EFFECTIVENESS OF GOOGLE CLASSROOM: TEACHERS' PERCEPTIONS

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ABSTRACT

Technology has gained importance in all stages of education yet educators have been unable to figure out which of the many available technological tools best fit their classroom practices. Google Classroom is one such tool that is free of cost and has gained popularity within a short span of time. The main purpose of the study is to assess teachers' perception on the effectiveness of Google Classroom. The study is carried out through a qualitative research design. The sample of the study, which uses semi-structured interview method, consists of 12 higher education teachers who have implemented Google Classroom for at least one semester in their classroom. The data acquired has been put through a comprehensive analysis by coding and categorizing the data through NVivo. Findings revealed that teachers perceive it as only a facilitation tool that can be used for document management and basic classroom management, without having a significant impact on teaching methodologies. The responses of the teachers indicate that lack of user-friendly interface is the main reason for its inefficiency. Further studies can be conducted by taking the students' perspective into account.

Keywords: *Educational technology, Google Classroom, Integrating technology, Virtual classroom*

1. Introduction

The concept of education has undergone a major shift, in recent times, from teacher-centric to learner or learning-centric. Earlier, teachers played the role of knowledge providers, but now their role has expanded. There is a lot of emphasis on integrating technology in the classroom through innovative teaching strategies that focus on enabling students to achieve the desired learning objectives (Hwang, Lai, & Wang, 2015). Technology facilitates increasing student engagement (Northey, Bucic, Chylinski, & Govind, 2015) which is critical to obtain the desired learning objectives (Bolkan, 2015).

Educational technologies are often incorporated in a classroom setting to allow learning to be personalized and independent for the students (Graham, 2006). Advocates and critics of using educational technologies have found a middle ground through Blended (or hybrid) learning (Hinkelman, 2018). The terms blended learning, mixed-mode learning, and hybrid learning are used interchangeably (Zhao & Breslow, 2013). Blended learning allows a smooth transition from a shift in teaching methodology, for teachers and learners. It is important that the goal should not be just to integrate technology in the classroom; instead, pedagogical objectives should determine the different mode of teaching instructions (O'Byrne & Kristine, 2015).

Teachers can now use a number of educational technologies, along with the traditional classroom setup, to enhance the learning environment for the students. In 2014, Google Apps for Education (GAFE) launched Google Classroom. The application is free to use for teachers and students which makes it an ideal fit for developing countries, where the budgets are limited. It can act as a learning management system in schools, colleges, and higher education institutes. Teachers can effectively utilize classroom time using Google Classroom.

1.1 Problem Statement

With the objective of increasing classroom effectiveness, teachers aim to enhance student engagement by making student experience more independent and personalized, a growing number of schools, colleges, and higher education institutes are in the phase of adoption of blended learning in developing countries (Spring, Graham, & Hadlock, 2016). Google Classroom can be

used as a blended learning tool to elevate classroom productivity. The lack of research on Google classroom, specifically in the context of developing countries, has prompted the need to further investigate the effectiveness of the tool. Using technology in an appropriate manner is one of the biggest challenges for the teachers to manage in a blended learning environment; therefore, this study is focused on assessing the effectiveness of Google Classroom in higher education classes.

1.2 Purpose of the Study

The purpose of the study is to explore the teachers' perceptions of the effectiveness of Google Classroom in higher education classes.

1.3 Research Question

What are the teachers' perceptions of effectiveness of Google Classroom?

1.4 Significance of the Study

Technology is an integral part of the young generation. The widespread use of technology has generated interested in many researchers and academicians to explore the ways teachers can use that technology prowess to enhance the learning of students. The popularity of Google Classroom is increasing day by day; however, there are limited studies which have explored the effectiveness of the tool. The results of the study can provide evidence to the administrators, teachers, and educationists of the effectiveness of Google Classroom.

2. Literature Review

2.1 Google Classroom

Google classroom was launched in 2014; therefore, studies related to the effectiveness of Google classroom are limited. Shaharanee, Jamil, & Rodzi (2016) analyzed Google classroom's active learning activities. They used TAM (Technology Acceptance Model) to study the

effectiveness of the activities posted on the platform. Results of 100 students revealed that comparative performance of Google classroom was far better in the areas of communication, interaction, perceived usefulness, ease of use, and overall students' satisfaction. Similarly, (Espinosa, Estira, & Ventayen, 2017) conducted a research to evaluate the functionality of Google classroom as a Learning Management System (LMS). The study found that cost was the primary reason for the adoption. Collaborative learning through assignments was viewed as an extremely effective tool for enhancing student engagement.

Liu & Chuang (2016) conducted an action research in Taiwan in which they used Google classroom with the integration of peer tutor mechanism for 6th grade students. Students held a positive perception regarding the use of Google Classroom. The learning objectives were also achieved. Martínez-Monés et al. (2017) called for an integration of learning analytics with Google classroom as they believed that this is a major limitation of the emerging tool.

So far, to the best knowledge of the researcher, all the research conducted on Google classroom have indicated a positive response from the students. None of the research has focused on taking into account the teacher's perceptions of the effectiveness of Google Classroom. The role of teachers in the adoption of any new learning methodology should not be ignored as they are the central figure in the transformation of educational practices.

2.2 Integrating Technology in Classroom

Educational institute's management or administration has a major role to play in integrating technology in classrooms as they have to finance or manage the process and ultimately decide to what extent they plan to use technology. Öznacar & Dericioğlu (2017) conducted a research in high schools on the role of administrators in the use of technology in which they discovered that the administrators held positive beliefs regarding integrating technology in the classroom. One of the many reasons for the failure of not successfully integrating technology was that the administrators believed that 80% of their teachers were not technologically aware to use it effectively; hence, the project failed.

Another study by Machado & Chung (2015) showed the same findings in which they studied the role of the principal in the process of integrating technology in the classroom. Findings revealed a strong belief of principals of teachers' lack of technical training and competency which was preventing the schools from technology integration.

Samy et al. (2008) consider teachers' acceptance as an important factor in the effective use of technology in classrooms. The role of administrators is to facilitate the training and infrastructure for the teachers; however, ultimately it is the teacher who has to enhance the use of technology with the students.

The educational technology, at the moment, is not transformative alone, student learning can improve only through a teacher; therefore, it is absolutely essential that teachers' acceptance of technology is present. Blair (2012) has mentioned two elements in providing an environment for technology integration. First, teachers need to place technology into the hands of students carefully by selecting the right mediums. Second, technological tools should be constantly evolving to enhance problem-solving, innovation, decision-making, and teamwork.

Based on the literature review section, this study is focused on teachers' perceptions of the effectiveness of Google Classroom.

3. Methodology

3.1 Research Method

The research problem requires a phenomenological methodology. For this qualitative exploratory study, a total of 12 semi-structured interviews were conducted. Purposive sampling technique was used. Participants for the study were selected from the teachers that were using Google Classroom for at least one semester. The intention of using purposive sampling technique was to gain an insight into the matter under investigation (Gall, Gall, & Borg, 2006).

3.2 Participants

All the participants (8 males and 4 females) were higher education teachers. Participants were affiliated with three different universities of Karachi, Pakistan. Only those teachers were selected who had used Google Classroom for at least one semester. In order to protect the confidentiality of the participants, codes were assigned to participants at the time of transcription of interviews.

3.3 Instrumentation

The semi-structured interviews were conducted on the basis of a set of questions that were devised from the literature review and past studies. The questions covered various aspects of Google Classroom including familiarity, awareness, impact, effectiveness, and reflection on using Google Classroom.

3.4 Data Collection

Prior to the interviews, a consent form was given to the participants in which the purpose of the study and approval of Ethics Committee was attached. They were also informed that they could choose not to answer any of the formulated questions. After taking their consent, interviews were scheduled as per their convenience. All the interviews were conducted in the faculty office of the participants, apart from two which were conducted in the researcher's office. The duration of an interview, on an average, was 36 minutes. The interviews were conducted, primarily, in Urdu language.

All the interviews were recorded on a mobile application "Voice Recorder Pro". Field notes were also taken to record observations including any non-verbal gestures that could not have been captured in the digital recording. At the end of the interview, the researcher thanked the participant and informed him/her that a follow-up interview might be scheduled to triangulate data or for any clarification.

Digital recordings were transcribed into Nvivo (Version 10). Transcription of the interviews was carried after each interview. After transcribing, the data was analyzed and reviewed through the software to spot the emerging themes. The use of the software helped in quickly

discovering the commonalities in the interviews. Data started to saturate when nine interviews were analyzed.

4. **Findings**

The questions were aimed at gaining insight into teachers' perception of the effectiveness of Google Classroom. The study included 12 higher education teachers (8 Lecturers and 4 Assistant Professors) from different educational backgrounds: two English teachers, one Economics teacher, three Accounting teachers, one Finance teacher, two Marketing teachers, and three Management teachers. The teaching experience of the participants ranged from 2 years to 15 years and they self-reported that they have been using Google Classroom from one to two semesters (5-10 months). Table 4.1 represents the summary of respondents' profiles.

Table 4.1

Respondent's Profile

Identifier	Gender	Position	Subject	Years of Teaching Experience	Experience in Using Google Classroom
P1	Female	Lecturer	English	2-3	2 Semesters
P2	Female	Lecturer	English	5 +	2 Semesters
P3	Male	Lecturer	Accounting	3 +	2 Semesters
P4	Male	Lecturer	Marketing	2-3	2 Semesters
P5	Male	Assistant Professor	Marketing	10 +	1 Semester
P6	Male	Assistant Professor	Finance	10 +	2 Semesters
P7	Male	Lecturer	Accounting	5 +	2 Semesters
P8	Female	Lecturer	Economics	4 +	2 Semesters
P9	Male	Assistant Professor	Management	15	1 Semester

P10	Female	Assistant Professor	Accounting	2	1 Semester
P11	Female	Lecturer	Management	2	1 Semester
P12	Female	Lecturer	Management	2	1 Semester

Table 4.2 represents the findings from the interviews:

Table 4.2: Codes, categories, and themes

Codes	Category	Themes
Record keeping of assignments		
Tracking progress of assignments		
Checking assignments	Facilitation of assignments	
Check and balance of assignment		
Feedback on assignment		
Replacing WhatsApp group		
Announcement feature		
Facilitates communication	Improvement in teacher-student interaction	Benefits of using Google Classroom
Message any time		
No time constraints		
Uploading of materials		
Videos upload		
Take quick quiz	Improvement in classroom organization	
Upload marks		
Use as learning management system		
No students involvement		
In class usage (other websites)		Challenges in implementing Google Classroom
No individual student folder	Issues faced by students	
Not user-friendly for students		
Difficult for students to comprehend		

Not user-friendly for teachers	
Unable to make it interactive	Issues faced by teachers
Took time to adjust	

5. Discussi

5.1 Overall Effectiveness:

When the teachers were asked about the overall effectiveness of Google Classroom, most of the teachers were neutral as they considered it as a small part of their overall teaching strategy.

My teaching effectiveness is the same but it has facilitated me and the students. (P1)

I didn't experience any improvement in increasing the level of student engagement although it has helped me a lot in other areas. (P7)

I would consider 50% success and 50% failure overall. (P3)

I find Google classroom as an average tool. (P11)

It hasn't affected anything on my teaching. Communication with the students has improved through it. (P2)

It's just a communication tool. No impact on teaching. (P9)

Some of them had negative remarks on its overall performance. Although they were comparing it to very different kind of technological platforms, they had formed a strong belief against Google Classroom due to their misconceptions.

It cannot compete with Udemy. (P6)

Universities' LMS software is much better than Google classroom. (P5)

5.2 Facilitation of Assignments:

The main benefit that emerged from the interviews was related to assignments of the class. Teachers used Google classroom for different purposes, such as uploading, announcing, and assessing assignments online.

I use it for sharing assignments with the class, although I do not use it for checking and grading assignments. (P3)

Eliminates the hard copies of the assignments which is beneficial for the teachers as well as the students. (P1)

Now I can easily mark the assignments online at the end of the semester without students complaining that you have misplaced my assignment. (P9)

I receive notification when a student has completed an assignment. (P12)

Easy tracking of assignments. (P2)

5.3 Improvement in Teacher-Student Interaction:

Some of the teachers pointed out that they were able to interact with the students even outside the classroom which facilitated the overall teacher-student interaction.

I now don't require a WhatsApp group to communicate with the students as I use the announcement feature regularly to exchange messages with the class. (P2)

I don't have to send separate emails. I can send messages and assignments easily. (P6)

It facilitates interaction and discussion among students. (P1)

5.4 Improvement in Classroom Organization:

Another key benefit that emerged from the interview was how teachers were able to better organize their class and course through Google Classroom.

It helps in uploading course materials with the whole class. (P3)

I mostly use the feature of uploading course materials. It saves paper. (P2)

Now I don't have to send separate emails. I can send messages and assignments easily. (P12)

It's a good tool for record keeping. I used to collect a number of sheets and papers from the students. (P8)

Uploading handouts and assignments. Tracking progress of students' tasks and portfolios. (P7)

I use it mostly to upload books, materials, and assignments. (P11)

Assignments, materials, and quizzes. (P10)

It makes data sharing extremely easy. (P5)

I can take instant quizzes through Google classroom. (P9)

5.5 Issues Faced by Students:

Teachers highlighted some of the major issues faced by the students. It is quite evident from their statements that students have faced difficulties in adoption of Google Classroom due to lack of ease of use and familiarity.

They find Whatsapp easy to use. (P2)

Students make a lot of excuses when I want to initiate an online discussion. Excuses such as "I didn't see the post", "What was I supposed to do?", "I tried commenting but it didn't get through" etc. (P9)

It doesn't seem user-friendly to the students. (P11)

It's not widespread, so initially, students find it challenging to use. (P2)

There is no peer-interaction in my Google classroom. Students interact with the teacher only by sending personal messages. (P1)

I could barely see students commenting on the posts unless they were asked to do so. (P12)

Students think that uploading material online is problematic. (P6)

Students have come to me and said that it's not easy to upload or edit material online. (P4)

5.6 Issues Faced by Teachers:

Teachers responded to the issues faced by them based on their unique experiences because of which diverse responses were observed. Some of the teachers were concerned about the misuse of mobile and technology in the classroom.

It's difficult to monitor if students are using their mobile phones in the classroom for study purposes or checking their social media notifications. (P3)

When students are using mobile phones in the classroom, I do not know if they are using Google classroom or browsing any other site. (P6)

Students often divert from studies if they use mobile phones in the class. (P8)

Excessive use of such technologies can be problematic. (P11)

There were a few teachers who admitted that they were not able to effectively use the technology for improving classroom practices.

Maybe I wasn't able to make the platform interactive. (P7)

I didn't post a lot of content to make the group interactive. I want to engage students in my classroom. (P12)

It helps in uploading course materials to the whole class; however, sometimes when I forget to upload a file then students face difficulties. (P1)

On the other hand, there were some teachers who considered Google Classroom difficult to adopt.

It's difficult for teachers to understand how to use it effectively. (P3)

I don't like the fact that it is linked to my personal Gmail account. (P4)

5.7 Improvement Areas:

The participants of the study were asked to identify areas which can improve the effectiveness of Google Classroom. Teachers came up with some interesting features that can be included in Google Classroom.

I think video editing is a feature that is missing from Google classroom. (P11)

Can there be live streaming of videos, like Skype? If no, then if this feature is added then it will become a complete virtual classroom. (P5)

There must be an individual folder for each student. (P9)

There should be a space where students can work directly on documents; instead of downloading, editing, and then uploading documents. (P3)

6. Conclusion:

The analysis of the interviews revealed that Google Classroom has not made a significant impact on overall classroom teaching. It has been used effectively for uploading assignments, classroom management, and communication with the students; however, the overall use is limited to only these features; whereas, Google Classroom has a lot to offer apart from just these basic features. An intriguing observation from the interviews was that none of the participants acknowledged or brought up the fact that it is a free tool and has no cost implications which is a major consideration while implementation of technology in the majority of the education sector in Pakistan.

These are early years for Google Classroom and familiarity with this platform will grow over time which is a significant barrier for students and teachers at the moment. An important finding of the study was that the interface of Google Classroom is not viewed as user-friendly by the teachers. If the administrators can work on ease of use and making it simpler with some additional features, such as video streaming, then the effectiveness of Google Classroom can improve drastically.

7. Contributions of the Study

The study proposes several recommendations for administrators and teachers. Google Classroom is a free tool that can be used by any University that does not have enough resources to form its own LMS (Learning Management System). It reduces the paperwork for the teachers and assists in classroom management. It also helps in enhancing the student-teacher interaction and communication. Teachers need to do spend some time initially to understand the various features of Google Classroom as the study suggests that a number of teachers faced initial difficulties in getting used to its functionality. Teachers should also conduct a session to train students regarding the importance and use of Google Classroom in which they could explain the various features and benefits for the students.

8. Limitation and Future Research

The study was conducted in the higher education sector in Pakistan so findings cannot be generalized. A similar study can be conducted in primary or secondary schools to compare if the findings are consistent with the study. Future studies can also incorporate quantitative techniques and obtain a mix methodology approach to further strengthen the validity of the findings. The study was based on analysis of interviews from teachers, it will be interesting to take into account the perceptions of students and compare those with teachers' perceptions. A comparative study can also be conducted by comparing the effectiveness of Google Classroom with other educational platforms.

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