Usability and satisfaction of Google Classroom as an instructional teaching and learning medium: the students' perspective

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ABSTRACT: The aim of this article is to explore students' perspectives on the usability and satisfaction of Google Classroom (GC) at the State Islamic Institute of Kendari, Kendari, Indonesia. Due to GC's inherent advantages, the Institute's top management has decided to implement it as a complementary system to the Institute's e-learning platform. To gauge the students' views on this implementation, an on-line survey was administered to 128 students, comprising 95 (75%) females and 33 (25%) males. Specifically, the survey was supposed to elicit students' responses about their perceptions on 1) Internet usage, in the context of hours and purpose; and 2) GC usage, attractiveness and student satisfaction. The result shows that the students are active Internet users who leverage technology for educational purposes besides social media and entertainment. GC is a platform of choice for academic purposes, because of its attractiveness, consequently leading to high satisfaction. The students' positive experiences have validated the Institute's decision to incorporate the GC application into its teaching and learning processes despite some weaknesses.

INTRODUCTION

The rapid advancement of information and communication technology (ICT) has affected everyday life. It affects a broad spectrum of life aspects, such as the economy, politics, culture, arts and education. In education, ICT changes the roles of conventional books, teachers and learning systems [1], where the users are required to have technological and digital literacy.

Digital literacy is *the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills* [2], enabling students' adaptive skills needed to participate fully in the global digital society [3-6]. Due to these reasons, on-line learning is slowly and gradually gaining its ground, complementing off-line learning [7-9]. Consequently, graduates will significantly benefit from the digital economy through new employment opportunities, innovation, creative expression and social inclusion.

Education technology contributes to more interactive and collaborative learning [10]. Many updated e-learning applications, including learning management systems (LMS), such as Edmodo, Moodle and others integrate well with the server data centre and colleges [10].

Hybrid learning, utilising these LMSs, allows the learning process to combine face-to-face classroom interaction and virtual activities [11]. The system also *enables effective practice and engagement among teachers and students by switching the in-class instructional time and out-of-class practising time* [12]. Hence, there is more flexibility and latitude in the learning process.

Despite LMS's proliferation, many instructors still prefer Google Classroom (GC) due to familiarity and easy access [13]. The application was first introduced at the beginning of May 2014 by Google Apps for Education [14]. It was a breakthrough in creating, distributing and classifying many assignments without unnecessarily wasting paper. The GC application has been integrated with Gmail as its entry, and Google Drive as the storage access. It operates using minimal tools and beginners are not confused when using it.

Research on GC as a learning management system has been tremendously ubiquitous among many scholars [15][16]. Some of them investigated the effect of implementing Google Classroom for assessing the learning outcomes of high school students, and found that the GC application is mainly utilised as a medium of learning in various subjects and study areas. Google Classroom is also gaining traction in many institutions and places around Indonesia for teaching and learning purposes [17][18]. Therefore, this study provides an opportunity to observe students' usage and satisfaction with the implementation of GC as an instructional teaching and learning medium at the State Islamic Institute of Kendari, Kendari, Indonesia.

LITERATURE REVIEW

Google Classroom

GC is a free on-line service for schools, non-profit organisations and anyone who has a Google account [19]. It takes the Web-based applications; namely, the Google for Education applications (formerly Google Apps for Education), one step further for education by compiling them into one virtual, interactive platform designed for students as an on-line classroom [20].

GC facilitates students and lecturers to communicate during the instructional process both inside and outside the classroom. This type of e-learning is easier in terms of management and arrangement. A lecturer can easily set up a class and invite students and assistants to join the classroom. The students can share information, tasks, announcements and questions using Google Classroom, which can save time and paper.

GC is a platform where teachers can manage, coordinate, monitor and analyse students' work, electronically and on-line, taking advantage of Google's integrated technology, such as Google Docs, Google Drive, etc [15][20]. Thus, it allows more focus on the students, contributing to *an environment of open inquiry, dialogue and creative thinking* [15].

GC's other benefits include the ease of use, time-saving, mobile-friendly, flexible, professional, and authentic teaching and learning technology [20]. All these benefits have seen GC become a ubiquitous teaching and learning technology in many educational institutions. The effective use of on-line learning technology like GC enables students to succeed in their on-line learning.

Due to its ubiquity and benefits, there is an increasing number of studies that investigate GC from different aspects. For example, the study by Jakkaew and Hemrungrote investigated factors that influence GC's deployment in the Introduction to Information Technology course at Mae Fah Luang University, Chiang Rai, Thailand [21]. The study employed the unified theory of acceptance and use of technology 2 (UTAUT2) model to survey students enrolled in the course. Performance expectancy, effort expectancy and social factors influence the students' behavioural intention in using GC. Furthermore, the students indicated that facilitating conditions and behavioural intentions play a positive role in influencing GC's use. They also agreed that, while GC is an excellent and easy-to-use tool, it has not been fully utilised in terms of its features. Although the advantages of GC need to be fully and cautiously observed, the participants should hold an optimistic view of technology's integration into classroom instruction [21]. Without the participants' optimism, it would be difficult to envisage GC's further development and utilisation, despite its various features that many users will adopt and its benefits.

GOOGLE CLASSROOM'S IMPLEMENTATION AT THE STATE ISLAMIC INSTITUTE OF KENDARI

GC has only been implemented recently at the State Islamic Institute of Kendari. The Institute considers this application a relatively recent development and is very much interested in its potential to minimise the involvement of human resources, which are sometimes very limited in small institutions, such as the one at Kendari.

Before using GC, the Institute used its e-learning platform to conduct e-learning lessons from the Institute's Web page, e-learning.iainkendari.ac.id or personal sites ambarsrilestari.iainkendari.ac.id.

Due to GC's proliferation and its associated technological benefits, the top management of the Institute sees it as a feasible e-learning alternative to complement the Institute's e-learning platform. For over a year, faculties in the Institute have been using and taking advantage of GC as part of their learning management system (LMS). Consistent and appropriate support, and crucially the technological support, is given by the Institute to encourage the lecturers and students to use e-learning as an instructional medium in their teaching and learning. At the Institute, the use of Google Classroom covers several aspects, such as the objective of the implementation, list of subjects involved, process flow of execution, and finally, the availability of technology.

The interaction between the support staff, faculty and students in the Institute maximises all the potentials to create successful on-line learning. Not only the faculty, support staff and students are in on-line attendance, but other aspects of education are also available on-line. For instance, students' registrations and attendance, lecturers' monitoring, faculty workload, students' learning are managed and maintained on-line. Therefore, the Institute has gradually created a platform including on-line learning, such as GC that is consistent with the developments in information technology in Industry 4.0. This study attempted to understand the usability and satisfaction of Google Classroom as an instructional teaching and learning medium from the Institute students' perspective.

METHODOLOGY

Profile of Respondents

The majority of the students using GC as an e-learning medium are from the Faculty of Tarbiyah and Teacher Training, the Faculty of Sharia and Law, and the Faculty of Ushuluddin, Adab and Da'wah. One hundred twenty-eight students participated in this study, where 95 (75%) were females and 33 (25%) were males. The higher number of female

students in this study was due to their active utilisation of GC compared to the male students. Eighty-eight (68.7%) of the students were from the Faculty of Tarbiyah and Teacher Training Tarbiyah, and the rest came from the other two faculties. While they studied during different semesters, either the first semester, the third, the fifth or the seventh semester, the majority of them, 90 (70.3%) were from the first semester.

GC Subjects at the Islamic State Institute of Kendari

The students indicated that they were familiar with GC from undertaking subjects offered by their respective faculties. Students from the Faculty of Tarbiyah and Teacher Training listed subjects, such as Reading, Writing and Grammar, Academic Writing, Education Statistics, and the Basics of Education as subjects using GC. While students from the Faculty of Sharia and Law informed that they were enrolled in GC for subjects, such as Fiqh Zakat, Waqf, Fiqh Muamalat and Ushul Fiqh. The subject like Tafsir offered by the Faculty of Ushuluddin, Adab and Da'wah provides students with the GC platform.

RESULTS

Usage of Internet Profile

Table 1 describes the profile of Internet usage among the Institute's students. Nine (7%) students reported that they usually spend less than 1 hour using the Internet, 33 (25.8%) spend between 1-2 hours, 42 (32.8%) spend between 3-5 hours and 44 (34.4%) spend more than 5 hours daily. The majority of them, 60 (46.9%) students, have more than five years of experience in using the Internet, followed by 35 (27.3%) students who have between 3-5 years and 33 (25.8%) students with 1-3 years of experience.

Table 1: Internet usage (hours) among the Institute's students.

Internet usage (hours)	Students/percentage (%)
Less than 1 hour	9 (7%)
1-2 hours	33 (25.8%)
3-5 hours	42 (32.8%)
More than 5 hours	44 (34.4%)

Table 2 shows that the students accessed the Internet for three primary purposes: 1) accessing social media, like Facebook, WhatsApp, Instagram, etc, 63 (49.2%) students; 2) on-line learning, 61 (47.7%); students; and 3) entertainment, 4 (3.1%) students.

Table 2: Internet usage (purpose) among the Institute's students.

Internet usage (purpose)	Students/percentage (%)
Social media	63 (49.2%)
On-line learning	61 (47.7%)
Entertainment	4 (3.1%)

For the above purposes, the students typically spend varying amounts of time, i.e. 57 (44.5%) students spend less than 1 hour, 60 (46.9%) spend between 1-2 hours, 8 (6.3%) spend between 3-5 hours, and 3 (2.3%) students spend more than 5 hours.

GC Usage, Attractiveness and Satisfaction

The two primary usages of GC listed by the students relate to academic and non-academic activities. Academic activities mainly comprised of assignments, either individual or group, undertaken by 115 (89.8%) students, followed by discussions on academic matters, undertaken by 10 (7.8%) students, and peer learning and tutoring, undertaken by 3 (2.3%) students. On the other hand, the students' non-academic activities were typically related to providing general announcements and sharing information.

Table 3 describes the students' perception of the attractiveness of Google Classroom. The majority of them, 53 (41.4%) students were attracted to the ease of use and 47 (36.7%) students to interesting features.

Table 3: Students' perception of the attractiveness of GC.

Attractiveness	Students/percentage (%)
Easy to use	53 (41.4%)
Interesting features	47 (36.7%)
Easy to understand	18 (14.1%)
Easy to learn	10 (7.8%)

Table 4 explains the level of students' satisfaction of GC usage. The students are generally satisfied with GC, with 122 (95%) students either very satisfied, satisfied or quite satisfied.

Table 4: Level of students' satisfaction of GC usage.

Level of satisfaction	Students/percentage (%)
Very satisfied	22 (17.2%)
Satisfied	27 (21.1%)
Quite satisfied	73 (57%)
Not satisfied	5 (3.8%)
Not satisfied at all	1 (0.8%)

Despite the attractiveness of GC and the high level of students' satisfaction with its usage, the students identified a few issues that hinder the effectiveness of GC implementation in the Institute. Internet connectivity and Internet affordability were among the most critical issues raised by the students, with 83 (64.8%) students commenting on the earlier and 42 (32.8%) on the latter.

CONCLUSIONS

The implementation of GC in the State Islamic Institute of Kendari has been a success due to its effectiveness and complementary nature to the existing system, despite some identified issues. Among the major contributing factors to this success is the intensive use of the Internet among the students. The majority of them indicated that they spend more than 3 hours daily on the Internet. Simultaneously, the students also indicated that they have more than three years of experience using the Internet. The combination of the two factors contributes positively to the readiness of the students to embrace GC technology. The two factors are similar to what was discovered at Mae Fah Luang University, Chiang Rai, Thailand, when students were asked about their Introduction to Information Technology course and GC [21].

Another factor identified in this study was the attractiveness of GC features, as the students indicated that it is easy to use, has interesting features and is easy to understand. Therefore, it not surprising that the students expressed satisfaction with the GC usage. However, despite the intensive participation from the technology-savvy students and GC's attractiveness, which leads to the students' satisfaction, there are still major obstacles to ensure the smooth implementation of GC at the State Islamic Institute of Kendari. The students identified Internet connectivity and Internet affordability as two major issues that usually hinder them from fully utilising GC. The Institute's top management must give these issues more attention if they are to embark on a more widespread use of educational technology like GC. Without their support, the idea remains fine, but the implementation problematic.

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