Collaborate and Engage with Students during the COVID-19 Pandemic: Transforming Teaching for the 21st Century Learners

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Abstract: During the COVID-19 pandemic, attempts to nurture learners by educators to become more active and motivated learning experiences are getting more challenging. Since the past three months of the remote learning implementation, lecturers and students used various platforms to meet and teach the students virtually during the quarantine period and giving teaching materials. This study attempts to explain how online collaboration is integral in keeping learners engage and empower them which is becoming an important trend in the 21st century. A survey was conducted using questionnaire collected from 450 students studying in Universiti Utara Malaysia which looked on their knowledge of using Moodle and Microsoft Teams during the remote learning session and also explored the differences of the survey result from different student background based of gender, age and prior computer knowledge, on their behaviour and their perception on relationship building between their peers and lecturers in remote learning. This study found that by using remote learning platforms such as Moodle and Microsoft Teams effectively with focusing on collaborative elements, students gained better perception by studying them as a group rather than individual context which this study would show that online collaborative learning indeed plays an important elements for students achievement and their understanding of the knowledge they acquire. It is imperative for learners and educators to be mindful of these disruptive drivers and in becoming skillful talents to meet the changes spearheaded in the Industry Revolution 4.0 and the 21st Century Learning Design.

Keywords: Transformative teaching, COVID-19, Remote Learning, Industry Revolution 4.0, Readiness, Leadership, Disruptive Drivers, Commitment to Change

1. Introduction

Before COVID-19, it has been noted that globally, the education system that failed to focused on students’ needs and their learning situation have already been debated in the education community. Collaborative and engagement in learning are suited for deep learners which benefits the students to prepare with the skills envisaged in the 21st century learners. According to Microsoft Education, there are six areas in the 21st Century Learning Design (21CLD) namely collaboration, skilled communication, knowledge construction, self-regulation, real-world problem-solving and innovation and use of Information, Communication and Technology (ICT) for learning. In a survey conducted in 2019 by World Economic Forum (2020), they have found that many education systems throughout the world still continues to focused on passive forms of learning. The report found that both...
developed and developing countries, had most of their teachers in schools and higher education used direct instruction and memorisation, instead of collaborate and engage approach which foster analytical and individual thoughts that is the main ingredient in the current innovation-driven economy.

Collaboration has been a trend in the 21st century. There is an increase in the need for society to think and work together on important issues, moving the focus from individual efforts to collective work, from individuality to community. This study aims to provide a clear definition of collaborative learning, taking into account the core elements of a collaborative environment, and discusses the advantages of collaborative learning. Collaboration is a philosophy of engagement and personal lifestyle where people are responsible for their behaviors, including understanding and respecting their peers’ skills and contributions.

2. Objectives

This paper attempts to give a concept of online collaboration that were implemented during the three months of remote learning conducted in the COVID-19 pandemic. This paper will be discussing the basic elements of this learning method and explain the advantages.

The overall aim of this paper is to examine aspects that are critical for solving challenges in the area of remote learning using Moodle and Microsoft Teams platform during COVID-19 pandemic from the perspective of students.

Research Questions

Three research questions were identified in this study:
(i) What were the remote learning experience of students during COVID-19 pandemic?
(ii) What relationship can be derived from the students attitudes in remote learning to the student context influences, such as class, age, previous computing experience, digital technology attitudes and learning style during COVID-19 pandemic?
(iii) What are the benefits and drawbacks of students’ remote learning during COVID-19 pandemic?

Theory

The main techniques used in most online collaboration were based on the theory of reflective learning, which emphasises that learning derives from our experience and can be constantly updated through the process of recording and thinking about the experience we have. A very important aspect of reflective learning is that it is a process in which we can learn about ourselves. Gibbs’ reflective cycle identifies six stages of reflection which help students to make sense of their learning experiences.
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Figure 1. This is a diagram showing Gibbs Reflective Cycle

In higher education, high value is placed on the skill of being a reflective learner. This means that students can critically evaluate their learning, identify areas of their learning that require further development and make themselves more independent learners.

Figure 2. This is a diagram showing IR4.0 New Leadership Model (Authors’ own)

To ensure the success in embracing the transformation in teaching in the 21st century education as well as the technological advancement spearheaded by the Industry Revolution 4.0 (IR4.0), it is suggested that educators and learners must use a new model of leadership to steer the institutions direction towards the right path and accelerate its transformation. There are four pillars comprises of disruptive driver, human touch, sense of urgency and continuous learning that will constitute the new leadership model called “Leadership 4.0” as shown in figure 2 above.
3. Methodology

A survey was developed, reviewed by experts and scholars, and piloted prior to implementation with a sample of the target audience. This online survey was collected using Google Form. A sample of 450 questionnaires collected from the undergraduates students were completed and evaluated using the google questioner and SPSS software. This method was used because the required questionnaire can be completed in a short time and answered easily online. SPSS was used for regression analysis. A number of observations were used for the purpose of explaining descriptive statistics, in order to give people a sense of the fundamental characteristics of the data.

4. Literature Review

Study on the collaborative learning framework was done in order to know the behaviours of learners towards engage and empowered learners (Bishop, 2006). Mpungose (2020) notes that there are different barriers stopping underprivileged students from understanding the full value of online learning.

In the COVID-19 pandemic, it is evident that the transformation of teaching and learning are taking place rampantly and everyone in the education system are working to adapt remote learning as the alternative to achieving learning goals without to see face-to-face classroom which was the traditional approach. Reyes, Talbot & Parker (2020) mentioned that higher education are transitioning into both synchronous and asynchronous remote teaching which is suited to their students learning situation at their current place of living because most of the students are not studying on campus during the closure of the campus due to COVID-19 pandemic.

Adaptive students were much better off learning than students with no access to online learning (Phederico, 2000) and more thoroughly acquainted with different facets of networked schooling. Regardless of technical advancements, whatever modern technology is learnt, it has clear implications for intervention and thus the application of technology (Liaw, Huang & Chen, 2007).

Dunbar (2004) described and analysed the transfer of a classroom to an online learning programme by WebCT. His surveyed the students preference between taking the course remotely to taking the course with a live teacher. Most students answered that they would rather take the course online.

Collaborative learning is a teaching and learning method involving groups of learners collaborating together to solve a problem, complete an assignment, or produce a product. According to Srinivas (2011) in a collaborative learning environment, students have the ability to speak to their peers, propose and defend their concept, sharing different views and engage with one another actively. Students will be tested indirectly by the lecturers in terms of social skills and their higher order thinking as they listen to others, while articulating and defending their own opinion.
The 21st century learning design put students outcome into 3 categories namely 1) learning and innovation skills; 2) information, media and technology skills; and 3) life and career skills (Makaramani, 2015). The main intention of the creation of this learning design was to prepare students to live successfully in the current age and employment demands. According to Buck Institute of Education (2010), students not only learn content more deeply but also learn how to take responsibility, build confidence, solving problems, work collaboratively, communicate ideas and be creative innovators.

The traditional concept of collaborative learning was viewed as a collective gathering to collaborate together periodically only illustrates one form of students' cooperation in terms of learning. Collaboration is an engagement concept and a specific approach in which people are accountable for their decisions and the involvement of their colleagues and value their skills and achievements. It implies a way to deal with people wherever people gather in groups and value and stress the skills and contributions of particular community participants. The community representatives share power and assume responsibility for the actions of the organisations. In comparison to the rivalry in which people are best representatives of others, the underlying concept of collective learning is to create unity by the participation of community members. Collaborative learning practitioner use this theory as a means to live with and deal with others in a school, at committee reunions, in neighbourhood organisations, in their communities and in general (Panitz, 1996). The collaborative learning reflects a big change away from the traditional classroom atmosphere. Collaborative classrooms do not totally vanish, but they exist in combination with other processes focused on dialogue among students and productive work with the classrooms. Lecturers utilising collaborative learning methods prefer to see themselves less as knowledge specialists and more as intellectual specialists for students — as mentors or facilitators in a more emerging learning method (Smith & MacGregor, 1992).

Learning should be subject to the following five elements in order to be considered as collaborative learning, including: Positive interdependence is organised effectively if community participants perceive that they have a bond with one another that cannot work if all is successful. Important cognitive and behavioural dynamics may arise only if students encourage one another's learning. In order to accomplish the collective aims, particular students are required to help those in the collective to complete assignments. In other terms, students are supposed to encourage one another to accomplish shared objectives. The third essential aspect is responsibility between people and groups. The party must be responsible for the accomplishment of its objectives and each participant must make his or her commitment. Social skills must be learned as well as analytical skills to pupils. Leadership, decision-making, faith raising, negotiation and dispute managing capacities allow students to effectively handle collaboration and assignments. Community processing is available as staff participants evaluate how effectively their priorities are accomplished and successful working arrangements are maintained. Working party accurately represents how well students perform as a party (Johnson, Johnson & Smith, 1991; Green, 2010). Training is directed at promoting the maximum amount of students' instructional productivity possible (Pugach & Johnson, 1995). Collaboration been a theme for the 21st century. The desire to represent and function in culture on crucial problems has become more relevant (Austin, 2000; Welch, 1998) and the attention has moved from person to collective, freedom, and community work (Leonard & Leonard, 2001).
There are many benefits that can be achieved in collaborative learning which includes the following. As students constantly communicate in an instructed manner, they are able to consider their discrepancies and how to overcome the social issues (Johnson & Johnson, 1985). It builds skills for social contact (Cohen & Cohen, 1991) and forged heterogeneous interactions to be more favourably (Webb, 1980) while increase awareness of diversity (Swing & Peterson, 1982). According to Webb (1982), collaborative learning builds the upper level thought abilities because students are involved in the course of studying and become deep learners.

The principle of collaborative learning, which means grouping and matching learners to reach a learning objective, has been extensively studied and advocated; the word collaborative learning applies to an educational approach in which learners at varying achievement levels work together in small groups against a shared goal. The learners are accountable for studying as much as their own. Thus, one learner’s performance makes most students excel. Collaborative learning is defined by five fundamental elements: explicitly perceived beneficial interdependence, considerable engagement, participant accountability and personal duty to accomplish community objectives, usage of appropriate organisational and small group abilities, and frequent and daily group processing of current functioning to enhance the potential success of the group. Many benefits have been identified for collaborative learning, which are grouped in this article into 4 key groups: social, psychological, academic and evaluation.

5. Findings

The characteristics of the participants are summarized in Table 1 below. As seen, the total sample was distributed relatively similarly by gender (52% female, 48% male)

<table>
<thead>
<tr>
<th>Profile Factors</th>
<th>Particulars</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>216</td>
<td>48.00</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>234</td>
<td>52.00</td>
</tr>
<tr>
<td>Age</td>
<td>18-23 years</td>
<td>108</td>
<td>24.00</td>
</tr>
<tr>
<td></td>
<td>24-26 years</td>
<td>243</td>
<td>54.00</td>
</tr>
<tr>
<td></td>
<td>&gt;27 years</td>
<td>99</td>
<td>22.00</td>
</tr>
</tbody>
</table>

The results in Table 2 below clearly show that respondents are very conscious of the use of remote learning platform such as Moodle and Microsoft Teams. In the educational process of the university the vast majority of students were confident in using Moodle and Microsoft Teams platforms components as they have already been exposed on using these platforms prior to the COVID-19 pandemic situation and implementation of remote learning. The students’ understanding of Moodle and Microsoft Teams platform’s application and efficiency in education is defined in Table 2 below.
Table 2. Students’ Responses to Questions

<table>
<thead>
<tr>
<th>Questions</th>
<th>Particulars</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using only Moodle and Microsoft Teams appropriate</td>
<td>Yes</td>
<td>45</td>
<td>10.00</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>405</td>
<td>90.00</td>
</tr>
<tr>
<td>Remote learning is a requirement and integral</td>
<td>Yes</td>
<td>374</td>
<td>83.00</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>76</td>
<td>17.00</td>
</tr>
<tr>
<td>Preparation to learn online</td>
<td>Yes</td>
<td>432</td>
<td>96.00</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>18</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Based on Table 2, this indicates that the vast majority of students agree that remote learning is a requirement now, and in the future, and will become an integral part of the educational process (83%).

Yet despite the high expectation of remote learning students, just under half of the students surveyed agreed that the full use of Moodle and Microsoft Teams is inappropriate (90.0%). This means that students would like to see a mixture of online collaboration tools to be used and not confined to Moodle and Microsoft Teams only. The result shows that the majority of those respondents are ready to learn online (96%) or have already studied.

Table 3. Awareness of students towards the use of elements of Moodle and Microsoft Teams in the teaching process

<table>
<thead>
<tr>
<th>Statement</th>
<th>Answer</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps you to turn to additional material</td>
<td>Yes</td>
<td>383</td>
<td>85.00</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>67</td>
<td>15.00</td>
</tr>
<tr>
<td>It enhanced the communication between lecturer and student</td>
<td>Yes</td>
<td>364</td>
<td>81.00</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>86</td>
<td>19.00</td>
</tr>
<tr>
<td>It increases the burden of additional work</td>
<td>Yes</td>
<td>306</td>
<td>68.00</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>144</td>
<td>32.00</td>
</tr>
</tbody>
</table>

It was shown that 85.0% of respondents saw that Moodle and Microsoft Teams platforms permits them to use modern teaching skills and increase their communication skills by a rate of 81.0%. Nearly all the respondents indicated that they were prepared to be taught with Moodle and Microsoft Teams (96.0%). Nevertheless, the result also showed that the use of the remote learning platforms is perceived to be additional work to them (65.1%).

6. Discussion

The objective of the study was to give a concept of online collaboration that were implemented during the three months of remote learning conducted in the COVID-19 pandemic and viewing the use of remote learning during COVID-19 pandemic from the perspective of students.

Data review allows us to conclude that Moodle and Microsoft Teams is special to the use of students in the remote learning. Most students believe online collaboration is important to all universities today and in the future and is going to be an integral part of the learning process to cultivate the 21st century learning design.
The results indicate that online collaborative learning is beneficial in the sense of the study and applies to existing engagement and innovativeness, while there are respondents who do not choose to utilise remote learning tools full-time, rather part-time or traditional learning methods. Online collaboration platforms such as Moodle and Microsoft Teams has been strengthened by increased communication between lecturers and students during the roll out of the remote learning to curb the spread of COVID-19 pandemic.

7. Limitations

There are limitations to this study which only tells the story of the undergraduate students and did not include postgraduate students. This study cannot assume that the findings can be generalised to other education programmes globally. Further studies are needed to compare with other students in different university to gauge the impact of COVID-19 pandemic on students to collaborate and engage in their studies in order to be competent as the 21st century learners.

8. Conclusion

Research findings indicate that online collaboration with the aid of various remote learning tools during COVID-19 is well established to respondents and has an impact on the deep learning and academic success of students. This study has a profound finding that students were able to collaborate and engage during the remote learning session. The success of the students’ academic achievement during the COVID-19 pandemics were largely attributed to the ability of the university lecturer to transform their teaching from traditional lectures to a more engage and empowering students using the remote learning tools as many of the educators may have already been exposed to the 21st Century Learning Design.

The outbreak of COVID-19 have spread across the world, transforming many economies as well as education. Closures of schools and universities started in Asia and around European countries. The conventional delivery of teaching shifted into remote teaching which proves that educators are able to transform their style of teaching acquitted with the 21st century learning design.

The Industry Revolution 4.0 (IR.4.0) presents a significant impact on study and lifestyle of most people in Malaysia especially that have also impacted the teaching and learning. University must be adapting to advance technology such as VR (virtual reality), Internet of Things (IoT), cloud computing, data analytics, artificial intelligence and machine learning will bear changes through physical, digital and biological aspects in higher education. The higher learning institutions will need to go through with these three aspects of transformation as its need to be relevant and quickly acquainted to serve their new students demand as well as preparing them to become future leaders to work in the IR.4.0 industry and future digital workplacesby embracing the elements in the new leadership model called “Leadership 4.0” highlighted in this study.
Appreciation

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