



## Quality of regular students versus distance students, degree graduate programs in Ghanaian Universities

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### Abstract

The quantitative study explores the relationship between enrollment type (regular students vs. distance students) and academic performance among students at C.K. Tedam University of Technology and Applied Sciences and University for Development Studies in Ghana. Utilizing regression analysis and ANOVA, the research examines the impact of enrollment type while controlling for prior academic achievement (WASSCE grades) and university attended. Results reveal that enrollment modality significantly affects academic performance, with distance students exhibiting slightly lower GPAs compared to regular students. Furthermore, prior academic achievement emerges as a strong predictor of GPA, emphasizing the importance of pre-university academic performance. However, the specific university attended and the interaction between enrollment type and university were not significant predictors of GPA. These findings underscore the complex interplay between enrollment type, prior academic achievement, and academic performance in Ghanaian universities, providing valuable insights for educational policy and practice.

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### Introduction

While the technology used and the format certainly has changed, the debate over the quality of education between regular students and distance students in Ghanaian universities has been ongoing (Opoku *et al.*, 2022) <sup>[1]</sup>. The earliest forms of this discussion might trace back to the inception of distance programs alongside traditional weekday classes. These programs were initiated to accommodate students with diverse schedules, particularly those engaged in work or familial responsibilities during weekdays (Bervell, 2018; Forson, I.K; Voupala, 2019) <sup>[4, 7]</sup>. This separation of students into distinct categories based on their availability for classes created an early distinction in educational delivery modes. The landscape of education delivery has significantly evolved since its inception. What began as a demarcation in scheduling has now expanded into a broader discourse concerning the quality of education received by students enrolled in traditional weekday classes versus those attending weekend sessions. While in the past, the distinction might have been primarily logistical, today, it encompasses considerations of pedagogical methods, learning outcomes, and overall educational experiences (Bampo, 2020) <sup>[3]</sup>.

There is a wide variety of technologies and software that can facilitate different types of distance learning. It goes by a few names: mobile learning, e-learning, and blended learning (Andoh *et al.*, 2020) <sup>[2]</sup>. According to Bervell (2018) <sup>[4]</sup>, all of these methods have the characteristic of remote delivery. The main idea behind remote delivery is to make it easier for students to share and receive information, so they may learn from one other whenever they choose. Also, typical learning tools may still be used with remote distribution, thus it's compatible with various teaching techniques and technology. We lack a detailed account of whether this type of interaction facilitates communication and collaboration between instructors and students, but it does expand learning beyond the confines of the university and removes some of the constraints placed on learning, such as distance and location (Oliveira & Coutinho, 2023; Roorda *et al.*, 2021; Teresa & Keno, 2022; Yeboah & Gyamfi, 2022) <sup>[10, 14, 16, 19]</sup>. Both

academic and occupational success in today's competitive job market need strong communication and teamwork skills.

Factors such as gender (Alcalá-Cerrillo *et al.*, 2023; Han *et al.*, 2022; Inês *et al.*, 2022; Zweers *et al.*, 2021) <sup>[1, 9, 21]</sup>, age (Eijl *et al.*, 2023; Yan *et al.*, 2021; Yeboah & Gyamfi, 2022) <sup>[6, 19]</sup>, and prior experience (Zhang & Hennebry-Leung, 2023) <sup>[20]</sup> are among the variables that influence students' level of comfort with communication and collaboration when using distance learning. Other key situational factors that affect students' communication and cooperation in distant learning, however, have received little attention. The study propose that students' social media familiarity can impact their behaviour in all types of courses, including those that use a distance learning approach. This is based on previous research (see, for example, (Bervell, 2018; Opoku *et al.*, 2022; Xie *et al.*, 2021) <sup>[4, 11, 17]</sup>.

The rapid changes happening in the field of education in Ghana bring up questions, about whether students in regular and distance learning programs have equal educational experiences. As we saw when distance learning was introduced concerns were raised about the quality of education across formats. Similarly comparing regular and distance students prompts us to wonder about the effectiveness of teaching methods and how they affect student learning outcomes. To answer these questions effectively it's crucial to look at existing research that explores the differences between modes of delivery and their impact on student performance. Scholars like Owusu-Ansah *et al.* (2018) <sup>[12]</sup> stress the importance of providing the learning experiences for all students regardless of how they receive their education. Similarly, Forson and Voupala (2019) <sup>[7]</sup> highlight how educational technologies can transform teaching methods and change the dynamic between teachers and students.

This study aims to contribute to discussions by examining how learning outcomes differ between students and distance learners enrolled in a 4-year graduate program at universities in Ghana. Taking inspiration from research methodologies (Bozkurt & Zawacki-Richter, 2021; Pregowska *et al.*, 2021) <sup>[5, 13]</sup> this study explores factors such, as academic settings, demographic characteristics, academic abilities and effort that may potentially influence learning outcomes. The remainder of this paper is structured as follows: first, a review of pertinent literature provides a contextual backdrop for the study and justify its methodology. Second, theoretical considerations regarding data estimation are discussed. Third, the data collection process is described. Fourth, an empirical model is developed to analyze the impact of instructional mode and other variables on student performance. Finally, the report concludes with a discussion of implications stemming from the findings.

## Literature Review

### Distance Education

Any sort of instruction when the learner does not physically attend a classroom is considered distance learning. The location of the learner is irrelevant to the learning process. Digital learning has evolved into a viable educational option in recent years (Spatioti *et al.*, 2022) <sup>[15]</sup>. In the historical context of Ghanaian higher education, the evolution of educational delivery modes has been marked by a transition from predominantly traditional weekday classes to the inclusion of weekend programs. Ghana's university system, influenced by British colonial education models, initially

followed a conventional structure of weekday classes, mirroring the traditional Western academic calendar (Owusu-Ansah *et al.*, 2018) <sup>[12]</sup>. The establishment of traditional weekday classes in Ghanaian universities can be traced back to the early decades following independence. Institutions such as the University of Ghana, established in 1948, primarily offered classes during the weekdays, reflecting the standard educational practices prevalent at the time (Andoh *et al.*, 2020) <sup>[2]</sup>. Weekday classes, in universities were originally designed for secondary school graduates who pursued full time tertiary education. However, as Ghanas socio economic landscape changed there was a need to accommodate individuals with schedules and commitments. This shift in society with more people working or taking care of family during weekdays led universities in Ghana to rethink how they deliver education.

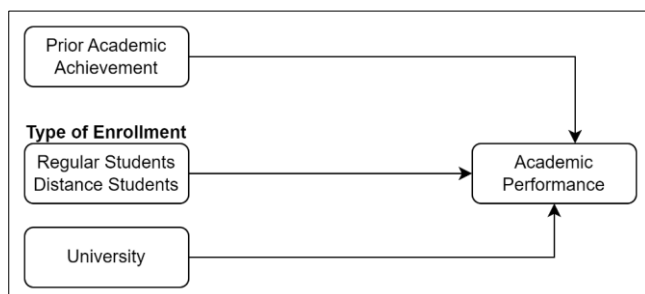
Distance programs were established in universities with the goal of providing access to higher education for those who couldn't attend traditional weekday classes due to work or other obligations. These programs aimed to make education more accessible and address the challenges faced by traditional students seeking tertiary qualifications. One important reason behind the introduction of distance programs was to enable working professionals to continue learning and enhance their skills without giving up their jobs or other weekday responsibilities (Opoku *et al.*, 2022) <sup>[11]</sup>. Moreover, these programs were also designed to cater to individuals who had family responsibilities, such, as parents or caregivers making it difficult for them to attend classes on weekdays. Universities aimed to foster an educational environment by offering classes on weekends catering to the diverse needs of their student population (Bervell, 2018) <sup>[4]</sup>. Moreover, the introduction of distance programs aligned with initiatives focused on promoting adult education and skills development in Ghana. Acknowledging the significance of learning in national development agendas, policymakers and educational institutions joined forces to establish learning pathways, such, as distance programs ensuring equal access to education, for all segments of society (Andoh *et al.*, 2020) <sup>[2]</sup>.

### Regular Schooling

Traditional education, which is typically characterized by, in person teaching has been the prevailing method of delivering education in institutions worldwide (Zhang & Hennebry-Leung, 2023) <sup>[20]</sup>. This approach involves students physically attending classes on campus and actively participating with their teachers and peers in a collaborative learning atmosphere. In universities traditional education has been the model for higher education aligning with established norms and practices within the educational system. The effectiveness of education has been extensively. Debated within educational literature. Proponents of in person instruction often emphasize the importance of face to face interactions and immediate feedback that take place within the classroom setting. These interactions facilitate real time clarification of concepts, dynamic discussions and personalized guidance which can foster comprehension and engagement among students (Opoku *et al.*, 2022) <sup>[11]</sup>. Additionally in person instruction provides opportunities for emotional growth as students engage with their peers and build connections with their instructors. Research indicates that these interpersonal relationships significantly impact student satisfaction, motivation and overall academic

achievement (Zhang & Hennebry-Leung, 2023) <sup>[20]</sup>. Moreover, the conventional classroom environment offers a framework, for learning where instructors can adapt their teaching methods and pace based on students needs and feedback. Many people consider adaptability to be an advantage of, in person teaching. It allows instructors to customize their methods to suit the learning styles and abilities of their students (Eijl *et al.*, 2023) <sup>[6]</sup>. Additionally traditional schooling promotes a sense of community. Belonging within the institution. Students often form bonds with their peers and faculty members creating a learning environment that encourages collaboration and camaraderie (Yan *et al.*, 2021) <sup>[18]</sup>.

When it comes to formats particularly in higher education there are varying opinions on the benefits they offer. Some argue that incorporating tools and strategies, from distance learning practices could greatly enhance the experiences of students enrolled in courses (Zweers *et al.*, 2021) <sup>[21]</sup>. Turoff suggests that when professors actively participate in facilitating student learning and foster an environment to collaboration distance learning classes may produce outcomes. However, it is essential to acknowledge the prevailing teaching methodologies entrenched within academia. Many professors, trained in traditional face-to-face instruction, may find it challenging to transition to distance learning methods, particularly if they were initially drawn to academia due to their enjoyment of direct interaction with students (Alcalá-Cerrillo *et al.*, 2023) <sup>[1]</sup>. The traditional model often positions the instructor as the "sage on the stage," relying on intuition and immediate student feedback to create an effective learning environment. The introduction of distance learning technologies can disrupt this feedback loop, potentially hindering the learning process for some students.



Source: Authors Own Creation

**Fig 1:** Conceptual Framework

## Methodology

This quantitative study aims to investigate the relationship between type of enrollment (regular students versus distance students) and academic performance among students at C.K. Tedom University of Technology and Applied Sciences and University for Development Studies in Ghana. The independent variable is type of enrollment, categorized into regular students who attend face-to-face classes on campus and distance students who engage in remote learning. The dependent variable is academic performance, assessed through students' grades, GPA. Control variables include prior academic achievement (WASSCE grades), which

encompasses students' previous academic qualifications before enrollment in the degree program, as well as the specific university attended. The study sampled 154 students stratify randomly from both universities (72 regular student and 84 distance students), employing statistical analyses such as regression analysis to examine the impact of enrollment type on academic performance while controlling for relevant variables.

**Table 1:** Descriptive Statistics

	Mean	SD	N
<b>Pre-Test Score (WASSCE Grades)</b>			
Regular Students	21.3	3.2	72
Distance Students	29.6	3.4	82
<b>Post-Test Score (GPA)</b>			
Regular Students	3.1	0.1	72
Distance Students	2.9	0.8	82

Source: Field Sourvey (2024)

The descriptive statistics presented in Table 1 illustrate the mean, standard deviation (SD), and sample size (N) for both pre-test scores (WASSCE Grades) and post-test scores (GPA) among regular and distance students. For the pre-test scores, regular students have a lower mean score of 21.3 (SD = 3.2) compared to distance students, who have a notably higher mean score of 29.6 (SD = 3.4). This discrepancy suggests that distance students generally performed better on the WASSCE Grades pre-test compared to their counterparts in the regular program. However, in terms of post-test scores (GPA), regular students have a slightly higher mean GPA of 3.1 (SD = 0.1) compared to distance students, who have a slightly lower mean GPA of 2.9 (SD = 0.8). This suggests that while distance students performed better on the pre-test, regular students performed slightly better on the post-test, although the difference is minimal.

**Table 2:** ANOVA Results for Academic Performance by Enrolment Type with WASSCE Grades and University as Control

Source	Sum of Squares	df	Mean Square	F Value	p-value
Type of Enrolment	1.64	1	1.64	6.78	< 0.05
Prior Academic Achievement (WASSCE grades)	2662.51	1	2662.51	95.73	< 0.001
University	0.00	1	0.00	0.00	> 0.05
Residuals	712.00	150	4.75		

Source: Field Survey (2024)

The ANOVA results indicate a significant relationship between academic performance and both type of enrolment and prior academic achievement, as measured by WASSCE grades. Specifically, the Type of enrolment factor yielded a statistically significant F value of 6.78 ( $p < 0.05$ ), suggesting that there is a significant difference in academic performance between regular and distance students. Additionally, the Prior Academic Achievement factor showed a highly significant F value of 95.73 ( $p < 0.001$ ), indicating that variations in WASSCE grades significantly affect academic performance. Conversely, the University factor did not yield a significant F value ( $F = 0.00$ ,  $p > 0.05$ ), suggesting that the specific university attended does not have a significant impact on academic performance in this analysis.

**Table 3:** Regression Analysis Results

Predictor Variable	Coefficient ( $\beta$ )	Standard Error	t-value	p-value
Intercept	2.85	0.52	5.46	< 0.001
Type of Enrollment (Distance Students vs. Regular Students)	-0.2	0.1	-2.0	0.04
Prior Academic Achievement (WASSCE grades)	0.6	0.1	6.0	< 0.001
University (C.K. Tedam University of Technology and Applied Sciences vs. University for Development Studies)	0.05	0.04	1.3	0.2
Interaction (Type of Enrollment * University)	0.03	0.05	0.7	0.5

**Source:** Field Sourvey (2024)

The regression analysis results presented in Table 3 reveal several significant predictors of academic performance (GPA) among students. The intercept coefficient indicates that, when all other variables are held constant, the expected GPA for regular students at C.K. Tedam University of Technology and Applied Sciences is 2.85. Type of enrollment emerges as a significant predictor, with distance students demonstrating a lower GPA compared to regular students ( $\beta = -0.2$ ,  $p = 0.04$ ), suggesting that enrollment modality influences academic outcomes. Moreover, prior academic achievement, as measured by WASSCE grades, strongly predicts GPA, with a higher coefficient ( $\beta = 0.6$ ,  $p < 0.001$ ), indicating that students with higher WASSCE scores tend to have higher GPAs. However, the effect of university attended (C.K. Tedam University of Technology and Applied Sciences versus University for Development Studies) and the interaction between type of enrollment and university were not statistically significant predictors of GPA.

### Implication of the Study

The findings of this study have implications, for universities and policymakers in the field of education. Firstly, the observed difference in performance between students and those taking distance learning courses highlights the need to provide targeted support and resources to enhance the learning experience of distance learners. Educational institutions should consider implementing strategies such as support services improved technology infrastructure and customized teaching methods to address the unique challenges faced by distance students. Furthermore, the strong predictive power of achievement underscores the importance of early intervention and support systems to ensure that students begin tertiary education with a solid academic foundation. Additionally, although the specific university attended did not significantly impact performance in this study institutions should continuously strive to create conducive learning environments that foster academic success for all students. Overall, these implications emphasize the importance of adopting student centered approaches and evidence based interventions to promote access, to quality education and enhance outcomes in Ghanaian universities.

### Conclusion

In conclusion, this study investigated the relationship between type of enrollment (regular students vs. distance students), prior academic achievement (WASSCE grades), university attended (C.K. Tedam University of Technology and Applied Sciences vs. University for Development Studies), and their interactions, with academic performance (GPA) as the outcome variable. The results indicated that prior academic achievement significantly predicts GPA, highlighting the importance of students' pre-university

academic performance in determining their success at the tertiary level. Additionally, distance students were found to have slightly lower GPAs compared to regular students, suggesting that enrolment modality may influence academic outcomes. However, the effect of university attended and the interaction between type of enrolment and university were not significant predictors of GPA.

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