Republic of the Philippines
Camarines Sur Polytechnic Colleges
Nabua, Camarines Sur
ISO 9001:2015

COLLEGE *of* COMPUTER STUDIES

BS INFORMATION TECHNOLOGY   IT 318 – QUANTITATIVE METHOD

**The Impact of E-Learning Platforms on Student Engagement
in Camarines Sur Polytechnic Colleges**

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IT 318 : Quantitative Method

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QUANTITATIVE RESEARCH PLAN

Title

"The Impact of E-Learning Platforms on Student Engagement in Camarines Sur Polytechnic Colleges"

1. Introduction

Higher education has seen a transformation in how students interact with their classes and lecturers as e-learning platforms have become more widely adopted. With more students using digital tools like Google Meet and Google Classroom, it's essential to understand how these platforms affect student engagement to improve learning outcomes. When reviewing the role of e-learning platforms in Camarines Sur Polytechnic Colleges, one must consider whether such tools improve engagement, interaction, and the overall learning experience. The goal of this study is to investigate how e-learning platforms affect student involvement by examining how much students participate, how much time they spend to these platforms, and how they engage with educational information.

2. Research Questions

The research questions will guide the study in evaluating the impact of e-learning platforms on student engagement.

- **RQ1**: What is the relationship between the use of e-learning platforms and student engagement at CSPC?

- **RQ2**: How does the time spent on e-learning platforms affect the level of student engagement?

- **RQ3**: What are the key factors within e-learning platforms (e.g., quizzes, discussion forums) that contribute to higher student engagement?

3. Hypotheses

Based on the research questions, the following hypotheses are formulated:

- **H1**: Students who frequently use e-learning platforms show higher levels of engagement compared to those who do not.

- **H2**: There is a positive correlation between the time spent on e-learning platforms and student engagement.

- **H3**: Interactive features within e-learning platforms, such as quizzes and discussion forums, significantly enhance student engagement.

4. Literature Review

According to research, e-learning systems can greatly increase student engagement by providing greater accessibility and interactive features. For example, Allen and Seaman (2013) discovered that online courses generally result in higher student satisfaction and engagement than traditional classrooms. Furthermore, Dabbagh and Kitsantas (2012) revealed that well-designed e-learning environments promote active learning and collaboration among students. However, other literature points to potential negatives, such as a loss of face-to-face connection, which can lower an interest (Bowers & Kumar, 2015).

This study will add to existing knowledge by specifically examining the impact of e-learning platforms on student engagement at Camarines Sur Polytechnic Colleges, filling a gap in research on local educational contexts and providing insights for improving digital learning strategies.

References:

- Allen, I. E., & Seaman, J. (2013). Changing Course: Ten Years of Tracking Online Education in the United States
  https://eric.ed.gov/?id=ED541571
- Bowers, A. A., & Kumar, V. (2015). A Comparison of Student Engagement in Online and Traditional Learning Environments. Journal of Online Learning and Teaching.
  https://eric.ed.gov/?id=EJ1111153
- Dabbagh, N., & Kitsantas, A. (2012). Personal Learning Environments, Social Media, and Self-Regulated Learning: A Natural Fit. The Internet and Higher Education.
  https://iastate.pressbooks.pub/onlinelearningtoolbox/chapter/dabbagh-kitsantas-personal-learning-environments-social-media-and-self-regulated-learning-a-natural-formula-for-connecting-formal-and-informal-learning/

5. Research Design

- **Type of Study**: Correlational
- **Independent Variable:** Impact of E-Learning Platforms
- **Dependent Variable:** Student engagement

6. Sample and Sampling Method

The target population will be undergraduate students from Camarines Sur Polytechnic Colleges. A sample size of approximately 100 students will be selected using convenience sampling, as it ensures the inclusion of students who are already using e-learning platforms for their studies.

7. Data Collection

- **Survey**: A organized survey will be performed to assess student involvement, frequency of e-learning platform usage, and opinions of its effectiveness.
- **Performance Measure**: Engagement will be measured through participation data.
- **Demographic Data**: Basic demographic information such as age, gender, and year level will be collected to prepare for their possible impact on participation levels.

8. Instrumentation

- **E-learning Usage Survey** – a survey built especially to measure the frequency and type of contact with e-learning platforms, with preliminary testing to ensure reliability.
- **Student Engagement Scale** – a validated questionnaire that assesses various aspects of engagement (participation, emotional investment, and cognitive engagement).

9. Data Analysis Plan

- **Descriptive Statistics**: Mean, median, and standard deviation will be calculated for each variable to summarize student engagement and e-learning usage data.
- **Correlation**: Pearson correlation analysis will be utilized to determine the association between time spent on e-learning platforms and engagement.
- **T-test/ANOVA/Regression**: A t-test will be used to compare the engagement levels of students who frequently use e-learning platforms to those who do not. If there are more

than one group (for example, depending on different e-learning features), an ANOVA will be employed.

10. Ethical Considerations

Each respondent will be asked to provide informed consent. Respondents will be able to withdraw from the study at any time, and the data will be anonymized to ensure confidentiality. All data will be saved securely and used only for academic purposes.

11. Limitations

This study has limitations that may affect its findings. The reliance on self-reported data through surveys may introduce response bias, as students may overestimate or underestimate their engagement or the time spent on e-learning platforms, and the sample size of 100 students, selected via convenience sampling, may limit the generalizability of the results to the larger student population of Camarines Sur Polytechnic Colleges, which could limit the results' generalizability to other institutions.

12. Timeline

- **Week 1:** Conduct literature review
- **Week 2:** Write and submit the research proposal for ethical approval
- **Weeks 3-4:** Design and test the survey instruments (e.g., E-learning Usage Survey, Student Engagement Scale)
- **Weeks 5-8:** Data collection through survey distribution to students and gathering engagement data
- **Week 9-10:** Analyze data using descriptive statistics, correlation, and t-test/ANOVA
- **Week 11:** Write the research report
- **Week 12:** Final review, revisions, and submission of the research report

13. Budget

Below is a simplified budget for conducting the research on the impact of e-learning platforms on student engagement.

ITEM	Estimated Cost
1. Printing and Materials	₱200.00
2. Miscellaneous Expenses	₱300.00
TOTAL	**₱500.00**

14. Conclusion

The goal of this study is to make a difference to the increasing amount of knowledge on how online learning platforms might increase student involvement. This research intends to provide CSPC educators with vital knowledge by looking into what motivates or disconnects students, allowing them to improve their use of digital learning platforms for improved academic achievements. The results could serve as a roadmap for authorities seeking to improve digital learning in colleges. This study's purpose is to provide students with the tools they need to learn more effectively while also making education more enjoyable and participatory. Institutions can assist students achieve their educational goals more effectively if they incorporate technology into their fabric.