Case study of Google Classroom in Mongolian University

Bayarmaa Natsagdorj, Kuensoo Lee[*]
Dept. of Computer Science and Engineering (Computer System Institute)
Hankyong National University

몽골 대학에서 구글크레스룸 적용 사례 적용

바야르마, 이근수[*]
한경대학교 컴퓨터공학과(컴퓨터시스템 연구소)

Abstract The purpose of this paper is to investigate the effectiveness of Google Classroom (GC) and to examine the satisfaction of professors using GC as an online environment at a Mongolian University. Fourteen professors designed the lecture model and provided lessons using GC at D University for four weeks. GC provides new learning opportunities that are more efficient than face-to-face learning, because it can overcome the limitations of time and space. The results of the survey conducted with the professors who participated in the class to explore the effectiveness of GC show that the system provides: cooperation: 100% (strongly agree=7, Agree=7), personal learning opportunity: 100% (strongly agree=10, Agree=4), ease in learning: 100% (strongly agree=11, Agree=3), suitability: 100% (strongly agree=8, Agree=6), feedback opportunities: 100% (strongly agree=7, Agree=7), connection: 100% (strongly agree=7, Agree=7), accessibility: 100% (strongly agree=7, Agree=7), learning effectiveness: 100% (strongly agree=9, Agree=5), paperless experience: 100% (strongly agree=8, Agree=6). The professors who attended the class reacted positively to the use of GC, proving that the application of GC at this Mongolian University was appropriate and efficient. The use of GC is expected to help educational institutions strengthen and improve online learning, especially by breaking from traditional learning, and opening new paths for professors and students in Mongolia.

Keywords : Blended Learning, Different skills, Effectiveness, Google Classroom, Learning effectiveness

요 약 본 논문은 몽골대학에서 구글크레스룸(GC)을 온라인 환경으로 이용하고 각 교수님들이 자기 수업에서 GC을 적용한 만족도를 조사하여 몽골대학에서 GC의 효율성을 확인하는데 목적을 두었다. 몽골 D 대학교 14 명의 교수님들이 4주 동안 GC을 활용한 강의 모델을 설계하고 수업을 진행했다. GC은 시간과 공간의 제약을 극복할 수 있기 때문에 직접 대면 학습 보다 효율적인 새로운 학습 기회를 제공했다. GC의 효율성을 살펴보기 위해 수업에 참여한 교수님들로부터 설문 조사를 받은 결과는 다음과 같습니다. 협동성 100%(7 명 매우 좋음, 7 명 좋음), 능력별 학습100%(10 명 매우 좋음, 4명 좋음), 수업 용이성 100% (11명 매우 좋음, 3 명 좋음), 적합성 100%(8명 매우 좋음, 6명 좋음), 피드백 용이성100% (7명 매우 좋음, 7명 좋음), 연결 용이성 100%(7명 매우 좋음, 7명 좋음), 빠른 속도성 100%(7명 매우 좋음, 7명 좋음), 학습 효율성 100% (9명 매우 좋음, 5명 좋음), 종이 없는 학습성 100%(8명 매우 좋음, 6명 좋음). 이 수업에 참여한 교수님들은 이와 같은 GC이용에 대한 긍정적인 반응을 보였기에 몽골대학에서 GC의 적용은 적합하고 효율적인 학습을 할 수 있다는 것을 입증 하였다. GC 활용은 전통적인 학습을 깨고, 특히 몽골 교수와 학생들을 위한 새로운 길을 열어줌으로써 교육 기관의 온라인 학습을 강화하고 개선하는 데 더 많은 도움을 줄 수 있을 것이라고 기대된다.

[*]Corresponding Author : Kuensoo Lee(Hankyong National Univ. & Computer System Institute)
Tel: +82-31-670-5161   email: kslee@hknu.ac.kr

1. Introduction

The distance, online or blending learning style of teaching offers many advantages over the traditional classroom teaching style. The most influential advantages lie in its accessibility, students' scheduling flexibility, and adaptability for working [1]. The GC is available as a tool for developing teaching and learning process all over the world[2]. The emphasis of Lifelong Learning has challenged the traditional ideas of schools being the final learning places. The broad applications of the Internet have Distance Education become another wave of learning mainstream (Tsou, 2009)[3]. GC takes into consideration the achievement of specific functions such as simplifying the students-professors communication, and the ease of distributing and grading assign-ment. It provides the students with an opportunity to submit their work to be graded by their teacher online within the deadlines. Teacher can have a complete vision concerning the progress of each student, and they can return work along with the necessary comments so that the student can revise their assignments. Accordingly, GC can be effective for both the learners and group members due to its features. Thus, students can keep their files more organized. GC is useful in facilitating teaching and learning process. The main purpose of this paper is to study affect the GC application among professors in Mongolian University. This study contains Introduction in Chapter 1, Literature review in Chapter 2, Research hypotheses in Chapter 3, and Conclusion in Chapter 4.

2. Literature Review

GC is a free paperless application including Google programs such as G-mail, Google Docs, Google Forms, and Google Presentations. GC can produce, collect and grade assignments for the teacher, and provide immediate feedback to students. Professors and students can get into the GC from anywhere and utilize the application at home to complete assignments[4]. All the changes were in beta development, though, so only those participating in the company's early adopter program had access. Most notably for professors, the company has released Course Kit, a free toolkit that gives instructors the ability to use Google Docs and Drive in conjunction with their existing learning management system (LMS)[5].

2.1 Benefits of GC

GC makes teaching more productive and meaningful by streamlining assignments, boosting collaboration, and fostering communication. And it has following benefits[6]. Easy setup－professors can set up a class, invite students and co-professors. On the Classwork page, they can share information－assignments, questions, and materials. Saves time and paper－professors can create classes, distribute assignments, communicate, and stay organized, all in one place. Better organization－Students can see assignments on the To-do page, in the class stream, or on the class calendar. All class materials are automatically filed into Google Drive folders. Enhanced communication and feedback－professors can create assignments, send announcements, and instantly start class discussions. Students can share resources with each other and interact in the class stream or by email. Professors can also quickly see who has or hasn't completed the work, and give direct, real-time feedback and grades. Works with apps you use－Classroom works with Google Docs, Calendar, Gmail, Drive, and Forms. Affordable and secure－Classroom is free for schools, nonprofits, and individuals. Classroom contains no ads and never uses your content or student data for advertising purposes.

2.2 New Features Added To GC

At TeachThought, while we love Apple's products, app ecology, and general aesthetic, we tend towards recommending Google for most classrooms. Though they're not mutually exclusive, rare is the classroom

that has the budget for Chromebooks and iPads. 1:1 is rare; 2:1 is rarer still. GC is the result of Google bundling Google Calendar, Google Drive, Gmail, and other services into something simpler for professors to use. It's likely we'll need to follow that post up with an updated version as Google continues to iterate their academic side. Will Phan, a GC Software Engineer, released a blog post that reviewed some new changes to GC for the 2015-2016 school year, which excerpted from for the post below.

1. Post Questions Phan explains, "You can post questions to your class and allow students to have discussions by responding to each other's answers (or not, depending on the setting you choose). For example, you could post a video and ask students to answer a question about it, or post an article and ask them to write a paragraph in response."

2. Reuse Assignments If you reuse curricula year after year - or at least reuse documents, there is an update you might like. Phan explains, "Now you can reuse assignments, announcements or questions from any one of your classes — or any class you co-teach, whether it's from last year or last week. Once you choose what you'd like to copy, you'll also be able to make changes before you post or assign it."

3. Improved Calendar Integration We love changes that improve workflow. Phan: "In the next month, Classroom will automatically create a calendar for each of your classes in Google Calendar. All assignments with a due date will be automatically added to your class calendar and kept up to date. You'll be able to view your calendar from within Classroom or on Google Calendar, where you can manually add class events like field trips or guest speakers."

4. Bump a post Sticking posts on blogs, tweets, or facebook updates has long been a thing. Now you can do it on GC as well by moving any post to the top.

5. Due dates optional Project-based learning, Self-directed learning? Maker ed? If you use long-term projects or other due-date-less assignments, you can now create assignments without due dates in GC.

6. Attach a Google Form to a post If you're a fan of Google Forms (here's a post on using Google Forms to create a self-graded exam), this is a change you'll appreciate. Phan explains, "Many teachers have been using Google Forms as an easy way to assign a test, quiz or survey to the class. Coming in the next few weeks, professors and students will soon be able to attach Google Forms from Drive to posts and assignments, and get a link in Classroom to easily view the answers."

7. YouTube Functionality Love YouTube, but concerned with objectionable content? Google hears you. "Because it also contains content that an organization or school might not consider acceptable, last month we launched advanced YouTube settings for all Google Apps domains as an Additional Service. These settings give Apps admins the ability to restrict the YouTube videos viewable for signed-in users, as well as signed-out users on networks managed by the admin[7]. Google also announced other changes that will be rolled out this fall and winter, including:

Updates to Google Docs focused on margins and indents, to improve the overall writing experience. An update to Tour Creator that will allow addition of VR180 photos taken by any VR180 camera.

- Updated content in the Science Journal website.
- The new Google Drive integration will allow students to conduct, document and access science experiments from any device that runs the Science Journal app.
- Updates and new training in the Teacher Center with curated videos made by educators, including actionable steps for getting started with G Suite for Education.

3. Research hypotheses

At the close of the survey, 14 responses had been

collected. Each of the respondents answered 10 different prompts regarding their utilization of the GC with their students. The Google Form used to collect the responses collated the group responses into pie graphs of percentages of each answer, not yet separated by the study's variables following.

1. 100% (strongly agree=7, Agree=7) of the participants have responded that Google Classroom promotes collaboration.
2. 100% (strongly agree=10, Agree=4) of the participants have responded that Google Classroom allows students to work at their own pace.
3. 100% (strongly agree=11, Agree=3) of the participants have responded that Google Classroom is easy to use in Mongolian University.
4. 100% (strongly agree=8, Agree=6) of the participants have responded that Google Classroom is suitable for online environment in Mongolian University.
5. 100% (strongly agree=7, Agree=7) of the participants have responded that Professors can provide feedback to the students quickly.
6. 100% (strongly agree=7, Agree=7) of the participants have responded that Students can connect to professor and other students easily.
7. 100% (strongly agree=5, Agree=5) of the participants have responded that Google Classroom can be implemented anytime and anywhere.
8. 100% (strongly agree=7, Agree=7) of the participants have responded that Google Classroom run faster than Cyber Classroom of your school.
9. 100% (strongly agree=9, Agree=5) of the participants have responded that Google Classroom is an efficient learning environment.
10. 100% (strongly agree=8, Agree=6) of the participants have responded that Professors can engage paperless experience.

4. Conclusion

This study determines the application among the professors at Mongolian University by adopting the GC. The outcomes reveal that all professors are significantly effective in an actual usage of GC. The emphasis is placed on the familiarity in usefulness and ease of use as crucial features of GC. One of the outstanding results that can be of great importance to any decision makers in academic institutions is the fact that the students who rely on GC will be able to use it as a new gadget for leveraging their educational system. The decision makers of the higher educational institutions should acknowledge the features of GC and build their infrastructure based on the result achieved in this study. This study shows that the professors experienced the effectiveness of GC in many ways. 100% of the professors reported that GC helped them to star the distance learning easily and prefer to use GC. The limitations of this study could be summarized as follows: first, this study adopts the GC with no further extensions. Hence, further research should focus on determining further factors that may influence the acceptance of GC. Second, the data was collected from Mongolian University professors only, thus, the results could not be generalized to all the higher educational institutions in Mongolia.

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Natsagdorj Bayarmaa   [Regular member]

- Feb. 2015. Mongolian Educational Univ,. Dept. of Economy, M.A
- Sep. 2012- Jun. 2015 : Dornod Univer., Professor
- 2015~ current : Hankyong National Univer., Department of Computer Science & Engineering (Computer system Institute) Studying at Doctor's course

<Research interests>

PBL, Educational Engineering, Engineering Design, Accounting, Economy, Marketing and Convergence learning

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Keunsoo Lee   [Regular member]

- Feb. 1988 : Soongsil Univ., Dept. of Computer Science, M.S
- Aug. 1993 : Soongsil Univ.,Dept. of Computer Science, Ph.D
- 1989 ~ current : Hankyong National University., Dept. of Computer Science & Engineering (Computer system Institute), Professor

<Research interests>

Computer Vision, Image Processing, Fuzzy Theory, Motion Understanding, Video Retrieval. Ubiquitous computing, PBL, Convergence lesson, Educational Engineering, and Engineering Design