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TIME ANALYSIS AND CONSTRAINTS FOR ONLINE EXAMINATION:THE STUDY OF EFFECTIVE MEANS OF PREVENTING EXAMINATION MALPRATICE WITHOUT TEACHER'S SUPERVISION

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Abstract

Scores authenticity in online examination is one among the struggles of teachers especially that not every software is capable to strictly hold the most accurate time independently. It indeed requires a scientific investigation in order to carry out during the implementation proper of examination. Online examination became the issue of this time especially that physical appearance in school were prohibited. However, studies on how items to be administered with proper timing in order to at least prohibit students from cheating are still limited. In this case, we were motivated to do the experimentation in order to contribute a formulated body of knowledge to the faculties in order to lessen difficulties in the implementation of time for online examination. The self-constructed test validated by the experts was experimented among the tertiary students of information technology department. The trials were made into two modes, first is the 10 item trial and the second is the 60 item trial. By getting the significant difference of the scores per type of test and by noting the students' feedback became the foreground to implement the second trial. As a result, the evaluation type of test was tested not significant based on the time given and thus, a little more time was added. For future studies, this study recommends to construct another self-constructed test based on other programs aside from the department of information technology and determine if it still could be significant to the findings of the study.

Keywords: Time Analysis, Time Constraints, Online Examination, Online Cheating Prevention, Teachers Supervision

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Introduction

In the educational field, online examination is the conduct of test on the platforms of technology with the aim of measuring student's knowledge on a given topic. Everything discussed is gathered by having examinations given by the educators to assure that students gained something. The practice of having online activities has been on its implementation already for the past decades and been intensified because of the sudden change of the educational system in this time of pandemic. With this, the adoption of online learning management systems is a must to be adopted by every institution. However, despite of the sudden change in the educational system without much of preparations, educators still need to assure that the examination may instill its integrity and honesty by the students. The study of (Cluskey, Ehlen, & Raiborn, 2011) stated that online cheating is possible without exam control and procedures. Students may develop their file search strategy as their way to easily answer examination, especially that educators may not supervise them physically. As added by (Ullah, Xiao, & Barker, 2019) online

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examinations as integral component of online learning environment becomes critical threat for the identified academic dishonesty and by finding a valid metric in the success of the implementation of online examination is necessary.

In reality, online examinations can give a bountiful privilege to both schools and stakeholders. But, varied State Colleges and Universities, private or public, had taken off the challenges given by online platforms due to lack of training and operational abilities. With this, giving of the restrictions of time for examination attitudes have been given emphasized by (Hamilton, Spinks, White, & Kavanagh, 2015) as an essential way to improve the efficacy and mechanisms in the behavior of takers. The study of (Morries & Scott, 2017) claimed that explanatory variables could not be able to explain well the difference of the students and that make sense for the hardship of the researchers to find the real score of time for examinations. Even literatures of this time have not been enough to settle the time constraints and analysis for online examinations due to scarcity of studies.

Moreover, despite that time constraints is indeed a need, (Onwuegbuzie & Seaman, 2020) claimed that anxieties is possible to be experienced by the students because of the control mechanisms that upholds the item. As the

study of (Kim, 2020) stated that time online exams may just create unnecessary stress and can not protect against cheating and by doing time online examinations is just being suggested to be stopped. These things needed a thorough analysis on how a better strategy be implemented without building a trouble by means of anxieties towards the students. In this case, countermeasures are a timely solution to respond with online cheating. Although there are already some methods to facilitate cheating online, it is still good enough to explore on a different site and aspect where we could provide something in order to still instill the quality of online examination even without the teacher's supervision (Gehringer & Peddycord, 2013). Thus, this study aims to examine the time constraints needed for online examination to promote the integrity of examination online without a teacher's supervision. This study will be significant to all teachers implementing the online examinations to know the constraints of giving online examinations.

Objectives of the Study

This study generally aims to analyze the time analysis and time constraints for online examination.

Specifically, it also aims to answer the following questions:

1. Determine the score of the students with the following type of test based from the given time per item.
    a. Knowledge test
    b. Application test
    c. Analysis test
    d. Evaluation test
2. Find out the significant relationship between and among the type of test.
3. To recommend time per item of questions based on the findings of the study.

Methodology

The sample size is composed of 80 students from the two sections of undergraduate students in Information Technology. Since the students involved is under the department of Information Technology, the type of test is merely anchored with their course. The construction of the questions are based from the Blooms Taxonomy higher order of thinking skills such as knowledge, application, analysis, and evaluation. The test construction was also validated by the experts and the use of students' score for

experimentation is upon the consent granted by them and the program head of the department. The trials were made through the Edmodo application.

The trials consist of two modes of testing. The first *mode* consisted of 10 item test which was taken with different time limits like 1 minute and 2 minutes subsequently without time extension. Hence, after the students took the 10 item test, recording and observation of scores were made. Hearing the student feedbacks was also noted. Moreover, the *second mode* of the test was administered having 60 questions which has a higher number than the test in the first mode. The "quan-qual" method was implemented in the study since there are in need to monitor and compare the results of the examination with the given period. The procedures of the study are reflected in the Figure 1 of the study.

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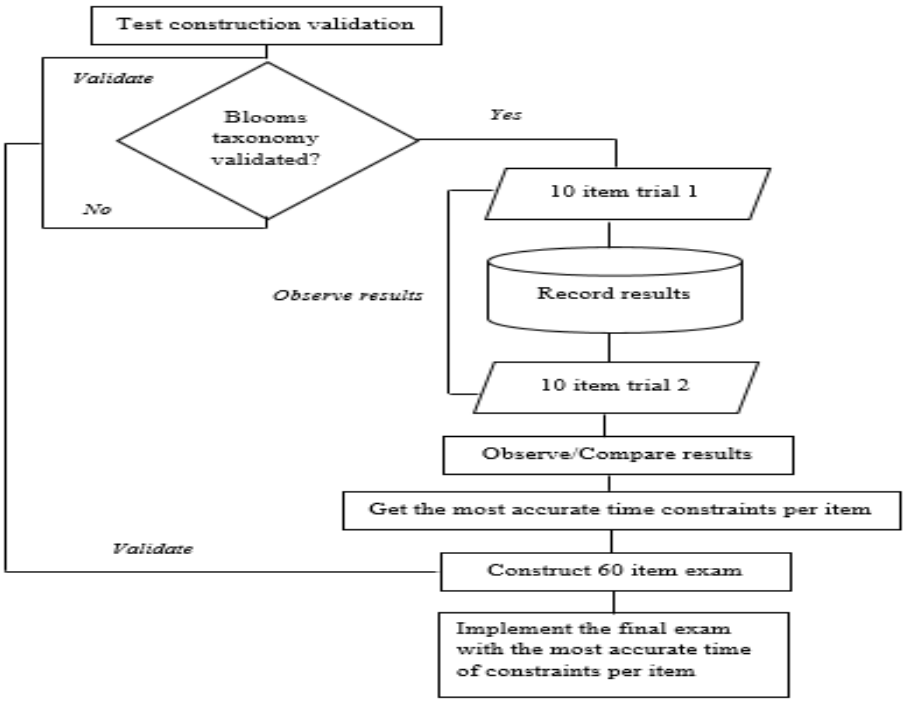

Figure 1. Conceptual Framework of the Study.

Scores of the students for the ten item test (1st mode of trial)

Table 1 shows the result of the 10 item test for the 4 chosen types of higher order of thinking skills of Blooms Taxonomy. Here, the knowledge test shows the increase of scores for the 2nd attempt having the mean score of 85 and 95 for the two different time limits. The application test got the mean score of 82 and 89, while the analysis test receives the mean score of 86 and 95. The same as through as an evaluation test that receives the highest mean score of 85 and 94 on the 2nd attempt. To avoid the familiarization of the students with the questions of the test, the study considers 10 different sets of

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students to take the 1st attempt to be taken for 1 minute and 2nd attempt to be taken for 2minutes.

Table 1. Result of ten item test (1st mode)

	Knowledge test		*Application Test*		*Analysis Test*		*Evaluation Test*	
Stud	(1st attempt) 1min	(2nd attempt) 2min	(1st attempt) 1min	(2nd attempt) 2min	(1st attempt) 1min	(2nd attempt) 2min	(1st attempt) 1min	(2nd attempt) 2min
1	85	90	85	90	85	95	85	85
2	85	95	85	90	90	100	80	85
3	80	95	80	95	85	95	80	85
4	85	95	80	95	90	90	85	80
5	80	100	85	95	80	95	90	85
6	85	95	75	90	80	90	90	90
7	85	95	80	85	85	85	85	90
8	85	95	80	85	95	95	85	95
9	90	95	80	85	85	95	85	85
10	90	90	85	80	85	100	80	95
Mean Score	**85**	**95**	**82**	**89**	**86**	**95**	**85**	**84**

Significant relationship between and among the type of test

To answer the second objective of the study, the type of test from Blooms Taxonomy order of thinking skills such as knowledge, application, analysis, and evaluation were able to test its significant difference using t-test analysis. Table 2 states that the two trials for 1 minute and 2 minutes allotted time is true for testing the knowledge, application, analysis, and evaluation ability of the students for it get the values which is lower than .05 significant levels of the p-Value. However, the two attempts of taking the quiz for 1 minute and 2 minutes under the evaluation test shows that the scores are not

significant since it obtained the p-Value of 0.083925 which is higher than the significant level of .05.

Table 2. Test of difference on the type of test

Type of test	*t-Value*	*p-Value*	*Interpretation*
Knowledge test	1.833112933	0.000200315	Significant
Application test	1.833113	0.002323	Significant
Analysis test	1.859548	0.002711	Significant
Evaluation test	1.833113	0.083925	Not Significant

Legend: p<0.05=significant

The feedback of the students was also noted, because according to (Al-Bashir, Kabir, & Rahman, 2016) that feedback plays a significant effect in professional teaching, especially in the higher education level in a way that it gives satisfaction in the improvement of learning experience. Although there is difficulty in weighing the critical feedback to an ordinary one, it will be important to hear their sides for the purpose of improvement of difficult situations (Eurich, 2018). In this case, getting the students' feedback was based from the self-based constructed survey, asking as to whether the time given is considered excess, critical, or just enough. Out of 20 students who made response for the self-based constructed survey stated that, it is the evaluation type of test that received the most critical part of the time. Out of 20 students there were 11 who claimed that the knowledge type of test has the

excess of time, and among the type of test, it is the analytical type of test that received the highest figure stating that the time constraint is just enough. This is shown in Figure 2 of the study.

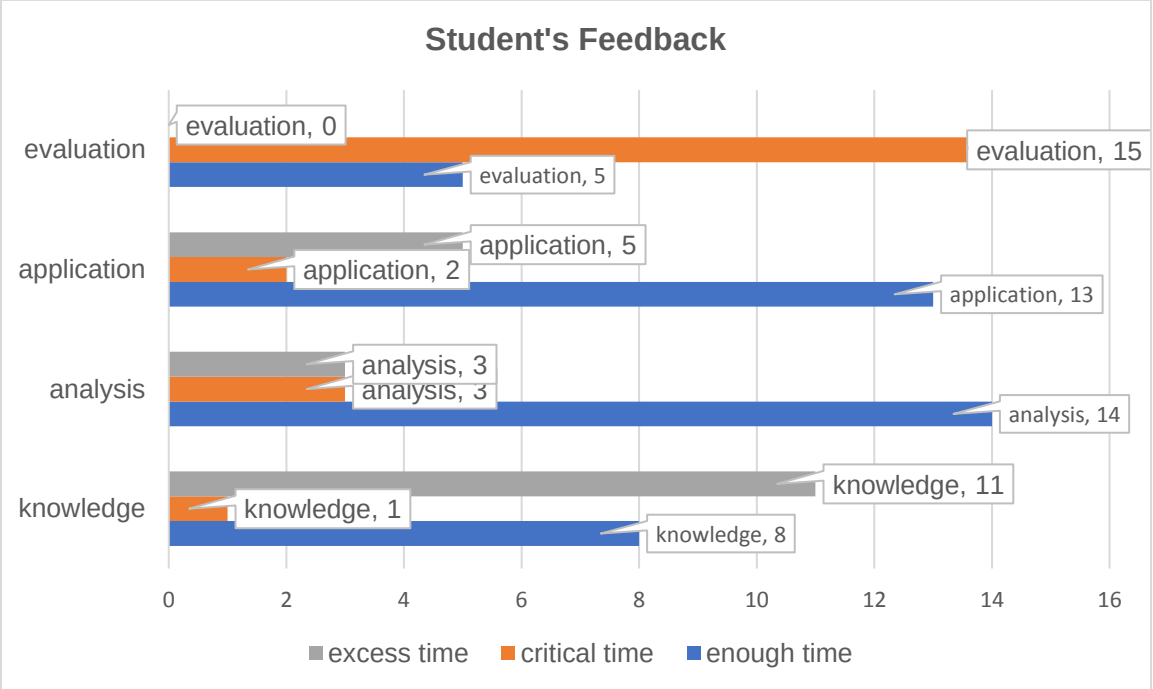

Figure 2. Student's Feedback to the Time Constraints

Scores of the students for the 60 item test (2nd mode of trial)

The second mode of test consisted of 60 sets of questions which is quite bigger than the 10 items in the first mode of trial. The 55 sets of questions were randomly arranged consisting of knowledge test, application test, and analysis test. The other five consists of 5 questions for the evaluation test of skills. The time limit of 1 was given for the 55 items, and 3 minutes for the

5 questions of evaluation test. So for 60 items, the students were able to be given with 1 hour and 10 minutes. With this, Table 3 shows the result of the student's exam and its corresponding percentage. Here, the percentage score of 92% perceived to be the highest score while 75% perceived to be the lowest score.

Table 3. Result of 60 item test (2nd mode)

Stud	*Exam (60 item)*	*Percentage*
1	33	77%
2	30	75%
3	49	91%
4	48	90%
5	47	89%
6	49	91%
7	49	91%
8	48	90%
9	50	92%
10	48	90%

Results and Discussion

The study experimented 2 modes of trials. The first mode imposed the 10 item questionnaire per type of test like the knowledge, application, analysis, and evaluation tests. Here, the t-test was made to statistically determine if there is a significant difference between the means of the 4 varied test given. With this, the study found out that the evaluation test gained the p-Value of 0.083925 interpreted as not significant since it is over the value of the significant level which is .05. In this case, since the result of the 10 item

test for knowledge, application, and analysis were all below the significant level of 0.05 the study remained the use of 1 minute per item. Considering the significance level and students' feedback for the time analysis and time constraints of the questionnaire, the study had given additional minute for the evaluation test.

The trials and hearing the students' feedback plays an important role before the implementation of a long type of test. The meticulous observation for the score of test as to whether it varies for the time constraints given had prepared the students for a more accurate time of taking the test which is shown from the result of the 2nd mode of trials. Out of 10 students who took the 60 item types of test, 0 got failed. 92% perceived to be the highest rate followed by 91%, 90% and 89%. Although, there were 2 students who got below 80%, but still the score is above the passing rate of 75%.

Conclusions

In consideration of the objectives of the study and the results of testing and evaluation, the time analysis and time constraints for the online examination was carried out, such that:

1. The first mode of trial had driven the second mode of trial into success. Out of the 60 items there were no failed students recorded. Such that, the study concluded that out of 10 students who participated in the longest type of test, the students received the percentage scores of 92%, which is the highest, followed by 91%, 90%, 89%, 77%, and 75% subsequently.
2. Among the knowledge, application, analysis, and evaluation type of test, it is the evaluation type of test that received the p-Value of 0.083925 which is higher than the significant level of .05.
3. Based from the first mode trial and students' feedback of the study, the analysis, knowledge, and application test had shown no failure in implementing the 1 minute and 2 minute time constraints. However, the 2 minutes given may over fit the accuracy of time per item for there were no failed records in a 1 minute time. Hence, implementing the 1 minute and 2 minutes per item in the case of evaluation test, had noted with the most "critical time" and with the remarks of "not significant" level. Thus, a 3 minute was given per item on the evaluation test that drives the students to pass the examination.

Recommendations

Although, there are still factors to explore in considering the time constraints for taking the exam by the students, the result of the study will be beneficial enough for the teachers who are confused in giving time constraints for the examination of the students. In this case, teachers should consider that variation of time constraints per type of question. This study wants to reiterate that the construction of the test was only made based from the course understanding of information technology students. Thus, this study wants to recommend another construction of test based from the other varied aspect program of the students and determine if it still could be significant to the findings of the study.

References

Al-Bashir, M., Kabir, R., & Rahman, I. (2016). The Value and Effectiveness of Feedback in Improving Student's Learning and Professionalizing Teaching in Higher Education. Journal of Education and Practice, Vol.7, No.6.

Cluskey, G., Ehlen, C., & Raiborn, M. (2011). Thwarting Online Exam Cheating without Proctor Supervision. Journal of Academic and Business Ethics. Vol.4.

Eurich, T. (2018). The Right Way to Respond to Negative Feedback. Harvard Business Review, https://hb.org/2018

Gehringer, E., & Peddycord, B. (2013). Experience with Online and Open-Web Examination. *Journal of Instructional Research*. Vol.2. pp.1-9.

Kim, J., (2020). 5 Reasons to stop doing Timed Online Exams during COVID-19. Inside Higher Ed.

Morries, T., & Scott, J. (2018). A Pilot Study Examining the Effects of Time Constraints on Student Performance in Accounting Classes. *Journal of Instructional Pedagogies*. Volume 18, pp.1-8.

Hamilton, K., Spinks, T., White, K., & Kavanagh, D. (2016). A Psychosocial Analysis of Parents' Decision for limiting their Young Child's Screen Time: An Examination of Attitudes, Social Norms and Roles, and Control Perceptions. *Br J Health Pshchology*. 21(2):285-301. Doi:10.1111/bjhp.12168.

Onwuegbuzie, A., & Seaman, M. (2010). The Effect of Time Constraints and Statistics Test Performance in a Statistics Course. *The Journal of Experimental Education.* Vol.63, Issue 2, pp. 115-124. https://doi.org/10.1080/00220973.1995.9943816.

Ulah, A., Xiao, H., Barker, T. (2019). A Dynamic Profile Questions Approach to Mitigate Impersonation in Online Examinations. Journal of Grid Computing. Open Access. (17)209-223.