

Usability Evaluation of Google Classroom: Basis for the Adaptation of GSuite E-Learning Platform

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Abstract - *Electronic learning is a technology learning that plays an important role in modern education and training. Its great contribution lies in the fact that content is available at any place and device from a fixed device to mobile device. Nowadays, education is accessible everywhere with the use of technology. There are several LMS (Learning Management Systems) available. One of the new tool available was released by Google under GSuite. Pangasinan State University is currently subscribed to GSuite for Education, and recently Google introduces Classroom as an eLearning platform for an educational institution. This research aims to evaluate the new product, its functionalities for the purpose of adapting and deployment. The main objective of this paper is to identify the usability and evaluation of the Learning Management System (LMS) Google Classroom, its functionalities, features, and satisfaction level of the students. Based on the result, the respondents agreed that GSuite classroom is recommended. The result of this study will be the proposed e-learning platform for Pangasinan State University, Lingayen Campus initially need in the College of Hospitality Management, Business and Public Administration.*

Keywords: *eLearning, business administration, education*

INTRODUCTION

The electronic learning platform is common nowadays, some users are even using social media in education as a tool. It is also included in NHERA-2 of the Commission on Higher Education provided information on priority research agenda, under Education Management, are institutional development studies [1]. Thus, this study was conducted to support the ongoing development of education at Pangasinan State University, Philippines

Technology plays a vital role in education. There are researchers conducted that Social Media contributes to the development of collaborative learning [4], but due to its use, it also provides a distraction to learners. Several LMS (Learning Management System) solve this issue, but the cost of server and maintenance is another problem. Thus Google introduces a new tool that will help the educators to become more effective in learning. In the review of eLearning theories, frameworks and models, Mayes and de Freitas emphasized that it is important to be clear about the assumptions underlying eLearning designs [10], they claim that there are really no specific models for eLearning, only enhancements of existing models of learning which use technology to achieve better learning outcomes. [9]

Pangasinan State University is one of the state university in the Philipines that has Open University Systems, despite the presence of the OUS in the institution, there is no pure online instruction done by the institution component. Since the OUS is located in Lingayen Campus, the researchers observe the mode of learning in the Open University and come up with a possible utilization of technology and possible collaboration in the future. based on the benchmarking of the institution in the UP Open University, the pioneer institution uses Moodle as a distance eLearning platform. While Pangasinan State University doesn't have allocated budget for the implementation of Moodle due to the absence of the budget in the Annual Procurement plan, GSuite eLearning platform provided by Google will be an answer. The institution itself is a recipient of GSuite for Education plan, which is a suite of free productivity tools to help students and teachers interact seamlessly and securely across devices for free [7].

Google Classroom is one of the free services by Google in Gsuite for Education plan. It promotes

paperless instruction for streamlining assignments, it boosts collaboration and fosters seamless communication to make teaching more productive and meaningful. Google Classroom can be easily deployed in the URL classroom.google.com, educators can set up classroom in minutes and create content for students. It is also free for schools, best-in-class security is also included without cost for plan holders [7]. The platform also integrated with other Google tools to help educators provide instant feedback and track a student progress to improve performance, it has also a mobile application for easy access anytime and anywhere.

The objective of this study is to identify the usability of Google Classroom as an online learning tool. Evaluate Google classroom based on the feedback from the teachers, and lastly identify the usability and features of the tool based on students. Aside from gathering the profile of the respondents, this study sought to answer the three major question: (1) What is the level of usability based on the evaluation of students and faculty in academic activities and non-academic activities? (2) What is the platform quality characteristics in terms of usability? (3) What are the user's online practices and overall satisfaction to Google Classroom? The scope of this study is limited to the use and requirements of Pangasinan State University. The study was conducted during the Midyear 2017 class of BS Business Administration at the Main Campus.

There are several studies conducted on the use of social media for education, but one problem arises is the disadvantage of it. Esteves (2012) with the research title: Exploring Facebook to Enhance Learning and Student Engagement: A Case from the University of Philippines (UP) Open University [8] study the tends to study the potential of Facebook in education since the Philippine users are one of the most active users of Facebook. The study indicates how the distinctive components and functionalities of Facebook, for example, the wall, like, poke and the feature to share will reach media easily resulting in engagement of students in online learning. "Student engagement improved as evidenced by volunteered postings and continuous discussions and sharing even without being required by the professor ". The study's most significant finding is Facebook's feature could be very useful for teaching practical skills posted online could efforts reach a vast number of users, despite the result of the study, distraction is still the main problems encountered in using social media in education.

Moodle is defined as "a learning platform designed to provide educators, administrators, and learners with a single robust, secure and integrated system to create personalized learning environments." [2] There are several studies conducted related to Learning Management Systems, and Moodle is one of the free open-source platforms. The study of Melton Jay entitled "The LMS Moodle: A usability evaluation", the researchers examined the registration process and assignment submission module function on the usability Moodle. While respondents finished the task, one-half were not ready to finish the last undertaking of presenting a task. The explanation for the assignment was not finished by a few because of lack of experience in using LMS [3].

METHODS

In order to determine the usability of Google Classroom as an eLearning platform. The tool was tested first. The researchers proposed to test Google Classroom as an eLearning tool during the Midyear term of 2017 of Pangasinan State University. A letter addressed to the College Dean was secured for the approval. Where three classes are proposed to use the eLearning Platform for assessment.

During the class, the students were asked to sign up for Google account or use the existing Gmail account. The class code was given to the student to enter the online classroom. The faculty was oriented to upload all the required instructional material for the subject and conducted academic and non-academic related activities. After the testing, a self-made questionnaire with ISO 9126 standard questionnaire for usability was used to determine the usability based on the perception of students.

Sources of Data

Initially, the respondents should come from 3 classes, while one faculty failed to apply Google Classroom in the class, 2 classes were used as the source of data for this study. The BSBA students of Pangasinan State University enrolled in the Midyear term of 2017 with the subject Economics with LRT and Basic Finance was the respondents of this study which covers almost 50 percent of the total number of students enrolled in midyear class. There is a total number of 125 students enrolled during the midyear term of 2017. The researcher suggested that sampling was unnecessary because respondents cover almost 50 percent of the total number of students enrolled in the

midyear class in two classes, students in the class are the one who uses Google Classroom and the main respondents of this study. While there is a separate study conducted that the other 50 percent of the respondents use traditional mode of instruction as a comparison for the blended learning approach, sampling was not necessary for the other classes who didn't use Google Classroom.

Data Processing

Instead of floating the questionnaire to the students using paper, google forms were used as a mode of answering the questionnaire. The result generated from the Google forms that were used to interpret the data. The CSV format data was exported for pivot analysis using google sheets. Likert Rating Scale was used to determine the level of usefulness of Google Classroom. A self-made questionnaire was created to answer the question in 1 and 3, while the platform was evaluated using ISO 9126 standard questionnaire for software quality in terms usability.

Table 1: Likert Rating Scale

Scale	Range	Interpretation
5	4.21 - 5.00	Extremely Useful
4	3.21 - 4.20	Useful
3	2.61 – 3.40	Neutral
2	1.81 – 2.60	Not Useful
1	1.00 – 1.80	Extremely Not Useful

RESULTS

The results of the study are based on the respondents from the two classes during the midyear term of 2017. Students enrolled in Economics with LRT and Basic Finance was the respondents of this study with a total number of 59 students.

Profile of the Respondents

From the total of 59 respondents, 50.8% are female with a total number of 30 while 49.2% are male students. The majority of the respondents with 30.5% are from Lingayen, followed by 25.4% from Binmaley, while the rest are from the other part of Pangasinan. Most of the respondents are Regular students or Blocked Section with a count of 36 or 61%. The majority of the respondents are BSBA Students while there is a sole BSHM student from the total respondents.

Usefulness of Google Classroom

Based on the total number of respondents, Most of the respondents agreed that Google Classroom is extremely useful in Assignments and Collaborative Learning with a weighted mean of 4.31 and 4.24 respectively. Additionally, Examination and Discussion got 59.3% and 52,5% respectively from the total respondents agreed that it is extremely useful. While Peer tutoring and the individual project were rated 3.86 and 3.95 by the total respondents as shown in Table 2. The total weighted mean for Academic Related Activities is 4.10 as Useful.

Table 2. Academic Related Activities

Activity	WM	Percentage	Interpretation
Discussion	4.19	5 = 52.5%	Useful
Quizzes	4.05	5 = 49.2%	Useful
Assignment	4.31	5 = 59.3%	Extremely Useful
Collaborative Learning	4.24	5 = 50.8%	Extremely Useful
Peer Tutoring	3.86	4 = 39.0%	Useful
Individual Project	3.95	5 = 37.3%	Useful
Group Project	4.07	5 = 42.4%	Useful
Examination	4.17	5 = 59.3%	Useful

Table 3. Non-Academic Related Activities

Activity	WM	Percentage	Interpretation
Announcements	4.39	5 = 69.5%	Extremely Useful
Posting of Results/Grades	4.32	5 = 66.1%	Extremely Useful

On the non-academic related activities, 69.5% and 66.1% agreed that Announcements and Posting of Results of Grades find it extremely useful with a weighted mean of 4.39 and 4.32. While overall weighted mean for the academic and non-academic activities is 4.15 with an interpretation of Useful. It is very visible that Google Classroom is extremely useful in Non-academic activities such as announcement and posting of grades as observed by the proponents on the number of reply from the respondents because of the post. Another feature of the platform is an assignment, where the AVM is 4.31, the assignment is one of the visible features of the platform where the students can submit. Based on the five given assignment by the faculty, the majority of the students submitted assignments on time based on the given deadline. The faculty assign also made a total of 15 announcements

in the platform, and most of the students reply with the announcement as part of the confirmation and clarification. Usability Evaluation using ISO 9126 standard

how many hours a day do you spend in eLearning related activities

59 responses

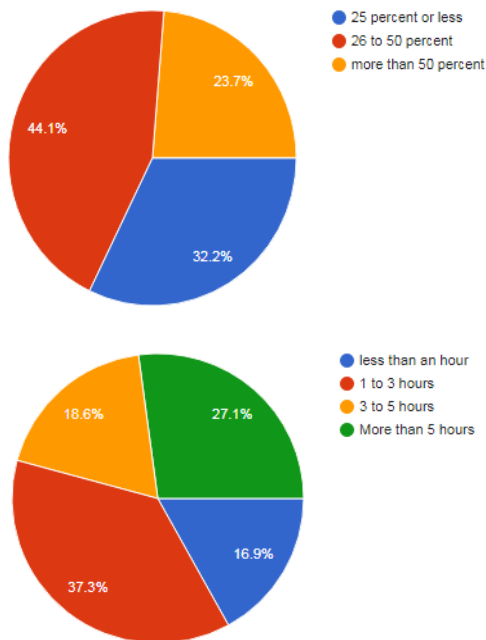


Figure 1: Usage of the users

Table 3: Usability Evaluation Using ISO 9126

Activity	WM	Percentage	Interpretation
Understandability (Easy to understand)	4.29	5 = 56.2%	Very Effective
Learnability (Easy to Learn)	4.03	5 = 49.5%	Effective
Operability (Easy to Operate)	4.32	5 = 62.3%	Very Effective
Attractiveness (Attractive)	4.28	5 = 50.8%	Very Effective

Usability is defined as A set of attributes that bear on the effort needed for use, and on the individual assessment of such use, by a stated or implied set of users. Thus, Google Classroom was evaluated by the faculty members and students based on

Understandability, Learnability, Operability, and Attractiveness with the following results.

Based on the result of the evaluation in terms of usability, understandability was leading. The platform is similar to the other google application, where it is observed that most of the respondents have google account. While orientation regarding the platform was done before the implementation, the majority of the respondents were pre-surveyed regarding the use of productivity application of Google, most of the respondents agreed that Google Docs, Sheets are easy to understand and operate. The user interface of the platform was easy to operate due to the familiarity of the buttons that used by the platform. This evaluation concludes that Google Classroom is usable based on the findings and result of the survey.

Internet User’s Usage and overall Satisfaction

The students were asked on the number of years they are using the internet, Majority of the respondents with 44.1% used the internet for more than 5 years, followed by 3 to 5 years with 28.8%, and 1 to 3 years with 20.3%, the remaining percentage of 6.8% is using the internet for less than a year. The respondents were also asked about how many hours a day they spend online, the majority answered 1 to 3 hours a day with 37.3% of the total respondents.

The respondents are asked for the purpose of being online where they can select multiple answers and add more answers, 88.1% responded that they use the internet for Social Networking, 71.2% responded that they use the internet for online learning and research. 44.1% use the internet for music and video streaming and downloading, while only 13.6% use the internet for online buying or purchasing online. Lastly, there is a sole respondent that internet was used for bible study purposes.

Based on the total number of hours the respondent’s used, 44.1% used the internet in eLearning related activities as shown in Table 1, this data shows that student uses the internet for educational related activities such as reading and research. While the internet is useful for the respondents, they still encountered problems, 77.3% encountered low or no internet connectivity, 27.3% has limited knowledge on the internet or computer.

On the level of satisfaction of using the Google Classroom, 94.9% agreed that they will recommend for online learning. 44.1 percent agreed that Google

Classroom is highly recommended with a weighted mean of 4.15.

What is your level of satisfaction on the use of GSuite Classroom?

59 responses

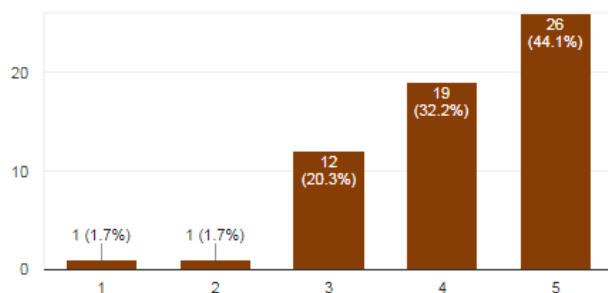


FIGURE 2: Level of Satisfaction from the respondents

CONCLUSIONS AND RECOMMENDATIONS

In the conducted study, Google Classroom play a great role in making learning more easily. Based on the result, Google Classroom is highly recommended from the respondents. Cost is the primary reason for adopting Google Classroom, it is suggested that institution who practice blended learning could utilize the platform as a tool for eLearning. Based on the usability evaluation of the platform, Google Classroom is extremely useful in understandability, attractiveness, and operability. While it is extremely useful in non-academic activities, the platform is extremely useful in the assignment and collaborative learning. It is recommended to implement the platform during the 1st Semester of 2017-2018 and recommended for other programs to adopt the platform. To compare the result of the study, it is recommended that another study should be conducted to measure the academic performance of the students using the blended learning not just in the program but in the whole campus.

This study is limited in the use of the platform in academic, non-academic activities and its usability, the paper doesn't cover problems arises in the use of the platform and further investigation and comparison to other eLearning platform and was only tested using a blended approach. While Google Classroom is just one of the new platform use in distance eLearning, it is recommended to test in pure online approach. It is also recommended to determine other problem based on the data such as the relationship between the profile and level of usability of the platform as the study gathers

more data, this study is recommended to continue gathering data for future study. Acknowledgement

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REFERENCES

- [1] Bustamante, C. B. S. (2018). Higher Education Research in the Philippines: Policies and Prospects. In *Researching Higher Education in Asia* (pp. 287-295). Springer, Singapore.
- [2] Dougiamas, M., & Taylor, P. (2003). Moodle: Using learning communities to create an open source course management system.
- [3] Melton, J. (2006). The LMS Moodle: A usability evaluation. *Prefectural University of Kumamoto. Retrieved February, 21, 2008.*
- [4] Tess, P. A. (2013). The role of social media in higher education classes (real and virtual)—A literature review. *Computers in Human Behavior, 29*(5), A60-A68.
- [5] Groff, J., & Mouza, C. (2008). A framework for addressing challenges to classroom technology use. *AACe Journal, 16*(1), 21-46.
- [6] Tyack, D., & Cuban, L. (2000). Teaching by machine. *Technology and learning, 247-254.*
- [7] Classroom | Google for Education. (n.d.). Retrieved November 29, 2017, from <https://edu.google.com/k-12-solutions/classroom/>
- [8] Esteves, K. K. (2012). Exploring Facebook to Enhance Learning and Student Engagement: A Case from the University of Philippines (UP) Open University. *Malaysian journal of distance education, 14*(1).
- [9] Mayes, T., & De Freitas, S. (2004). Review of e-learning theories, frameworks and models. JISC e-learning models study report.
- [10] Mayes, T., & de Freitas, S. (2007). Learning and e-learning. *Rethinking pedagogy for a digital age, 13-25.*