Academic Performance of Local City College Senior High School Students During the Face-To-Face and Bichronous Teaching Modalities

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ABSTRACT

This study endeavors to discern meaningful associations between the academic achievements of senior high school students within local city colleges across two distinct teaching modalities. Specifically, it aims to explore potential relationships and disparities in academic performance between the conventional face-to-face teaching approach during the initial semester of the 2019-2020 academic year and the bichronous teaching modality adopted in the corresponding semester of the 2020-2021 academic year. Furthermore, the investigation seeks to ascertain whether noteworthy differences emerge in academic performance when comparing the two teaching modalities. The research employs a quantitative research design, embracing a sample of 115 participants comprising 62 male and 53 female students. The resultant findings present a comprehensive picture of the observed relationships and disparities. The discerned outcomes are as follows: Remarkably, despite the abrupt transition prompted by the pandemic-induced changes, a significant relationship persists in the academic performance of students. This finding underscores the adaptability and resilience demonstrated by students in navigating teaching modality shifts.

Moreover, the study reveals a significant variance across sexes for both teaching modalities examined, reflecting nuanced dynamics inherent to gender-related academic performance. In summation, this investigation signifies the commendable performance of most of the Local City College Senior High School students in both face-to-face and bichronous teaching modalities. This study contributes to the evolving understanding of the interplay between pedagogical approaches and academic achievements, thereby informing educational strategies and responses to dynamic instructional contexts.

Keywords: COVID-19, teaching modalities, Senior High School Program

INTRODUCTION

In every learning institution, academic performance is a pivotal element to consider for the school to serve its goal. Educators, scholars, and policymakers have been debating the factors that influence this success. Several studies have been conducted to investigate this topic, with the findings pointing to hard effort and discipline, prior schooling, parents' education, family income, self-motivation and engagement as factors that can explain

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variances in student grades.

Multiple research studies have focused on identifying additional determinants that exert an impact on students' academic performance. Notably, Alipio's investigation in 2020 illuminated that constructive factors such as help-seeking, self-esteem, self-efficacy, and the presence of social support engender a positive influence on academic outcomes. Similarly, the work conducted by Mushtaq and Khan in 2012 underscored significant variables, including communication strategies, the quality of learning facilities, effective guidance mechanisms, and familial stress.

Moreover, the insights gleaned from Lei et al.'s 2018 study have accentuated the symbiotic relationship between students' levels of engagement and their academic accomplishments. This investigation delineated the intricate interplay between behavioral, emotional, and cognitive engagement, indicating their influence on academic achievements. Furthermore, the mode of engagement assessment was shown to be a determinant factor in this relationship.

The advent of the global COVID-19 pandemic has propelled the educational landscape into an unprecedented juncture. This cataclysmic event precipitated a seismic shift, rendering the conventional school setting susceptible. As a consequential response, educational institutions across the globe have mandated extensive closures in response to this crisis. These actions have underscored the need for a transformative shift from conventional teaching approaches to more adaptable and flexible methodologies. This transition, in essence, underscores the imperative for a pedagogical framework that is not reliant on in-person, face-to-face interactions. This paradigm shift is driven by the overarching goal of sustaining uninterrupted learning experiences for students, even in the absence of physical classroom spaces.

The transition in the educational pedagogical framework, prompted by widespread closures of educational institutions (Dela Rama et al., 2020; Cabangcala et al., 2021), carries profound implications for students, particularly in terms of their readiness to confront real-world challenges. This paradigm shift has ushered in a range of formidable challenges, notably necessitating educational institutions to undertake substantial curriculum redesign to accommodate students' learning requisites beyond the traditional classroom milieu (Toquero, 2020). Moreover, the novel landscape has presented multifaceted impediments, including the scarcity of academic support, inadequate resources for effective online instruction, erosion of social interactions, escalated stress levels, anxiety, and waning motivation to engage in educational activities (Al-Maskari et al., 2021).

With these foundational considerations as the backdrop, this empirical research endeavor was thoughtfully undertaken. Its primary objective is to venture deeper into the multifaceted factors elucidated earlier, which demonstrably wield a substantial impact on the trajectory of academic performance. The focal inquiry centers on comprehensively unraveling the intricate pathways through which these factors exert their influence on the academic accomplishments of senior high school students within local city colleges. It is noteworthy that the study's importance is further magnified by its contextual placement within the ongoing pandemic scenario. This confluence offers an unprecedented vantage point to explore these factors against the unique canvas of the current educational landscape.

Crucially, this research endeavor is poised to furnish the institution with insights of paramount value. These insights stand to serve as foundational bedrock for the strategic evolution of curricula, meticulously tailored to cater to the diverse and ever-evolving needs of the student cohort. Thus, this scholarly initiative assumes an instrumental role in charting the educational course of local city colleges while concurrently enriching the broader discourse on pedagogical adaptation and innovation in times of transformative change.

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MATERIALS AND METHODS

This study made use of a quantitative research design utilizing the General Weighted Average (GWA) of the respondents for each semester. There were a total of 115 respondents composed of 62 males and 53 females from the senior high school department who underwent the face-to-face modality in the 2019-2020 school year and the bichronous modality in the 2020-2021 school year at the local city college.

Data Collection

Permission was sought from the school officials to utilize the general weighted average (GWA) of the respondents as the basis for the academic performance for the face-to-face teaching modality taken from the first semester of the 2019-2020 school year and the academic performance for the bichronous teaching modality taken from the first semester of the 2020-2021 school year. Quantitative data were encoded in Microsoft Excel and treated utilizing IBM SPSS for statistical analysis.

Data Analysis

The Pearson correlation coefficient was utilized to determine the significant relationship between the respondents' academic performance during face-to-face and bichronous teaching modalities. At test was utilized to identify the significant differences in the academic performance of the students during face-to-face and bichronous teaching modalities.

Findings

Are there significant relationships between the academic performance of local city college senior high school students during the face-to-face teaching modality during the first semester of the 2019-2020 school year and during the bichronous teaching modality during the first semester of the 2020-2021 school year?

Table A encapsulates the dynamic interplay between academic performance during two distinct teaching modalities: face-to-face instruction in the initial semester of the 2019-2020 academic year and the bichronous teaching modality during the corresponding semester of the 2020-2021 academic year. The outcomes revealed a statistically substantial relationship between these two instructional modes. Notably, academic performance during face-to-face instruction in the first semester of the 2019-2020 school yearexhibited a robust correlation with performance in the bichronous teaching modality of the first semester in the subsequent 2020-2021 academic year.

Empirical findings manifest a correlation coefficient of 0.73, underpinned by a corresponding probability value of 0.00. This statistical significance, ascertained at an alpha level of 0.05, underscores the robustness of the relationship discerned between the two instructional modalities. This revelatory statistical analysis lends empirical weight to the academic continuity across these modes of instruction, revealing a pivotal facet of student adaptability and achievement within evolving educational paradigms.

Table A: Relationship between Academic Performance during Face-to-Face Teaching Modality during the First Semester of the School Year 2019-2020 and during the Bichronous Teaching Modality during the First Semester of the School Year 2020-2021

Variable	Coefficient of Correlation	Probability Value
Face-to-Face Teaching Modality and Bichronous Teaching Modality	0.73	0.00*

(*Significant at alpha = 0.05)

Are there significant differences in the academic performance of students during the face-to-face teaching modality of the first semester of the 2019-2020 school year and during the bichronous teaching modality of the first semester of the 2020-2021 school year?

Presented in Table B is a comprehensive analysis of the discernible variations in students' academic performance across two distinct instructional modalities. Specifically, the focus is on the contrast between the face-to-face teaching modality during the initial semester of the 2019-2020 academic year and the bichronous teaching modality during the parallel semester of the 2020-2021 academic year.

The findings unveil a noteworthy revelation: no statistically significant differences emerge in the academic performance of students between the face-to-face teaching modality of the first semester in the 2019-2020 academic year and the bichronous teaching modality of the corresponding semester in the 2020-2021 academic year. This conclusion is substantiated by the computed t value of -0.85, coupled with the associated probability value of 0.40. Notably, this probability value fails to meet the threshold of statistical significance at an alpha level of 0.05.

The statistical analyses underscore the comparative academic equivalence across these pedagogical modes, signifying that students' academic accomplishments remain resilient irrespective of the mode of instruction. These empirical insights contribute to the broader discourse on instructional adaptability, offering valuable insights into the efficacy of diverse teaching modalities.

Table B: Differences in the Academic Performance of the Students during the Face-to-Face Teaching Modality of the First Semester of the School Year 2019-2020 and during the Bichronous Teaching Modality of the First Semester of the School Year 2020-2021

Teaching Modality of the First Semester of the School Year 2020-2021

Variable	Tests	Mean	Standard Deviation	Mean Difference	T value	Sig
	Face-to-face	83.48	2.92	-0.36	-0.85	0.40
	Bichronous	83.84	3.50			

(*Significant at alpha = 0.05)

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Are there significant differences in the academic performance of the students during face-to-face teaching modality of the first semester of school year 2019-2020 and during the bichronous teaching modality of the first semester of school year 2020-2021 when grouped according to sex?

Presented in Table Cpresents the differences in the academic performance of the students during face-to-face teaching modality of the first semester of school year 2019-2020 and bichronous teaching modality of the first semester of school year 2020-2021 when grouped according to sex. The result shows that there is significant difference in the academic performance of the students during face-to-face teaching modality of the first semester of school year 2019-2020 and bichronous teaching modality of the first semester of school year 2020-2021 when grouped according to sex. The interaction effect is significant with the F value of 7.31 and the corresponding probability value of 0.001 is significant at alpha 0.05. This means that the academic performance of the students during face-to-face teaching modality of the first semester of school year 2019-2020 and bichronous teaching modality of the first semester of school year 2020-2021 is significantly different depending on the sex of the respondents.

Table C: Differences in the Academic Performance of the Students during the Face-to-Face Teaching Modality of the First Semester of the School Year 2019-2020 and during the Bichronous Teaching Modality of the First Semester of the School Year 2020-2021when grouped according to sex

Variable Effects	**F Value**	**Sig.**
Academic Performance during Face-to-Face Teaching Modality	11.43	0.001*
Academic Performance during Bichronous Teaching Modality	13.40	0.000*
Wilk's Lambda	7.31	0.001*

(*Significant at alpha = 0.05)

DISCUSSION AND CONCLUSION

A significant correlation in the academic performance of senior high school students emerged across both the face-to-face and bichronous teaching modalities. Strikingly, the academic achievements remained consistent despite the abrupt transition in the instructional approach. This observation potentially signifies the presence of an intrinsic trait among senior high school students characterized by their autonomy, self-direction, and unwavering academic motivation. These attributes seemingly empowered them to navigate the altered educational landscape and diligently pursue their studies, regardless of the shift away from the conventional face-to-face instructional method.

This outcome finds resonance in the empirical findings of Coros and Madrigal's study in 2021, which underscores a tangible connection between self-directed learning and academic motivation. Moreover, this proposition gains further support from the research of Cazan and Schiopca in 2014, highlighting the predictive role of self-directed learning in shaping students' academic achievements.

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The alignment between these empirical findings and established research underscores the pivotal role of student attributes, particularly self-directed learning and academic motivation, in maintaining consistent academic performance despite transformative shifts in pedagogical approaches. This observation augments our understanding of student agency and resilience within evolving educational paradigms.

Conversely, a notable absence of statistically significant disparity was detected in the academic performance of senior high school students. This conveys a compelling narrative of academic consistency, manifested both in the face-to-face and bichronous teaching modalities. This outcome underscores the resilience of academic achievements across the educational spectrum, irrespective of the instructional method employed.

Remarkably, this discovery finds consonance with the findings of a recent study conducted by Cavanaugh in 2023, titled "A Look at Student Performance During the COVID-19 Pandemic." This study showed that despite the formidable challenges posed by the abrupt shift to online education in the wake of the pandemic, students' grades did not exhibit a decline. In fact, the outcome highlights that those who were excelling within the traditional face-to-face teaching modality maintained their exemplary performance during the transition to the bichronous teaching mode.

These parallel findings underscore the robustness of student achievements and the continuity of academic excellence amidst unconventional pedagogical shifts. This observation contributes to the discourse surrounding educational adaptability and emphasizes the enduring potential of students to excel even when confronted with unprecedented educational changes.

Considering the derived findings and resultant conclusions, the following recommendations are presented for consideration:

First, it is suggested that the school administration establish a robust feedback mechanism aimed at actively soliciting suggestions and recommendations directly from its diverse range of stakeholders. By implementing this structured feedback loop, the institution can foster an environment of collaboration and engagement, allowing for ongoing dialog between the administration and its clientele. Such a mechanism would not only enhance transparency but also facilitate the refinement of teaching methodologies, learning resources, and overall educational quality. This collaborative approach would effectively leverage the insights and perspectives of all stakeholders to drive continuous improvement.

Second, to comprehensively explore the multifaceted aspects of the educational landscape, it is advised that future research endeavors encompass an expanded array of investigative variables. Specifically, the incorporation of qualitative data collection methods, such as interviews with parents or guardians, would provide valuable insights into the unique challenges and difficulties faced by families during the unprecedented educational shifts brought about by the pandemic. Additionally, a thoughtful examination of respondents' perceptions concerning the adequacy of training materials within the context of the bichronous learning modality could offer a holistic understanding of the instructional effectiveness and overall learning experience. By widening the scope of inquiry, these insights would contribute to a more nuanced understanding of the intricate dynamics at play in the evolving educational ecosystem.

Incorporating these recommendations into the educational framework holds the potential to catalyze

change, foster a symbiotic relationship between the institution and its stakeholders, and drive informed decisions that align with the evolving needs of the educational community.

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