BLENDED COLLABORATIVE LEARNING: A COMPARATIVE STUDY OF FACE-TO-FACE AND ONLINE STUDENTS’ AND TEACHER’S PRACTICES

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Abstract - The blended collaborative learning and teaching approach is fast getting more popular in higher education, and its impacts on students’ and teachers’ involvements are yet to be fully explored. A very few research has been carried out to contextualize the learning and educating impacts of this instructing and learning approach. This paper gives a report of a qualitative study of the experiences of concurrently teaching online and face-to-face students in a university wide entrepreneurship development studies course. It expects to increase enhanced understandings of the effects on the students’ learning and teacher’s instructing in regarding three dimensions: instructional, social and learning, in the introduction of information and communication technology. This paper emphasizes on the capability of blended collaborative teaching and learning impacts for quality educational experiences. The result of this study shows that there were distinctive educating and learning impacts on the blended collaborative synchronous teaching; it also shows that an unforeseen form of interactions occurred in the blended collaborative communication; and then it also shows that both the face-to-face and online students accomplished comparative learning results. This paper concludes that higher institutions that are embracing and implementing the blended collaborative learning need to give adequate support to both the students and teachers in the instructional, social and learning dimensions.

Keywords: Collaborative learning, blended learning, Online learning, face-to-face learning, teacher’s experiences

I. INTRODUCTION

Blended collaborative methods to learning and teaching are fast gaining weight in the shifting higher education landscape. Many teachers are of the believe that when this kind of learning is put in place, it can involve the students that are online and are located at different places in suitable learning with the students are resides within the campus premises, hence it broadens sharing of knowledge and student’s participation. However, some few researches (Szeto, 2014; Nicolau, 2015; Szeto and Cheng, 2016; Wang et al., 2017) of this method have given positive outcomes, yet just a little research has carried out in order to get a much better understandings of its effects in higher education on online and face-to-face students’ learning and instructors’ teaching. A few person could disagree with the significance of the classroom as a place for formal learning (Tomlinson, 2014; Brookfield, 2015). Nevertheless, sometimes some students have to miss the face-to-face class for some certain reasons. For example, some working adults might not be able to frequently attend the face-to-face class probably because of their jobs and family obligations (Ursin et al., 2016). In view of weakness or terrible climate conditions, students might be kept from going to class in certain days (White et al., 2010). Moreover, physically handicapped children may never have square with chances to go to class as others (Bruce and Sundin, 2012). It accordingly winds up plainly important to investigate how to create technology enabled learning environments that enable individuals to go to classroom while they are far from the premises.

The main purpose aim of this research is to examine how both teachers’ and students’ experiences are being affected with the development of technology enabled learning environments. What were these effects in a blended collaborative learning situation? What kind of impact do these effects have on achieving the proposed learning outcomes? The results gotten from this study are meant to inform teachers’ teaching and learning practices which involve ICT. With respect to this research purpose, this study addressed two questions:

(a) What are the experiences of teachers and students online/faceto-face approach in the blended collaborative learning situation?
(b) How did these learning and teaching experiences have effect on achieving the proposed learning outcomes?

II. LITERATURE REVIEW

An increase in technology enabled learning and teaching has lately presented numerous chances in education for online and face-to-face students in higher education (Simonson et al., 2014; Anderson, 2016; Thai et al., 2017). Similar researches have spread across a variety of topics, for instance, the evaluation of the effectiveness of online and face-to-face learning (Summers et al., 2005; Ni, 2013; Moon et al., 2014; Xu and Jaggers, 2014) and students’ satisfaction and learning attainment (Means et al., 2013; Chang et al., 2014; Auster, 2016). Nonetheless, there are no complete outcomes with reliable indication that is made available to the management team of the higher institution, teachers and students.
Certainly, face-to-face and online approaches are not unavoidably contradicted in university learning and teaching. By blending these two approaches, the students can profit from improved teaching and timely interactions (Szeto, 2014; Jacob et al., 2016; Harris, 2017), whereas teachers are able to explore inventive teaching for the enhancement of educational experiences which involves technology enabled learning (Kale and Goh, 2014; Ata, 2016). Nevertheless, the impacts of blended collaborative learning and teaching are quiet as instructionally and technologically disputable as the outcomes of the evaluation of the whole online and complete face-to-face approaches. The encounters that have arose in the blended collaborative learning process have stayed unattended. The instructional and the learning effects which develop in synchronously blending collaborative online and face-to-face approaches in a course is what is missing. (Garrison et al., 2001) first proposed the Community of Inquiry (CoI) framework for studies of educational experiences in asynchronous/synchronous online teaching and learning. As a widely-adopted framework, quality education experiences begin at the juncture of the teaching, social and cognitive presences. This research adopted the CoI framework as a theoretical focal point. The notions of the three presences represent three dimensions: instructional, communicative and learning, by which the effects of the learning and teaching were examined. To realize the online learning experiences, (Garrison et al., 2001) established a coding structure of the concepts of the presences that this research work adopted for the exploration. Table 1 shows the coding template for the three dimensions.

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>CATEGORY</th>
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<tbody>
<tr>
<td>Instructional</td>
<td>(1) Instructional management; (2) Building understanding; and (3) Direct instruction</td>
</tr>
<tr>
<td>Communicative</td>
<td>(1) Emotional expression; (2) Open communication; and (3) Group cohesion</td>
</tr>
<tr>
<td>Learning</td>
<td>(1) Triggering events; (2) Exploration; (3) Integration; and (4) Resolution</td>
</tr>
</tbody>
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Table 1: The Coding template for the 3 dimensions
Adapted from (Garrison et al., 2001)

III. METHODOLOGY

This study reports the first phase of a larger study in a blended collaborative learning mode. Forty six first year students enrolled in an intensive entrepreneurship development studies course. This course is compulsory for all first year students of the institution since it is a university compulsory wide course. This students were randomly divided into an online group, Team 2 (TM2, n = 23), and a face-to-face group, Team 1 (TM1, n = 23). The teacher was responsible for teaching 4 hours per week for 11 weeks, with a total of 44 hours. The (Hastie et al., 2010) blended synchronous learning model was adopted, the teacher taught the face-to-face group in the lab at the entrepreneurship development studies centre of the institution, while the online group concurrently attended the same sessions at a remote location with the use of Internet-based videoconferencing. This study adopted a grounded theory approach (Corbin and Strauss, 1990; Strauss and Corbin, 1997; Charmaz, 2011) in gathering and examining the data. The CoI coding structure (Garrison et al., 2001; Garrison and Arbaugh, 2007; Garrison, 2011) was used as a preconceived coding scheme for the analysis of the data collected (see Table 1). Then, the reliability of the analysis was improved through a cross-checking, comparing and auditing process by another qualitative researcher involved in the study (Nadeem et al., 2013).

IV. FINDINGS

<table>
<thead>
<tr>
<th>TEAM 1</th>
<th>TEAM 2</th>
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<tr>
<td><strong>INSTRUCTIONAL DIMENSION</strong></td>
<td><strong>INSTRUCTIONAL DIMENSION</strong></td>
</tr>
<tr>
<td>- The presentation was exceptionally comprehensive at a stable pace.</td>
<td>- A positive view of the blended collaborative synchronous online instruction.</td>
</tr>
<tr>
<td>- Deliberately reduced the speed of instructing the students.</td>
<td>- Teaching was extremely detailed</td>
</tr>
<tr>
<td>- This was exceptional looked at with what they had encountered in ordinary class instructing.</td>
<td>- Demonstration was decent since the skill procedures were shown on a big screen.</td>
</tr>
<tr>
<td>- The topic was outstandingly indistinct.</td>
<td>- Intentionally recurred steps for skills demonstration improved clarity.</td>
</tr>
<tr>
<td>- Charred recurrence might make the instructing a little unusual</td>
<td>- The instructing approach seemed better than face-to-face.</td>
</tr>
</tbody>
</table>
### TEACHER’S EXPERIENCE
- Diverse attention was paid to the TM2 students.
  - The TM1 appeared to be a ‘control group’ in an experiment.
  - Encouraged inquiries and recognized the students’ understandings of the subject.
  - TM2 could completely get a handle on the subject while TM1 did not feel exhausted.
  - The speed of instructing was adjusted for clarity.
  - Replication was more imperative to TM2.
  - Experienced the instructional difference and challenges.
  - Teaching was amusing in this approach.

### TEAM 1
- In the cause of these exercises, entrepreneurship skills were gained.
- The technology deployed must be consistent and the technical issues must be very minimal so as to be able to attain the expected learning outcomes.
- Answers to the teacher’s or TM2 students’ questions is able to inspire the sharing of knowledge.

### TEAM 2
- Homeworks could be easily completed.
- Entrepreneurial skills were adapted more easily and faster.
- Adequate learning together with TM1 in teams was enabled in a virtual face-to-face learning environment.
- Required live rehearsal of the knowledge that was gained together with the teacher.

### TEAM 2
- More motivation of the team’s communicative interactions were needed.
- The students were at times disconnected.
- The students were impulsive when involving in the learning exercises of the team.
- The outcome of the tasks and tests really did not display notable variance between the TM1 and TM2 students.

### TEAM 1
- It looks like they are being abandoned by the teacher.
  - The social interaction with students of TM2 was challenging since the TM2 students were not present face to face.
  - The teacher spent much more time with the TM2 students in the question and answer sessions.
  - The audio transmission wasn’t steady when communicating.
  - They are actually interested in meeting the other students that are at the remote site.

### TEAM 2
- Experienced short transactional interactions with TM1 for cross group activities.
  - There was so much attention on them by the teacher.
  - Collaborative activities with TM1 were not direct in the environment.
  - There were a number of interruptions in the transmission which caused the system to be restarted several times.

### TEACHER’S EXPERIENCE
- The use of language was occasionally adjusted.
  - The use of hand gestures for students of TM2 was introduced to aid their responses.
  - The teacher made sure that her performance on the teaching was as tangible as possible on the screen.
  - The use of facial expressions and other social interaction signs were clearly utilized.
  - The teacher made so much efforts to enhance inter-team communication.
The outcome demonstrates the differences in the learning and teaching impacts on the experiences of the online and face-to-face students and the teacher. Table 2 shows the relative outcomes between the two teams. The table shows that the two groups of students had diverse encounters and experiences which is connected to the teacher’s performance in the blended collaborative situation. The teacher faced the teaching difficulties of drawing the online learning and face-to-face teaching as a whole, while the blended collaborative interactive pattern was categorized in the blended synchronous communication between the two teams.

DISCUSSIONS AND CONCLUSIONS

In the results displayed above, the learning and teaching impacts varies from the results of current researches (Hastie et al., 2010) in the above mentioned dimensions.

Unforeseen form of interaction

The synchronous interactions between the two teams ought to be carried out in the virtual environment. However, an interaction sequence occurred in the blended synchronous communication between the online/face-to-face students and the teacher. Immediate face-to-face interactions were sought within the team first by the TM2 students, but immediate support from the teacher was more sought after by the TM1 students. The TM2 students actively participated in the interaction with the TM1 students which was more than the TM1 students in this mode. Nevertheless, through the pattern, it shows that the two teams did not learn in such crossgroup interactions. Instead, they sought for sustenance from within their own teams when challenges are experienced. Yuan et al., (2014) argued that online interactions could provide peer support for better learning. However, for the two groups, the instructor was still the primary source of learning.

Instructional Variance

The instructional outcome was converted from either online teaching or a combination of the two modes in different sessions of a course to a blended synchronous collaborative learning situation. The teacher inclined to focus on the online students, while his instructional strategy emphasized a slow speed, simplicity and repeated probing. The explanations were clear and the topics were well understood by the TM2 students. In comparison, the TM1 students got bored at a point in time because the teacher gave more time and attention to the TM2 online students. As a matter of fact, the teacher made so much effort to synchronously bring his teaching across to the two teams in a virtual learning environment mediated by the videoconference. This is the challenge the teacher faced in the blended synchronous situation.

Related learning achievement of the online and face-to-face students

Regardless of the puzzling blended synchronous instruction and unexpected form of interaction, the proposed learning outcomes were achieved. The general assessment of student’s learning shows that the face-to-face and online teams attained a comparable level of accomplishment in the learning process. Both team students are able to benefit from a better instruction (Ronfeldt et al., 2015; Shaffer et al., 2014). Hence, these related outcomes are of importance for more study.

However, this is a study of importance in that it provides higher institution, teachers and students with an improved knowledge of the blended synchronous learning and impacts of teaching. In reality, a robust support system for the blended collaborative synchronous learning and teaching in the instructional, communicative and learning dimensions is highly needed. As a matter of fact, this research offers a trivial pace forward in seeking a broader community of participation of student and sharing of knowledge which includes Information communication technology.

REFERENCES

Blended Collaborative Learning: A comparative study of face-to-face and online students’ and teacher’s practices


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