



Does the Post-Pandemic Online Learning Environment Affect Time Blocking and Procrastination Behavior?

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Abstract. The learning environment plays a crucial role, especially in the context of post-pandemic online learning. This study aims to examine the effect of the post-pandemic online learning environment on time-blocking practices and procrastination behavior among high school students in Banjarmasin. A quantitative research approach using linear regression and partial T-tests was employed to analyze data from 600 high school students selected through random sampling. The findings reveal a significant impact of the post-pandemic online learning environment on both time-blocking practices and procrastination behavior. The results suggest that improvements in the online learning environment are positively related to better time-blocking abilities ($\beta = 1.312$) and increased procrastination behavior ($\beta = 0.862$). Validity and reliability tests confirm the research instruments' robustness. This study highlights the need for teachers' active role in creating a conducive post-pandemic learning environment to optimize time management and reduce student procrastination.

Keyword: Post-Pandemic, Online, Learning

1 Introduction

The learning environment plays a fundamental role in the educational process. A less conducive learning environment, especially at home, can greatly affect students, particularly when they do not have dedicated spaces for studying. Distractions and family responsibilities often interfere with students' learning time. This is particularly problematic for those in the transition to adulthood, as they may be asked to assist with household chores during study hours, while they view the home as a place for rest and relaxation [1].

During the Covid-19 pandemic, a noticeable "learning loss" occurred due to the sudden need to adapt to a new and comprehensive learning environment [2]. However, each student faced different learning conditions, highlighting the varying impacts of this shift [3]. The learning environment serves not only as a space for study but also as a critical reference point for the educational process [4], [5]. Students who can concentrate and stay engaged in online learning, with the support of a conducive environment, tend to have higher motivation to learn [6], [7].

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Time management, shaped by the lifestyle changes during the pandemic, continues to affect students' daily routines in the post-pandemic era, particularly as they return to regular school activities [8]. Good time management during learning activities results in better health, satisfaction, and productivity [9]. Time-blocking is seen as an effective time management technique, and if implemented correctly, it can help eliminate distractions and prevent unproductive multitasking—a crucial skill for students in today's era [10].

However, there is a significant relationship between time-blocking and procrastination behavior [11]. Specifically, better time management leads to lower levels of procrastination among students. Procrastination is defined as the conscious delay of tasks, and it negatively impacts students' academic performance by reducing time efficiency, lowering self-esteem, and decreasing academic achievement [12]. One way to reduce procrastination is to improve students' ability to implement time-blocking techniques.

Studies have shown that online learning has exacerbated academic procrastination. According to one study [13], there was a significant increase in procrastination among students participating in online learning compared to those in face-to-face learning environments. This is due to a lack of direct supervision by teachers, excessive time flexibility, and distractions from less conducive home environments.

In addition, students' time management abilities were negatively impacted by the online learning environment. A study [14] revealed that students struggled to manage their study time effectively when there was no fixed schedule or direct supervision. The flexibility offered by online learning often made it difficult for students to prioritize academic tasks, leading to increased procrastination.

2 Theoretical Framework

2.1 Post-Pandemic Online Learning Environment

The post-pandemic online learning environment refers to the tools and systems used for education in a digital setting, which became more prevalent due to the Covid-19 pandemic. It includes various aspects and dimensions, such as student engagement, independent learning, knowledge building, and social collaboration in learning. Active student engagement can be categorized into verbal and non-verbal interactions. Verbal engagement is reflected in responses like answering questions or participating in discussions, while non-verbal engagement includes problem-solving and collaborative project work [1].

Student autonomy in learning, defined as self-directed learning, is also essential in the online learning environment [2]. The ability to utilize prior knowledge and experiences to build new understanding is key to successful learning outcomes [3]. Furthermore,

social negotiation and collaborative learning foster meaningful knowledge construction in interactive learning environments [4].

In Indonesia, the shift to an online learning environment, mainly due to the pandemic, was rapid and unexpected. Post-pandemic, an integrated approach combining online and offline learning is necessary to create a holistic learning environment that supports various activities such as individual tasks, collaboration, and assessment [5].

2.2 Time Blocking

Time blocking is a personal time management technique that divides daily or weekly schedules into smaller segments for specific tasks. This method integrates calendar functions with to-do lists to create a structured schedule [6]. Time blocking relies on maintaining a single focus, which contrasts with multitasking. The aim is to prioritize tasks and eliminate distractions, leading to higher productivity [7].

Key principles of time blocking include defining the importance of activities, maintaining productivity triggers, and scheduling rest breaks using techniques such as the ultradian rhythm or the Pomodoro technique [8]. Effective time blocking helps individuals take control of their time and improve task completion by adhering to a self-made schedule [9].

2.3 Procrastination Behavior

Procrastination behavior is influenced by both internal and external factors, such as a permissive learning environment that diminishes the importance of academic tasks [10]. Indicators of procrastination include perceived time, intention-action gaps, and emotional distress. Individuals who procrastinate often struggle to meet deadlines due to their focus on the present rather than future consequences [11]. The gap between intention and action manifests as the failure to complete tasks despite the desire to do so [12]. Emotional distress, such as anxiety, arises when tasks are delayed, leading to negative consequences [13].

Improving time management through time blocking has been shown to reduce procrastination, as better planning helps combat distractions and develop productive habits [14]. Additionally, the structured nature of time blocking reduces cognitive load and reinforces commitment to completing tasks [15].

3 Method

3.1 Research Design

This study employs a quantitative research approach with a correlational design to examine the influence of the post-pandemic online learning environment on time blocking and procrastination behavior among high school students in Banjarmasin. The primary data was collected through a structured questionnaire, and statistical methods were used to analyze the relationships between the variables.

3.2 Population and Sample

The population for this study consisted of high school students in Banjarmasin, ranging from grades 11 to 12. A sample of 600 students was selected using a random sampling technique from both public and private high schools in the area. This sample size ensures a high level of representativeness and accuracy in capturing the effects of the online learning environment on the targeted variables.

3.3 Research Instruments

The instruments for this research were divided into three key variables: (1) the post-pandemic online learning environment, (2) time blocking practices, and (3) procrastination behavior.

- Post-pandemic online learning environment: The indicators include student engagement, independent learning, knowledge construction, social collaboration, and the teacher's role in facilitating learning [1][2][3].
- Time blocking: The indicators focus on maintaining a single focus, establishing task priority, rescheduling plans, and taking control of time [4].
- Procrastination behavior: The indicators include perceived time, intention-action gap, and emotional distress [5][6].

Validity and reliability of the instruments were assessed using Pearson correlation for validity and Cronbach's alpha for reliability. The instruments were found to be valid and reliable for the purposes of this study.

3.4 Data Collection and Analysis

Data was collected through questionnaires distributed to the selected students. The analysis was conducted using linear regression models to examine the impact of the post-pandemic online learning environment on time blocking and procrastination behavior. The significance of the relationships was tested using a partial T-test at a 0.05 significance level.

3.5 Data Collection and Analysis

The following hypotheses were tested:

- There is a significant influence of the post-pandemic online learning environment on time blocking practices among high school students in Banjarmasin.
- There is a significant influence of the post-pandemic online learning environment on procrastination behavior among high school students in Banjarmasin.

All statistical analyses were performed using standard statistical software to ensure the accuracy and reliability of the results.

4 Result and Discussion

4.1 Result

Validity and reliability testing:

The validity test results indicate that all the items in the research instruments have an r-count greater than the r-table value of 0.138. This confirms that all items used in the study are valid. Furthermore, the reliability tests, based on Cronbach's alpha, yielded the following values: 0.915 for the post-pandemic online learning environment, 0.959 for time blocking, and 0.939 for procrastination behavior. Since these values are above the accepted threshold of 0.600, all instruments were found to be reliable. For papers with more than six authors: Add author names horizontally, moving to a third row if needed for more than 8 authors.

Impact of post-pandemic online learning environment on time blocking:

Table 1 displays the results of the linear regression analysis for the effect of the post-pandemic online learning environment on time blocking.

Table 1. Model summary for the impact of post-pandemic online learning on time blocking

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.759a	.576	.575	4.84323

The R-square value of 0.576 indicates that 57.6% of the variation in time blocking can be explained by the post-pandemic online learning environment. The ANOVA test ($F = 812.725$, $p < 0.001$) shows that the model is statistically significant. The coefficients in Table 2 confirm that a positive relationship exists between the post-pandemic online learning environment and time blocking ($\beta = 1.312$, $p < 0.001$).

Table 2. Coefficients for the impact of post-pandemic online learning on time blocking

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Constant	17.987		14.105	0.000
Learning Environment	1.312	0.759	28.508	0.000

Impact of post-pandemic online learning environment on procrastination behavior:

Table 3 summarizes the model for the effect of the post-pandemic online learning environment on procrastination behavior.

Table 3. Model summary for the impact of post- pandemic online learning on procrastination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.750	.562	.561	3.27311

The R-square value of 0.562 implies that 56.2% of the variability in procrastination behavior is accounted for by the post-pandemic online learning environment. The ANOVA test ($F = 767.890$, $p < 0.001$) confirms the statistical significance of the model. As shown in Table 4, the post-pandemic online learning environment positively affects procrastination behavior ($\beta = 0.862$, $p < 0.001$).

Table 4. Coefficients for the impact of post-pandemic online learning on procrastination

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Constant	2.261		2.623	0.009
Learning Environment	0.862	0.750	27.711	0.000

4.2 Discussion

The findings reveal a significant positive relationship between the post-pandemic online learning environment and both time blocking and procrastination behavior among high school students. The results indicate that improvements in the online learning environment are associated with enhanced time management skills through time blocking, as well as an increase in procrastination tendencies.

In alignment with prior studies, students who are able to adapt to an online learning environment with adequate support from teachers and resources are more likely to develop effective time management strategies [1]. As stated in the literature, time blocking allows students to structure their schedules, thus reducing distractions and improving task focus [2]. However, the flexibility and reduced supervision in online learning environments can also lead to increased procrastination, as students often struggle to maintain self-discipline without direct oversight [3]. This study's findings support the notion that while a conducive learning environment can improve time management, it can also exacerbate procrastination behavior when structure and guidance are lacking [4].

The significant effect of the online learning environment on procrastination highlights the importance of teacher intervention in maintaining student engagement and

motivation. Previous research shows that students in online learning environments are more likely to procrastinate when they experience lower levels of teacher involvement and less structured learning processes [5]. Consequently, educational institutions must develop strategies to ensure that the online learning environment fosters both time management and reduced procrastination through continuous engagement and appropriate guidance from educators.

5 CONCLUSION

The study concludes that the post-pandemic online learning environment significantly influences both time blocking practices and procrastination behavior among high school students. While a more conducive online learning environment enhances students' ability to manage time effectively through time blocking, it also increases the tendency for procrastination due to the flexibility and reduced supervision inherent in online settings. Therefore, it is crucial for educators to actively engage with students and provide structured guidance to optimize time management while minimizing procrastination in online learning contexts.

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