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## Exploring the impact of time allocation on students' writing performance: A quantitative study

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### ABSTRACT

Many educational institutions have been conducting writing assessments to measure students' ability in writing, yet little is known about whether time restriction and learning strategies are contributing factors to students' performance. In Indonesian educational institutions, writing assessments serve as a means to measure students' proficiency in articulating thoughts in the target language, providing teachers with insights into their linguistic ability. The objective of this study is to determine whether allocating extra time for timed academic essays will substantially enhance the quality of students' writing. Additionally, this study seeks to uncover the correlation between students' L2 learning strategies and their writing performance. This study used a quantitative design. The main instruments were questionnaires and writing tests collected at two parallel classes of a private university in Indonesia, comprising of 50 students in total as the study participants. The quantitative methods used *independent t-tests* and *Spearman's rho correlation* to analyze the data. The result showed that time limit had a significant effect on writing performance ( $t(34.6) = 3.185, p = .003$ ). Another result indicated minimal to no correlation between writing scores and autonomous learning practices. In conclusion, this study offers valuable and practical implications in the writing assessment industry that there should be a re-evaluation in the administration of writing assessment in educational institutions in Indonesia that truly reflects students' writing ability.

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## 1. INTRODUCTION

One of the key competencies in learning English as a second language (ESL) is writing in the language. Thus, it is essential for an English-standardized assessment to assess learners' proficiency in English in relation to their academic pursuits. Given that it covers other linguistic information such as grammar, vocabulary, and conceptualization of ideas, it is an essential part of assessment. A 40-minute timed writing exam is administered by a private university in Indonesia. It is modeled after the globally accepted administration of the International English Language Testing System (IELTS) for the writing task-two segment.

Concerns regarding the accuracy and validity of the results, however, may arise from the allocation of time in writing administration (Lee, et al., 2021; Weigle, 2002). Hull (2022) argued that timed writings should be integrated into EFL classrooms as this type of exercise would naturally improve learner's writing fluency. However, when students are given limited time to

compose essays, their performance may not accurately reflect their true writing abilities because there is an underlying assumption that students could produce higher quality and longer essays if given more time. Because students' resilience in time-pressured environments is involved as construct irrelevant factor, the factual state of academic writing skill was challenged by the discrepancy in scores impacted by time-related factors (Wu & Erlam, 2016). Thus, in order to address the problems, current research on extended time allocation were conducted (see Lee, et al., 2021; Margolis, et al., 2020; Pusey and Butler, 2024; Woods, et al., 2023) but the findings were diverse.

Studies such as those by Biola (1982), Hale (1992), Knoch and Elder (2010), Lee, et al. (2021), Powers and Fowles (1996), Bisriyah (2022), Pusey and Butler (2024), and Woods, et al. (2023), have highlighted the significance of time allocation in writing tasks, with parts of the findings suggesting that longer time duration often lead to higher quality compositions. Similar research by Khunder and Harwood (2015) and Wu and Erlam (2016) even found that students' writing score on task achievement were significantly higher when tested without time restriction although other linguistic features were not significantly different. Further investigation is required to examine students' writing scores as part of the language evaluation process.

However, we should as well consider that more enhanced writing achievement could be driven by specific learning strategies and interests (Alamer, 2022; Alamer & Alrabai, 2022; Oxford, 2003; Masrul & Yuliani, 2023). Regular exposure and language practice have been shown to be key factors in language acquisition success, particularly when it comes to vocabulary development (Peters, 2018). It was expected that a larger vocabulary knowledge would enhance learners' writing performance, regardless of the accuracy and complexity.

In order to provide significant insights into teaching practices, the study also looks at students' differences in writing learning strategies. Some research has been conducted to explore various learning approaches in second language acquisition (Horst, Cobb, & Meara, 1998; Oxford, 2003; Reid, 1987; Sahragard & Mallahi, 2014). Students' individual preference for learning strategies might increase our awareness of how individuals navigate writing problems (Sahragard & Mallahi, 2014). High learner engagement directly correlates with increased results.

Most of the previous studies above have explored the effects of timing on students' writing performance but only limited studies have examined its efficacy specifically in a tertiary education context. This study tries to fill the gap by investigating the correlation between time limitation and writing scores in a university setting in Indonesia as writing is often used as part of qualitative assessment for university students in Indonesia. The novelty of this research lies in additional focus on English exposure as students' individual learning strategies that are often overlooked by teachers in this country. By doing this research, the author tries to contribute to both theoretical understanding and practical applications of writing assessments and writing learning strategies in higher educational settings.

Based on the explanation above, this research was conducted based on the following research questions: 1) Does an increased time allotment for writing tasks affect students' performance?, 2) Does the use of certain language learning strategies affect students' writing performance?. To answer the research questions that can fill the identified research gap above, SPSS was used as the main instrument of data analysis to look at the correlation between variables, namely time allocation, writing scores, and learning strategies. The results are expected to give practical implications in the writing assessment industry and educational institutions in Indonesia for a more accurate description of students' writing performance.

## 2. METHOD

### 2.1. Participants

The research was carried out at a private university in the Special Region of Yogyakarta province, Indonesia (coded as X University). The participants were first-semester undergraduates majoring in English Literature, aged between 18 and 25 years old. A total of 27 students from class A and 23 students from class B were chosen based on their comparable English proficiency levels as determined by their preliminary assessment, that is TOEFL, scores prior to being admitted. Students in both classes, according to the instructor, were at a higher beginner level. 70% of the participants in each of the two classes identified as female, while the remaining 30% identified as males. Each student was a Bahasa Indonesian native who had never spent a long amount of time in an English-speaking nation.

**Table 1.** The proportion of gender distribution

Gender	Number of people	Percentage
Female	35	70
Male	15	30
Total	50	100

Table1 shows the number of students by gender distribution. There were 35 female students and 15 male students.

**Table 2.** The proportion of age distribution

Age	Frequency	Percentage
18	19	38
19	26	52
20	4	8
25	1	2
Total	50	1

Table 2 shows the number of students by age distribution. A total of 19 students were 18 years old, twenty six students were 19 years old, four students were 20 years old, and only one students were 25 years old. The total number of participated students in this study is 50 students.

### 2.2. Instruments

Data were gathered by administering writing tests and survey-based questions. The researcher created a questionnaire that included items related to self-assessment of language learning practices. With a few minor modifications, the communicative approach preference described by Bidabadi and Yamat (2010) and Kavaliauskiene (2003), which was adapted from a previously validated 'Learning Style Preferences Questionnaire' by Willing's (1988), served as the basis for the L2 learning techniques questionnaire items. From four types of learning styles (*communicative, concrete, authority-oriented, and analytical learning*) that were broken down into 24 questionnaire items, I modified the questionnaire into eight main themed learning styles that were mostly relevant to Indonesian context. In order to ensure an equitable and unbiased test administration, the writing prompts for each class were formulated in accordance with the

university's customary procedure for writing examinations, which involved employing the same subject matter and genre. The question prompt was *"Should university campuses disable internet access on the grounds that it impedes direct peer interaction and distracts students from completing assignments?"*. The 'New Jersey Registered Holistic Scoring Rubric' was utilized for the rating scale due to the fact that the criteria are adaptable to first-year undergraduates.

### 2.3. Procedures

On behalf of the researcher, a third party who is an English lecturer teaching grammar and composition (writing) classes at X University, conducted the test. The lecturer acted as an invigilator monitoring students during the writing process to ensure they followed the test procedures. The test was administered to the two classes at different times according to the scheduled writing class.

Table 3 shows two groups of class that received a different treatment. Class A, which consisted of 27 students, was given 40 minutes to complete an essay. Meanwhile, class B that consisted of 23 students was given 55 minutes to complete the same task.

**Table 3.** Time allocation for completing task

Class	Quantity	Time restriction
A	27 students	40 minutes
B	23 students	55 minutes

Initially, a Likert scale with values ranging from 1 (lowest value) to 5 (highest value) was used to fill out a questionnaire by the students. After that, they were instructed to write a 250-word argumentative essay on the assigned prompt. Students in class A, who were comprised the control group (CG), had forty minutes to do the work; students in class B, who were comprised of the experimental group (EG), received fifteen more minutes. It is noteworthy that both groups successfully completed the tasks within the allocated time during the exam. Everyone submitted their written essay to the teacher before the time limit, indicating that students made use of the entire time allocated to complete their essays. Once the writing process had finished, a questionnaire on learning strategies was administered.

The rating procedure was the subsequent phase. To rate the essays, a proficient rater who also teaches writing lessons in Indonesia was included in the assessment process. The rater was an English lecturer from a renowned public university who did not know the participants in person and was not informed about students' English competency level. Furthermore, the 'New Jersey Registered Holistic Scoring Rubric' rating scale was employed as a result of the rater's suggestion that they were familiar with the scale's band rubric description. In other words, the qualifications for selecting the rater were: 1) experience in teaching writing at the university setting, and 2) familiarity with the standardized scoring rubric. Regarding objectivity as well as to minimize bias in the evaluation process, the rater was not provided with any information regarding the specific essays that were submitted within a given time restriction.

### 2.4. Analyses

The data underwent analysis using the following statistical procedures:

1. Using SPSS version 17.0's independent t-tests to determine the mean difference between classes A and B. Using this method can help identify whether writing scores earned under

different time constraints differed statistically.

- Investigating the relationship between different learning strategy factors and writing test results using *Spearman's rho* correlation.

After the series of statistical procedures was performed, the results were analyzed and elaborated which could provide insights for improving writing assessments and instruction.

### 3. RESULTS AND DISCUSSION

The first study question was addressed by comparing the mean scores of the students' writing outcomes from the two separate cohorts. The data presented in Table 4 indicates a statistically significant difference in mean scores between the two classes ( $t(34.6) = 3.185, p = .003$ ). This result indicates that students who completed the argumentative essay within the allotted time of 55 minutes ( $N = 23$ ) achieved a significantly higher grade point average than those who completed it in the 40-minute group ( $N = 27$ ). This suggests that the 15-minute extension from the previously administered test had a noticeable impact on the student's writing proficiency. Cohen's  $d$  was reported as  $d = 0.88$ , which suggests the presence of a large effect size. The writing scores showed greater consistency among students in the 55-minute cohort when examining the mean and standard deviation.

**Table 4.** The independent  $t$ -test results between the two classes

Independent Sample Test							
	Class	N	Mean	Standard Deviation	df	$t$	Sig.(2-tailed)
Scores of writing performance	A	27	2.7222	1.20363	34.622	3.185	.003
	B	23	3.5217	0.46413			

Related to the second research question, Table 5 presents the correlation between students' scores and the learning strategies being assessed as indicated by the scores of Spearman's rho for each strategy, irrespective of time allocation. The outcome was unexpected given the weak correlations among all elements, with the majority of strategies exhibiting negative correlations, e.g. "attending language clubs" score is  $-.188$ . The presence of significant correlations between writing scores and certain learning strategies was initially anticipated. Nevertheless, there may exist specific factors that contribute to different outcomes, thereby refuting the fundamental assumption. A more comprehensive explanation is covered in the discussion section.

**Table 5.** Correlations between independent learning practices and students' writing scores.

Correlation	Spearman's rho
Attending language clubs	$-.188$
Interaction practice with peers	$.047$
Watching YouTube contents	$-.032$
Reading books	$-.049$
Watching movies	$-.177$
Writing blogs and essays	$.045$
Listening to music	$-.013$

The study investigated how time allocation impacts the English writing assessment of Indonesian students at X University (pseudonym for the institution). An independent t-test showed a significant mean score difference between the two groups, indicating that students who had additional time for writing tasks achieved higher performance. This result corroborates the hypothesis and resembles the findings from prior research (see Biola, 1982; Hale, 1992; Lee, et al., 2021; Margolis, et al., 2020; Powers and Fowles, 1996; Pusey and Butler, 2024; Woods, et al., 2023). The similar finding was also shown in the research by Mardiana, et al. (2023) that was conducted in an Indonesian higher education setting. The study found that participants exhibited greater fluency and slightly more grammatically complex IELTS essays within the longer time condition (Mardiana, et al., 2023). The logical argument would be that test takers could synthesize their developed thoughts into a more cohesive flow and allow cognitive processes before writing if given a longer time (Elder et al., 2009; Pusey & Butler, 2024).

Furthermore, Ruiz-Funez (2015) noted that the development of argumentative essays requires a greater degree of cognitive ability, thereby requiring students to allocate additional time to this task. This rationale clarifies the predominant use of argumentative writing tasks as a significant component of assessment at the university level. Consequently, educators must prioritize students' needs and support them to enhance their performance, hence granting them additional time for completing writing tests. While it may not definitively justify that a longer duration accurately reflects students' true writing skills, it can at least approach the condition where students produce the highest quality writing without time restriction (Khuder & Harwood, 2015; Weigle, 2002; Wu & Erlam, 2016).

The results regarding learning strategies came unexpectedly. The correlations across all test items were weak, suggesting a little to no connection between writing scores and independent learning practices. That being said, it would be fallacious to infer a student's writing capability from their learning habits because learning styles are irrelevant to writing performances. This unexpected finding emphasizes the complicated interplay of individual, social, and contextual factors that influence students' academic performance, specifically writing. In this research, potential contextual factors were identified: 1) the genre of the writing task, and 2) the examinees' language competence.

Firstly, argumentative writing is not a simple assignment for advanced beginners. Argumentative writing requires argumentation that is the benchmark indicating quality, e.g. claims, supporting details (Hirvela, 2017; Lee, et al., 2021). Notwithstanding the extent to which ESL learners encounter English in their daily lives, such exposure does not inherently correlate with the ability to compose formal texts, which are necessarily considered in essay assessments. Secondly, the degree to which students are invested in the learning process is impacted by their proficiency level (Sahragard & Mallahi, 2014). For example, when exposed to English songs, students with better comprehension abilities are more likely to recognize linguistic elements in the lyrics, e.g. vocabulary, sentence structure, grammar, and meaning. Conversely, students with lower proficiency are likely to prioritize enjoying music without regard to the substance.

The limitations of this study need to be addressed. First, the results only represent handwritten essays that are similar to the condition of the IELTS writing task that is still relevant today. Meanwhile, many professional works are conducted on computer already so further research needs to explore how time allocation would affect learners' performance on typed essays (see Lovett, et al., 2010). Second, students wrote the essays in non-operational testing conditions; then the results potentially did not show students' best performance. Hence, further research needs to consider this setting when administering a similar test. The results of this

research offer new insights for the stakeholders dealing with writing test policy.

#### 4. CONCLUSION

The writer concluded that time allocation is considered a significant factor in learners' writing test performance. Their essays showed higher quality in the exploration of ideas and greater achievement in coherence. However, students' writing scores had little to no correlation with their individual learning routines. It indicates that students' daily learning activity is not the best or main predictor of their writing ability. Based on the results, this study confirms the need to reconsider the amount of time restriction at administering writing tests for students in universities or other formal institutions in Indonesia, especially classroom-based writing test administration.

At the same time, research into the relationship between writing scores and autonomous learning practices may reveal insightful implications that can inform a practical pedagogy approach to teaching writing. If any relationships were found on the items being examined, teachers should consider incorporating the learning styles into their teaching approach to help students improve their writing ability. Also, the categorization of students' learning style could be adopted as early identification that teachers can use to adjust the types of teaching/learning activities in the classroom. Despite the limitations of this study, future research should aim to gather a larger sample size that is more representative of a broader range of ESL learners. Additionally, other alternative collection methods, such as conducting interviews to get students' perspectives on writing under different time limitations, are suggested to improve the depth of qualitative interpretation.

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