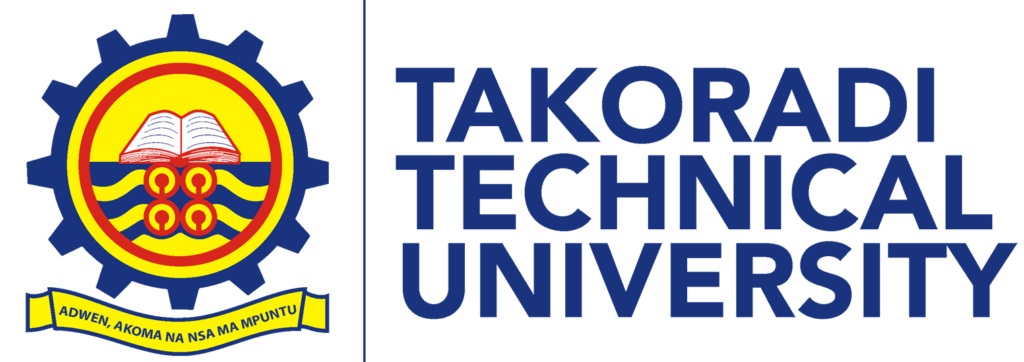
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**FACULTY OF APPLIED SCIENCE**

**DEPARTMENT OF COMPUTER SCIENCE**

**BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (300)**

**RESEARCH PROPOSAL FOR THE INFLUENCE OF ONLINE LEARNING ON ACADEMIC PERFORMANCE**

**GROUP TWO MEMBERS**

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| --- | --- |
| **NAME** | **INDEX NUMBER** |
| ANGELA TENKORANG | BCICT20067 |
| ASANTE NYARKO DAVIS | BCICT20106 |
| ASARE NICHOLAS ADAMS | BCICT20011 |
| FOSTER FIIFI KLU | BCICT20107 |
| JEFFREY BOAKYE MANU | BCICT20087 |
| OLIVER KWEKU EKPE  GODFRED. A .QUARM | BCICT20074  BCICT20092 |
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1. **TITLE : THE INFLUENCE OF ONLINE LEARNING ON ACADEMIC PERFORMANCE**
2. **INTRODUCTION**

Higher education institutions have shifted from traditional face to face to online teachings. However the online teaching/learning constitutes a serious challenge that both university teachers and students have to face, as it necessarily requires the adoption of different new teaching/learning strategies to attain effective academic outcomes, imposing a virtual learning world which involves from the students’ part an online access to lectures and information, and on the teacher’s side the adoption of a new teaching approach to deliver the curriculum content, new means of evaluation of students’ personal skills and learning experience. This chapter explores and assesses the online teaching and learning impact on students’ academic achievement.

Research focuses on the students’ main source of information through library online consultation and the collaboration with their peers. To reach this end, descriptive and parametric analyses are conducted in order to identify the impact of these new factors on students’ academic performance. The findings of the study shows the extent’ online learning has or has not led to any remarkable improvements in the students’ academic achievements and any changes in their e-learning competence

1. **OPERATION** **DEFINITIONS**

Concepts: Online Learning Operation definition: online learning is educational courses or programs delivered primarily through digital platforms such as multimedia resources, virtual classrooms etc.

Concepts: Academic performance Operation definition: Academic performance comes in using quantitative measures like GPA, CGPA or grades, in the courses or programs that participants undertake through online learning. Higher GPA means higher performance.

Concepts: Learning Engagement Operation definition: Learning Engagement can be measured by participant interaction with online learning materials and activities, including frequent logins, time spent on platform and participation in discussions.

1. **OBJECTIVES OF THE STUDY**

To explore the correlation between online learning and academic performance among students of different educational levels**.**

To examine the factors that influence students’ engagement and motivation in online learning environments.

To analyze the academic outcomes of students participating in online learning compared to those using traditional face-to-face methods.

To identify the advantages and challenges of online learning in relation to academic performance.

⁷To provide evidence-based recommendations for optimizing online learning platforms to enhance students’ academic achievements.

1. **RESEARCH QUESTION HYPOTHESIS**

A research question hypothesis is a statement that proposes a possible relationship or effect between two or more variables in a research study. In the context of the topic “The influence of online learning on academic performance,” the hypothesis suggests a potential outcome or result of the study.

The first hypothesis: “Does online learning positively influence academic performance compared to traditional in-person learning?” This suggests that the researchers will investigate whether online learning has a positive impact on students’ academic performance when compared to the traditional method of in-person learning.

Second hypothesis; “Online learning is associated with improved academic performance compared to traditional in-person learning”. This also indicates that the researchers expect to find a positive association between online learning and academic performance, implying that online learning may lead to better academic outcomes than traditional in-person learning.

These research question hypotheses guide the researchers in designing their study, collecting data, and analyzing the results to determine if there is a significant relationship between online learning and academic performance**.**

**6. MATERIALS AND METHODS**

Below are the materials and methods we can use for this research:

1. Research Design:

Experimental design (if possible) or quasi-experimental design (comparing students' academic performance before and after online learning implementation).

Control group: A group of students who continue with traditional in-person learning (if applicable).

Experimental group: A group of students who undergo online learning.

2. Participants:

Select a representative sample of students from educational institutions (e.g., schools, colleges, universities).

Consider factors such as age, grade level, previous academic performance, and access to technology.

3. Data Collection:

Academic Performance Data: Gather data on students' academic performance, such as exam scores, GPA, and class grades. This data can be collected from educational institutions' records.

Surveys/Questionnaires: Design and administer surveys to gather students' opinions and experiences with online learning.

Attendance Records: Collect data on students' attendance in online classes.

4. Materials and Technology:

Online Learning Platforms: Identify the specific online learning platforms used in the study (e.g., learning management systems).

Course Content: Gather information on the curriculum and content delivered through online learning.

Technical Infrastructure: Ensure that all participants have access to the necessary technology (computers, internet connection) for online learning.

5. Variables:

Independent Variable: Online learning.

Dependent Variable: Academic performance (measured by grades, GPA, exam scores, etc.).

Control Variables: Previous academic performance, socio-economic status, learning environment, and access to technology.

6. Data Analysis:

Use statistical methods such as t-tests, ANOVA, or regression analysis to compare the academic performance of the online learning group with the control group (if applicable).

Analyze survey data using descriptive statistics and inferential statistics to understand students' perceptions of online learning.

7. Ethical Considerations:

Ensure that the research is conducted ethically and with the participants' informed consent.

Maintain the confidentiality and anonymity of the participants.

8. Limitations:

Identify and acknowledge potential limitations of the study, such as sample size, external factors, and generalizability.

9. Data Presentation:

Summarize and present the data using tables, charts, and graphs to make it more understandable.

10. Conclusion and Recommendations:

Summarize the findings of the study.

Provide recommendations for educators and policymakers based on the results.

**7. RESEARCH SETTINGS: EDUCATIONAL INSTITUTIONS TRANSITIONING TO ONLINE LEARNING**

Transitioning Higher Education Institutions to Online Learning is a significant research setting that addresses the shift from traditional classroom-based education to online platforms. This field explores various aspects, including technology integration, pedagogical approaches, student engagement, faculty training, and the impact on learning outcomes. The research may also delve into challenges faced by institutions during this transition and the strategies employed to overcome them.

Research setting: Higher Education Institutions Transitioning to Online Learning

**10. SOURCES OF DATA**

Data sources is any location where researchers can obtain relevant information and data related. Below are some sources where data was collected to work on the topic:

Schools, colleges, universities, and online learning platforms can provide academic records, grades, attendance data, and other metrics relevant to students' online learning experiences and academic outcomes. These records can provide valuable insights into students' academic achievements and progress over time.

Surveys and questionnaires can be used to capture data on various aspects related to online learning, such as student satisfaction, engagement levels, study habits, technology usage, and perceived impact on academic performance. Surveys help researchers obtain self-reported data and opinions from participants, allowing them to explore the subjective experiences and attitudes towards online learning.

Researchers can review existing academic literature and studies related to online learning and its influence on academic performance. This meta-analysis approach can provide insights and data from various studies conducted by other researchers.

Using data from Massive Open Online Courses (MOOCs) and other online learning platforms. These platforms have aggregated data on user engagement, course completion rates, and learner performance which can greatly help researchers to make good decisions and analysis.

**11. DATA COLLECTION PROCEDURE**

Designing Surveys and Questionnaires: Researchers can create structured surveys and questionnaires to gather data directly from students, educators, and parents. These surveys should include questions about online learning experiences, academic performance, study habits, technology access, engagement levels, and other relevant factors.

Accessing Educational Institution Data: If the research involves analyzing academic performance data from educational institutions, researchers should seek permission from the respective authorities and comply with data privacy regulation

If the research aims to observe the long-term impact of online learning on academic performance, researchers may need to follow a cohort of students over an extended period. Longitudinal studies require careful planning and continuous data collection over time.

**12. DATA ANALYSIS PROCEDURES**

T-tests and Analysis of Variance (ANOVA) are useful when comparing the means of two or more groups. A t-test was used to compare the academic performance of students in online learning against those in traditional in-person learning.

Propensity Score Matching (PSM): PSM is a method used to reduce bias in observational studies. It attempts to match individuals from the online learning group with similar characteristics to individuals in the in-person learning group. This helps to approximate the effects of online learning on academic performance more accurately.

Meta-analysis was used to combine the results of multiple studies quantitatively, providing a more comprehensive overview of the overall effect.

Regression analysis allows you to examine the relationship between one or more predictor variables (online vs. in-person learning) and the outcome variable (academic performance). You can perform simple linear regression or multiple regression, considering other relevant factors that might influence academic performance.