



# Eyeing Post-pandemic Learning: Reckoning the Effects of Blended Learning Scheme

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**Abstract**— Due to the increasing number of Covid 19 cases in the country, educational institutions adopted various approaches which could cater the students' needs and abide with the health protocol at the same time. One of these approaches is the blended learning. This study looks into the effect of blended learning to the academic performance of the BS Criminology students. A descriptive research design was utilized to attain the research objectives while a documentary survey was conducted in gathering needed data. The average grade of 126 BS Criminology students who were enrolled in school year 2019- 2020 and 2020-2021 represented the academic performance of the students. The results of the study noted that there is significant difference on the students' academic performances before and during the implementation of blended learning. The study further showed that BS Criminology students performed better with the traditional learning approach than the blended learning. The test of association revealed that the academic performance of students is significantly associated with the mode of learning. Moreover, it was shown that better performance of the students is associated with traditional learning approach. Hence, this study prompts the administrators and faculty members, especially in the BS Criminology program, to consider strengthening and improving its traditional learning approach design and/or policy into a more constructive and critical discourse for a more meaningful post-pandemic learning experience among students.

**Keywords**— Blended learning, traditional learning, academic performance, BS Criminology



## I. INTRODUCTION

### Background of the Study

Due to the on-going Covid 19 pandemic, educational activities in the Philippines were halted, resulting in an unanticipated transition away from traditional learning and toward a system that focuses solely on digital teaching and learning. Due to limited movement during the pandemic, academic institutions have crafted policies which could both cater the educational needs of students and the health protocol as mandated. One of the schemes plotted and implemented during the heights of the pandemic was the blended learning scheme. There are various definitions and approaches that describe blended learning. Contemporarily, blended learning, known as mixed learning, contains rich learning strategies. According to Harvey and Chris (2001), a blended learning program may

consist of one or more program combinations like combining online and offline learning environments; combining collaborative and individual learning environments; combining structure and non-structured learning environments; combining pedagogical approaches ('e.g. constructivism, behaviourism, cognitivism') to produce an optimal learning outcome with or without instructional technology. In the case of Kalinga State University, blended learning is the combination of modular learning and online learning setup.

Online learning is creating educational resources, delivering teaching, and managing programs using the internet and other key technology (Fry, 2001). Hrastinski (2008) noted that the two types of online classes, asynchronous and synchronous online learning, are being compared. Teachers, businesses, and institutions must be

thoroughly aware of the advantages and disadvantages of online learning to be productive and efficient. This article added to the existing literature on online learning by providing thorough awareness of the migration methods of instructional delivery adopted by universities, faculty, and students, challenges, and opportunities in the global fight against Covid-19. It also discussed the crisis-response migration methods of higher educational institutions, students, and faculty members into online learning and the opportunities and challenges concerning Covid-19.

Students pursuing higher education during Covid 19-Pandemic have embraced Online Learning setup. This type of learning is a challenge for the students.

Online setup of learning is one of the most recent and innovative study methods to enter the pedagogy area during this time of pandemic. There has been a significant movement in approaches in recent years. Students can now learn on how to utilize the internet and computers. This numerous forms have evolved as new technology has been introduced. Most colleges, high schools, and other institutions throughout the have adopted this method of instruction, and the number of students enrolled online should have to embrace this new normal. There has been a great deal of research into the impact of online learning setup on the academic performance of the students.

The COVID-19 pandemic brought an education crisis that forced schools to abruptly shift to online distance learning. Regardless of the challenges in this migration, the teaching-learning process should continue. Self-regulated learning skills are essential in learning in an online environment. In the study of Calamlam et.al in 2021 it was reported that there is a subtle decrease in the perception of the online learning environment at the start of the course. A rise in the learning playlist scores has been observed at the start of the research methods course, but scores began to decline at the latter phases of the course. Results of regression analysis imply the influence of perception on the online learning environment on self-regulated learning skills.

Traditional Learning was also compared to Online Learning During the COVID-19 Pandemic based from the faculty's perspective. Alzahrani, M in 2021 investigated and further revealed that students performed better online than offline. He further argued that classroom activity has a positive effect on the overall performance of the students.

Based on the above premises, this study was conducted to look into the impact of online learning in the

academic performance of the BS Criminology students in Kalinga State University.

### Conceptual Framework

Several of the fundamental differences between learning online and in a traditional classroom setting were identified by McGovern (2004). These included the following: online learning requires students to have a certain level of computer skills and equipment that may not be necessary in the traditional environment; online instruction does not permit students the opportunity to learn by hearing since audio presentations are not normally available in online courses; and that online courses permit asynchronous learning rather than requiring students to be in a classroom at a given time and place.

Online teaching is the process of educating others via the internet. Various methods can be used, such as one-on-one video calls, group video calls, and webinars. You can start teaching from any location (home, coffee shop, co-working space) and enrol students from various backgrounds and geographical areas.

Online courses are defined by the university as containing more than 75% of instructional time conducted via the internet or web-based delivery methods.<sup>8</sup> We define Online as a binary variable equal to unity if the section was taught online and zero otherwise. The university first introduced online courses in the fall quarter of 2000. Our data began three years later (Fall, 2003) so the university had ample opportunity to create the infrastructure to make online courses successful by the time our observations begin. Over our sample period, 89,600 different course sections were taught, of which 1,584 (1.76%) were taught online. The average section enrolls 16.8 students though the enrolment distribution is heavily right-skewed with a number of sections enrolling hundreds of students, a fact we return to in the next section.

This study zeroes in to the effect of transitioning traditional learning setup to an online procedure to the academic performance of the BS Criminology students of Kalinga State University. To attain this, the semestral evaluation of the students in the pre-Covid school year is compared to the semestral evaluation when educational strategy has been transitioned to blended and/or online learning setup. As a result, a policy can be made as to what strategy could be considered while pandemic is still on and even when pandemic will be off.

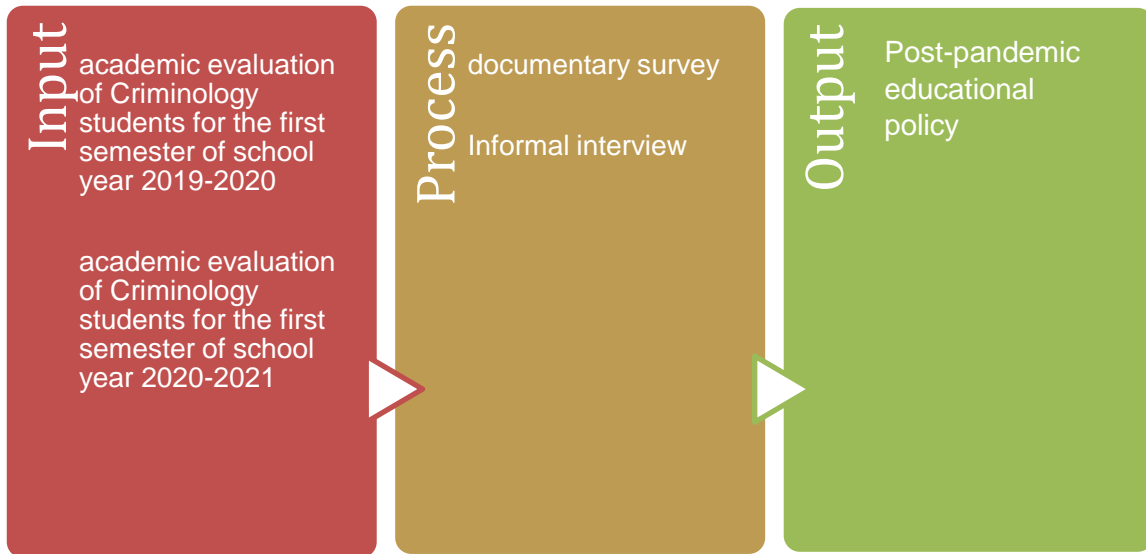


Fig.1. Conceptual paradigm

### Statement of the Problem

In March 2020, the educational system in the country started to transition from the traditional teaching and learning ways because of the Covid 19 pandemic. In order to adhere with the health protocols set by the Department of Health, the Kalinga State University transitions to blended learning scheme. With the abrupt change in the mode of learning, this study aimed to look into its impact to the academic performance of the BS Criminology students of the university. Specifically, this study sought answers to the following questions:

1. Is there a significant change in the academic performance of the Criminology students of KSU when engaged with blended learning?
2. Is there a significant association between the mode of instruction and academic performance of Criminology students?

### Objectives of the Study

This study is guided by the following objectives:

1. To compare the academic performances of the BS Criminology students in the pre-pandemic school year and while pandemic is at height.
2. To test if there is a significant association between the mode of learning and the academic performance of the BS Criminology students.

Hypotheses:

1. There is no significant difference in the academic performance of the Criminology

students before and during engagement with blended learning.

2. The mode of learning is not associated with the academic performance of the BS Criminology students.

### Significance of the Study

Determining the academic performances of the students before the Covid 19 pandemic and while it is on height gives a bird's eye view to the academic managers and administrators of the university if there is a significant change brought by the learning scheme adopted by the university while adhering with health protocols. The result of this study will serve as a baseline data in making policies regarding the mode of teaching and learning which suits the BS Criminology students.

This study would also serve as a basis of the faculty members of the Criminology program in designing their instructional strategies and procedure. With the designed program of instruction, the BS Criminology students would benefit the most.

### Scope and Delimitation

The research is focused on determining whether the blended learning setup during the Covid 19 pandemic affects the academic performance of the KSU Criminology students. The study involved freshmen who are enrolled in the course for the school year 2019-2020. This study only focused on the performance of these students who have enrolled the course before the pandemic and during the implementation of the blended learning and teaching

scheme. Students from other year levels were not involved as participants of the study. The data gathered showed only the general average of these students. Hence, varying variables like sex, age, or cultural background are not utilized in testing difference on the academic performance of the students involved.

## II. REVIEW OF RELATED LITERATURE

Due to its enhanced accessibility and flexibility, online education has grown in popularity. Online education has most recently been utilized in place of in-person instruction during the Covid-19 epidemic (Hodges et al., 2020; Nierenberg, 2020). It was seen to be convenient allowing students to study at their own pace and time. Students reported that online learning enabled them to hold a higher level of accountability for their own learning and to learn independently. However, not all experiences were positive (Sit, J. W., Chung, J. W., Chow, M. C., & Wong, T. K., 2005).

Studies included in the meta-analysis that pertain to fully online, semester-length college courses; there is no trend in favor of the online course mode (Jaggars, S., & Bailey, T. R., 2010). The findings of the study in the research entitled “Comparison of Academic Performance of Students in Online vs. Traditional Engineering Course” reveals that the online pedagogy had a negative effect on student academic performance when compared with the traditionally taught group. This was true for all demographics (gender, enrolment status, nationality) and categories (high, medium and low academic performance) of students except for high performing students for whom online pedagogy shows promise (Bir, D. D., 2019).

The online instruction provided during the Covid-19 pandemic was an example of emergency remote teaching (ERT), which differs greatly from a thoroughly thought-out, well-designed curriculum. (Hodges et al., 2020).

In the study of Nguyen, V. A. (2017) on the impact of online learning activities on student learning outcome in blended learning course, they found out that student-student interaction has a greater impact on student learning outcomes.

In the research of Smart, K. L., & Cappel, J. J. (2006) on Students’ Perceptions of Online Learning: A Comparative Study, the results indicate that the participants in an elective course rated the online modules significantly better than those in a required course.

Based on the finding of Hassan, A., Abiddin, N. Z., & Yew, S. K. (2014) on the study the Philosophy of learning and Listening in Traditional Classroom and Online Learning Approaches, there is no significance difference

between the two approaches. The students use the same strategy either online classroom or traditional classroom.

In the study of Ni, A. Y. (2013) on Comparing the Effectiveness of Classroom and Online Learning: Teaching Research Method, provides an evidence that the student performance as measured by grade is independent on the mode of instruction. Persistence in an online environment may be more challenging in research methods classes than in other public administration classes.

The study on Students’ Perceptions of Teaching and Social Presence: a Comparative Analysis of Face-to-face and Online Learning Environments, indicates that students’ perceived stronger teacher and social presence in the online section compared to the face-to-face section. (Bowers, J., & Kumar, P. (2015)).

On the other hand, the study on Online Learning amid the Covid-19 Pandemic: Students’ Perspectives Adnan, M., & Anwar, K. (2020) highlighted that online learning cannot produce desired results in underdeveloped countries where a vast majority of students are unable to access the internet due to technical as well as monetary issues. The lack of face-to-face interaction with the instructor, response time and absence of traditional classroom socialization.

Overall, previous research demonstrates that student learning outcomes in a variety of online courses and labs in elementary, secondary, and higher education are comparable (Faulconer & Gruss, 2018; Patrick & Powell, 2009; Sun & Chen, 2016; U.S. Department of Education, 2009; Weber & Lennon, 2007).

### Definition of Terms

*Covid 19 Pandemic* – this refers to the pandemic brought by the spread of the coronavirus disease which is caused by the SARS-CoV-2 virus.

*Mode of Instruction* – this refers to the ways of which learning experiences are delivered to students.

*Traditional Learning* – this refers to the mode of teaching and learning before the Covid 19 pandemic hits. It includes face to face engagements of teachers and students which usually happen inside the classroom or school premises.

*Online Learning* – it refers to the use of the digital technologies and internet to deliver instruction to the students.

*Blended Learning* – it refers to the combination of teaching-learning methodologies in delivering instructions. In the case of Kalinga State University, blended learning involves the use of learning modules and online learning.

*Academic Performance* – this refers to the overall performance of students in their enrolled subjects as

described through their average grade for the semester or school year.

*Criminology Students* – these are students who are enrolled in BS Criminology program.

### III. METHODOLOGY

#### Locale of the Study

The study was conducted in the main campus of Kalinga State University particularly in the College of Criminal Justice Education. This college houses two programs such as BS Criminology and Bachelor of Forensic Science. For this study, only the BS Criminology students were involved.

#### Research Design

The study descriptive research design as it aims to measure the effect of the blended learning scheme adopted by the university in the academic performance of the students. Documentary survey was utilized in the collection of data needed to attain the above-cited objectives. This type of data collection involves gathering and analyzing information using pre-existing data that is already available. These data can take the form of research papers, review articles, books, and official records (What is descriptive, 2021).

#### Respondents/Informants/Research Participants of the Study

The study aims to look into the impact of the blended learning setup in the academic performance of the Criminology students. To meet the goal, the research participants were the Criminology students who have undergone both the face-to-face and online learning scenarios. Specifically, the first year students enrolled in BS Criminology for SY 2019-2020 were considered as participants of the study.

#### Instrumentation

Since the study aims at looking into the impact of the blended learning setup to the academic performance of the Criminology students, the general weighted average of the research participants during the face-to-face classes was sought for comparison with their GWAs during the online classes. Data were backed up with narratives of the participants as to their experiences in both learning setups.

#### Data Gathering Procedure

The data needed in the study were gathered through records review. The researcher sought permission from the dean of the College of Criminal Justice Education to access and review the true copy of grades of the research participants. These data aid in looking into the impact of

the blended learning scheme to the academic performance of the students, quantitatively. Also, interviews with the participants who are conveniently available was informally done to verify data from their copy of grades. As a backup method, observations of faculty members were sought.

#### Data Analysis

From the true copy of grades of the students, the general average was computed to determine their academic performance. For this study, range of general average was crafted to easily describe the academic performance of the students. General average ranging from 3.01 – 5.0 is marked as failed; 2.501 – 3.00, low; 2.0 – 2.50, average; and, 1.0 – 1.99, high. To test the effect of the blended learning to the academic performance of the students, paired sample t-test was computed while test of association, specifically point biserial correlation, was conducted for the attainment of the second objective.

### IV. RESULTS AND DISCUSSION

Table 1 presents the comparison of the general average of the Criminology students before the adoption of blended learning scheme and when engaged with the blended learning scheme.

*Table 1. Difference on academic performance of Criminology students before and while engaging with blended learning*

	n	Mean	Standard Deviation	p-value
Average before adopting blended learning scheme	126	2.2778	.27854	0.002
Average when engaged with blended learning scheme	126	2.5008	.80890	

The result of the test reveals that the BS Criminology students performed better before the adoption of the blended learning scheme compared to their academic performance when blended learning is implemented. This is proven by the higher general mean of 2.28 which is described as average. Also noted from the test is that the general average of the students when engaged to blended

learning is more varied/scattered than their general average before the adoption of the said learning style.

From the documentary survey conducted, there are 11 failing marks noted during the semester where traditional learning is adopted. However in the next school year when blended learning was mandated for implementation, the number of failing marks increased by 300%. There were 6 students who dropped in SY 2020-2021. When asked through an informal interview, the weak signal and insufficiency or lack of resources of the students during the implementation of blended learning contributed to the failing marks, low general average, and existence of dropouts. This result seconded the study among engineering students taking up traditional and online engineering courses. Bir, D. (2019) iterated that there is a negative impact of the online pedagogy to the academic performance of the engineering students.

Looking into the significance value of .002 which is lesser than the alpha (.05), the null hypothesis stating that there is no significant difference in the academic performance of the Criminology students before and during engagement with blended learning is rejected. This means that there is a significant difference in the academic performance of the students when learning scheme is transitioned from traditional to blended. This is similar with the results generated by the studies conducted by Ceylan, V. et.al., (2017) and Li, Z et. al. (2013) which asserted significant difference in the academic achievement score/performance when exposed to face to face and blended learning. In contrary, empirical analysis done by Kwak, DW et. al. in 2015 noted that introduction of blended learning among undergraduate students did not affect the academic performance of the students despite their preference of live lectures over online learning delivery. No significant difference was also asserted by Vo, H et. al. in 2017.

In the case of this present study, the change noted in the academic performance of BS Criminology students upon implementation of blended learning is negative. This is in contrary with the study of Bazelais, P. et al. (2018) which suggests that the blended learning approach leads to more conceptual change, acquisition of more skills, and higher performance.

Table 2 presents the test of association of the mode of learning and the academic performance of the BS Criminology students.

		Mode	Average
Mode	Pearson Correlation	1	.182**
	Sig. (2-tailed)		.004
	N	252	252
Average	Pearson Correlation	.182**	1
	Sig. (2-tailed)	.004	
	N	252	252

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The result of the study shows the significant association of the mode of learning and the academic performance of the students represented by their average grade ( $p < 0,05$ ). Using a scatterplot diagram for verification, it was found out that the higher average grade of students is associated with the traditional learning setup. Though the mean difference is quite small, the result in the test of association implies that Criminology students have better academic performance before the implementation of blended learning. This result is in contrary with that of Vo, H et. al. in 2017 which confirms that BL is significantly associated with greater learning performance of STEM-disciplined students than with traditional classroom practice.

### Summary

Due to the health protocols of which everyone must adhere with because of the increasing number of Covid 19 cases in the country, Kalinga State University adopted the blended learning approach for the continuous delivery of instruction. The results of this study noted that there is a significant difference in the academic performance of the BS Criminology students before and during the implementation of the blended learning scheme. Moreover, there is a significant association between the mode of learning and the academic performance of the students.

## V. CONCLUSION

From the aforementioned findings, this study asserts that the mode of delivery of instruction affects academic performance of learners. It further confirms the effect of the blended learning scheme on student performance in higher education setting. Moreover, traditional learning approach is conjectured as better scheme than the blended learning.

### Recommendation

The findings of the study encourage the implementation of traditional learning approach among Criminology students. Blended learning, however, may be

used to back up the former approach. Also, the result of the study prompts the administrators and faculty members, especially in the BS Criminology program, to consider strengthening and improving its traditional learning approach design and/or policy into a more constructive and critical discourse for a more meaningful post-pandemic learning experience among students.

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