO-5 was asking about whether the topics during studying were so exciting or not. Later, 45 respondents agreed on MO-6 (When I find materials of a
class are interesting, I work hard to complete all assignments given related to that materials) but 8 others disagreed. In MO-7 asking about whether they usually have questions related to the class in their mind, 49 respondents agreed and 8 others did not. MO-8 which was about whether they search for interesting topics to be learned related to the materials delivered in classes when they are outside classes, was only agreed by 22 respondents. When they were asked about whether they learn all materials given in class although not all of them will show in the examination (MO-9), 37 respondents agreed and 16 respondents disagreed. Last, MO-10 was asking about whether they occasionally give themselves a test to see if they master a topic very well already, 32 agreed and 21 did not.

Secondly, Figure 3 shows that, generally, the respondents are very-well engaged during the learning process. In EN-1 (I like what I learn in class), everyone agreed. Later, in EN-2 asking about whether they are proud to study in the university, 50 respondents were proud. Then, most of them (50 respondents) were also actively engaged in various class activities; only 4 others were not. In EN-4 (When I have problems with a concept, I will do crosschecks to understand), 33 respondents agreed and 20 others did not. During the learning

process, their cognitive engagement is also active as shown in their response in EN-5 to EN-10. In EN-5—*when I learn new things in class, I try to see how they fit into other things*, 43 respondents. Later in EN-6 asking whether they see similarities and differences from all concepts they learn in class, 39 respondents agreed. In EN-7, 31 respondents agreed that they when they learn new things in class, they try to connect them with their own experiences; as well as 35 respondents always try to match what they already know with what they just learn in class. Besides, 46 respondents agreed that they learn new things in the class; they try to understand if the information is useful in the real world. Finally, only 15 respondents combined concepts that they already learn in class.

![Figure 4. Time Management](image)

Lastly, Figure 4 is the result on time management. It shows respondents’ ability in time management during the implementation of Pomodoro learning. MA-1 was asking about whether they made plan before they start the day and 43 respondents agreed. However, only 20 respondents had to-do list for everyday activity and 33 others did not. None of surprise, the majority of the respondents had priorities, only 3 of them who did not set any priorities as shown in MA-3. Later, in MA-4, similar to daily to-do list, only 11 respondents
made it, while 42 others did not. This is most probably because they were busy attending classes and they believed that they had no power over their own time (42 respondents). Then in MA-6, 52 respondents agreed that they would most likely to be interrupted with other people or other tasks. Most of them (46 respondents) also agreed that they still continued doing unimportant activities as indicated in MA-7. Next, in MA-8 asking whether they usually still work on an exam the night before the exam, all of them did agree on this statement. MA-9 was asking whether they clear their desks of the things they are not currently doing and 35 respondents agreed. Last, only 2 respondents set long-term goal, while 51 others did not.

![Graph of Motivation, Learning Engagement, and Time Management](image)

**Figure 5.** The Summary of Motivation, Learning Engagement, and Time Management

Figure 5 summarizes the full motivation, engagement, and time management variables. From the figure 5, it can be learned that from these three variables, the respondents mostly carried in positive response toward the implementation of Pomodoro teaching technique in ZOOM-based classrooms. Regarding motivation variable, 33 respondents in average agreed that their motivation was upgraded during the Pomodoro teaching technique classrooms. Then in learning engagement variable, 40 respondents in average also admitted that they were majorly engaged with the learning materials taught during the Pomodoro teaching technique. Last but not least, 32
in average respondents believed that they could better manage their exercise time in classrooms using the Pomodoro teaching technique, according to the time management variable.

DISCUSSION

From the results shown in the previous section, it unveils that the implementation of Pomodoro teaching technique in ZOOM-based classroom can be beneficial for students. This technique works on by giving students 5-minute break-time in every 25-minute session. When the breaktime given, the students still stayed in the ZOOM classroom and they were not supposed to log out. This 5-minute break was given in order to let them lie down for a while, or sip some coffee, or go to the bathroom, and so on. To be more specific, the class duration which was 90 minutes was divided into 3 sections which are three 25-minute learning session (75 minutes in total), and three 5-minute breaktime (15 minutes in total). The first learning session was projected to deliver materials and some students were also virtually addressed to converse. Then the class had their first breaktime. Later, the next session of learning was used to do exercise and the second breaktime came. Lastly, the final learning session was used to discuss the exercise, followed by the last break-time while the lecturer crosschecked students’ attendance.

In term of motivation, it can be seen that the students could maintain their motivation during class because they had a little time to ‘escape’ and refresh. This short escape helps in relieving physical tension while sitting in front of screen (Fosslien & Duffy, 2020). Physical fatigue can manifest in long-term stress that can further disturb learning process (Anwar & Wahid, 2021). From Figure 1 showing the result on students’ motivation, it can be seen that the students generally have positive orientation regarding learning. Forty-three students admitted that they had a feeling of deep personal satisfaction while studying. Then, they also kept working on a certain topic until they really managed to understand the topic. This kind of persistence in learning shows high motivation. As suggested by Feng
and Papi (2020), ‘persistence’ is the passion for a long-term goal that can keep a learner fire all along the error and trial processes. As intertwined with L2 learning, persistence leads to motivation, willingness to communicate, and emotions.

Later, students’ learning engagement during the teaching and learning process is also high. As it can be seen in Figure 2 that all of them liked what they learned in class and most of them were proud to be parts of the university where they studied. This shows the sense of belonging that makes them want to do the best, either as a proof of their capability or as a form responsibility (Saltmarsh, 2016). Besides, the learning process also put them through cognitive engagement namely: they contemplated about the materials’ relevance; they learned whether the materials were beneficial in real life situation; they perceived whether it had similarity and differences with their personal experiences; and they fathomed whether they had the chance to combine the newly-learned concepts with already-known concepts. This engagement can be generated because there was a forum (the first session) when the lecturer asked some students about their ideas and speculations about the topic being learned on that day. Kew and Tasir (2021) supported that the provision of forum (or conversation) can initiate students’ motivation leading to engagement.

Finally, students’ time management was also manageable during the teaching and learning process. Forty-three students said that they prepared the day before they started it. This shows that they are readier when given enough time to collect their motivation and engagement. Although most of them did not set to-do list, they had priorities to deliberate which tasks to do first and which tasks could be procrastinated. However, they still had problems with exam preparation as they admitted that they still had to work on the exam on the night before. As a matter of fact, this may be relevant to anxiety, not necessarily an issue of time management. However, Luo et al. (2021) suggested that time management can give profoundly useful impact towards anxiety.
CONCLUSION

From the results, it can be concluded that by implementing Pomodoro technique in ZOOM-based online classroom, students can manage their motivation. Besides, they were also engaged during the learning process because they were allowed to have break-time to refresh and revisit the ideas that they learn in ZOOM class. Last but not least, they also had good time management when they were given some space to have their time in-between the teaching-learning procedures.

REFERENCES


