



No Social Distancing: Challenges and Collaboration in the Use of Computer- Mediated Learning (CML) Experienced by Selected Students in the Master of Education in English as Second Language Course during the Time of the Coronavirus

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Abstract

The COVID-19 pandemic forced higher learning institutions to shift to the remote mode paving the way for computer-mediated learning (CML), a new yet familiar method of engagement between the teacher and the students. The main purpose of this study is to discuss the challenges experienced and the manner of peer collaboration as students maximized the teaching and learning process in such a setup. The study is descriptive-qualitative by design. It involves a thematic analysis of the corpus collected from selected participants who shared their experiences on CML. The respondents of this study were enrolled in the Master of Education in English as a Second Language (M.Ed.-ESL) course. Before distributing the questions, the researcher explained the features of CML. She, then, proceeded to secure their consent. After which, she coded and extracted the sub-themes and themes. These were collated, categorized in a matrix, and validated. Verbatim statements to support the results were provided. Results showed the themes on challenges are internet connectivity, online tools and gadgets, motivation, emotional and mental health, limited interaction, environmental distractions, physical wellness, time management, and access to learning resources. Themes on collaboration showed that the participants work and interact through online applications and tools, adjust to peers' schedules, and provide mutual peer support. The results also showed challenges even while they were collaborating such as on internet connectivity, unfamiliar form of class participation, untimely feedback, among others. This study furnished valuable insights in overcoming the difficulties that students encounter in CML especially on the affective aspect of the CML. This should improve collaboration between the mentors and the students, and among the students themselves, which could be beneficial in adapting to this new setup. An audit of CML tools describing how to navigate CML could assist the teachers and students to overcome the challenges, especially on collaboration, and banish a sense of isolation that is posed by this mode of learning.

Keywords

remote learning, computer-mediated learning, challenges, collaboration

Introduction

The Coronavirus pandemic that started to wreak havoc in March 2020 forced the world to an unexpected halt. Quarantine protocols that called to isolate the infected and the order on social or physical distancing of the general population were put in place to mitigate the further spread of the virus (WHO, 2020). Not only did these protocols affect the work-life environment of millions, but they severely created a gap in the learning experiences of higher education students when universities and other educational institutions closed their doors to their students.

The sudden and unexpected shift of the higher education institutions to remote learning modality where CML, a new albeit already familiar way in the teaching and learning experience, set in motion the use of various tools and strategies to ensure the continuity of the learning process (Grand, et al, 2021). Synchronous and asynchronous modes adapted the formats of online messaging and video applications, and the learning management system (LMS) provided the venue for the teachers and the learners to communicate and exchange work and ideas without the usual, more familiar face-to-face setup. In this remote mode, students uploaded and accessed the tasks and course requirements to the LMS during their free time. Teachers posted learning materials and resources during an asynchronous session. The synchronous mode involved the use of the Zoom application, with the simultaneous chatting on Facebook messaging, while holding virtual classes.

However, the realities in the Philippines upended the lives of both the teachers and the learners. For one, internet connectivity, an element highly associated with CML, posed a difficult challenge to those whose locations had zero or no access. Jopillo (2020) summarized the woes of students from leading universities in the country as having difficulties with internet connectivity and for teachers with maintaining the harmony between the office and home life. Caught unaware of the technological requirements of the CML modality due to obsolete and defective gadgets and programs that need to cope with the demands of online learning, both the teachers and the students suffered during the sudden shift.

In an article discussing the reactions of schools in the United States after the surge of COVID-19 projected a situation where teachers improvised to shift to CML (Malkus, Christensen, & Schurz, 2020), and it described the equivalent condition in the Philippines, with 2,400 colleges and universities, according to the data from the Commission on Higher Education, that similarly took the teachers by surprise. "The sudden shift to distance learning has had teachers scrambling for urgent solutions to efficiently and effectively teach their students, who are also grappling with the changes," a statement that came from a report in the Manila Standard Lifestyle (2020) which branded the sharp change as demanding and confusing.

Moreover, the changes in the learning environment in the country turned into more virtual than ever. On the ground, the realities of a device and internet-dependent mechanism gave rise to numerous challenges. Among which are poor internet connectivity, outdated gadgets, lack of digital literacy of the teachers and the students,

the added costs of data, to name a few. [Goertler](#) also (2009) identified some of the challenges as lacking computer literacy, access to internet connectivity, and availability of gadgets, including threats to privacy and security. Additional challenges discussed in the study included conflicts in the schedule but not so much on language gap and time difference (when applied within the Philippine setting). While privacy and security are some of the issues in a virtual setup, educational institutions install measures to protect the intellectual property and data of those who are involved.

Gelera, et al (2021), in a study posted online, identified the challenges of online learning among university students. Some of these difficulties refer to access to technology and online resources, financial difficulties, family responsibilities, and study environments. Another study on the challenges faced by learners during the COVID-19 pandemic conducted by [Barrot, et al](#) (2021) discussed issues on "self-regulation"; "technological literacy and competence"; "student isolation"; "technological sufficiency"; "technological complexity"; "learning resources"; and "learning environment". Meanwhile, [Daly](#) (2021) indicated that the higher education learners in Africa suffered from inaccessible and expensive internet, outdated structures that do not support distance learning, lack of support from various organizations, and the students' inability to pursue their studies.

On the manners of collaboration, several studies reinforce online learning as an instrument that may bridge the learning gap at this time. [Walnfan & Davis](#) (2004) suggested some strategies in maximizing this tool such as letting the learners establish comfortable interaction after they know one another; assigning a facilitator or coordinator to instill a semblance of organization and order; providing access to gadgets, devices, and applications; allowing them to openly discuss and share their ideas and outputs; following-up their participation status or checking-up on them if they become quiet; and resolving any conflict or misunderstanding like in the usual, traditional classroom setting. Undoubtedly, these strategies could counteract the downside of online learning like diminished attention and participation, and "deindividuation" ([Walnfan & Davis](#), 2004). Apart from diminished participation and "deindividuation", the authors further claimed this virtual mode may have other negative effects compared to face-to-face mode, such as constraints on socialization and personalized interaction. These factors may hinder their ability to have rapport with their peers and decrease the quality of their interaction.

However, [Warschauer](#) (1997) added more positive features of online communication that contribute to its reputation as a beneficial tool to foster collaboration. Since this form of communication is mediated, it follows that text messages are used. Although these days audio and video conferencing are part of the mediated communication, still the process predominantly includes text-based exchanges between groups of people who are located in areas where they can access the internet in expansive stretches made possible by its "hypermedia" feature.

From the studies mentioned, it is imperative to determine the CML experiences of the Master of Education graduate students enrolled under the English as Second Language (ESL) program during the 1st Trimester of the AY 2020-2021. This study would like to

discuss the challenges they faced and how they managed to collaborate with their peers. These two objectives pertain to the ability of the participants to reflect on their own experiences and to learn from them. The significance of this reflective thinking and learning as part of the constructivist process is supported by Gibbs (1988) who states that “is not sufficient simply to have the experience to learn. Without reflecting upon this experience, it may quickly be forgotten, or its learning potential lost. It is from the feelings and thoughts emerging from this reflection that generalizations or concepts can be generated. And it is generalizations that allow new situations to be tackled effectively.”

This research paper may benefit, firstly, the students who needed to adjust and adapt to sudden changes in their educational setting, requiring them to cope with the demands of their work, family life and studies so that they can thrive in a challenging environment. Secondly, teachers could also prepare themselves in designing collaborative tasks that could lessen the impact of a sudden shift to remote mode and to mitigate the challenges that could make teaching more challenging. In addition, the teachers could become adept at using computer technology to engage their learners in either synchronous or asynchronous mode. Lastly, for future researchers, the benefits of CML could be researched further by including more participants and a wider use of CML tools to determine their effectiveness in fostering collaboration and interaction among teachers and learners, and among learners themselves.

The objectives of the study may be supported by the theories on experiential learning theory (ELT) and computer-mediated communication theory (CMCT). ELT is a combination of the concepts from various thinkers on human learning and development, particularly John Dewey, Paulo Freire, among others, to develop a framework that considers the holistic approach in learning. This learning approach for adult education includes cognition, feeling, reflecting, thinking, and acting. The proponents, apart from Dewey and Freire, like Kurt Lewin, Jean Piaget, William James, Carl Jung, and Carl Rogers outlined six principles in describing ELT. The first of which considers learning as a process instead of an outcome, highlighting the value of giving feedback to learners regarding their performance. Another element gives importance to relearning prior ideas and beliefs as this process establishes clear avenue to evaluate them and integrate new and better learning. Then, there is the idea that learning needs to resolve disagreements, conflicts, and differences because this allows the learners to reflect. One other principle views learning as an integrated and holistic process that includes the totality of the person- mind, heart, and action. Still important to note in ELT is the adaptation of the learner in the environment where the dynamics of change and new learning take on an infinite cycle, allowing the learner to develop new and better ideas and experiences. Lastly, learning signifies a creation of new abilities and insights. This principle connects with constructivism as a social theory where learning is constructed in conjunction with “social knowledge that is created and recreated in the personal knowledge of the learner” (p. 194). Considered as the opposite of ‘transmission model’, constructivism allows the learner to gain contextual knowledge and understanding in collaboration with other learners as they undergo the process of reflective thinking (Kolb & Kolb, 2005).

The theoretical foundation of CML, computer-mediated communication (CMC), has come to be associated with self-regulation and independent learning while continually collaborating with their peers using the tools of communication and learning. From here on, CML would be used and considered as the offshoot of the general concept of CMC where the focus is on the use of gadgets and devices such as a desktop, a laptop, or a mobile phone as tools in engaging and collaborating with peers to perform academic tasks.

Walther (1996) emphasized the connection between constructivism and CMC in his Social Information Processing Theory (SIPT). As far as education as a social practice is concerned, students and mentors can benefit from shifting to remote learning during these times. Maximizing verbal and non-verbal cues in the CMC could establish interpersonal relationships between and among learners and mentors. Furthermore, the shift from face-to-face to screen (computer-mediated communication including gadgets like mobile phones and tablets), although it lacked the usual connection between mentors and learners, could facilitate learning by following the practice of effectively using adaptive behaviors that enhance communication other than the language of text messaging features of the medium. It, in turn, could build collaborative relationships in the long term (Walther, 2004).

Walther (1996) described CMC as a form of online communication involving synchronous and asynchronous processes by exchanging text or chat messages through a computer. He emphasized that these mediated means have widened the breadth and depth of connection between and among people, somehow unthinkable in a face-to-face setting.

In emphasizing the importance of CMC, Grooms (2003) considered the mediated environment as a medium of learning as it provides significant space for collaboration among higher education learners when they contact each other and share ideas through a text-based medium. The asynchronous form enriches learners as they become independent and self-regulated while the teachers act as guides. Crystal (2001), cited in Catalan (2010), agrees with the idea that CMC fosters social interaction due to its "fluid and seemingly talk-like spoken and written features, closing the gap and reducing social distance" (p. 2).

In language teaching, CMC paved the way for classrooms to enjoy flexibility and accessibility (Goertler, 2009). In a way, CMC could foster the communicative development of the learners through interactive tools and applications such as Facebook, Instagram, Zoom, among others providing opportunities to connect with others virtually. Interactivity and collaboration are the main features of CMC that sustain the language learning environment (Goertler, 2009). Furthermore, the same study provided CMC tools that could maximize the virtual learning experience, and these are in the form of the course or learning management system, chat or instant messaging/texting, discussion forum, E-mail, blog, Wiki, social networking sites, and virtual reality site. She emphasized that these tools benefit teachers in terms of efficiently delivering lessons and learning materials to students who, in turn, actively engage in various activities that could foster language development (Ducate & Arnold, 2006).

Furthermore, [Grooms](#) (2003) emphasized that the enthusiasm of mature students, "the knowledge explosion, and the ubiquitous nature of CMC allow institutions of higher education to undergo a shift from the more traditional face-to-face delivery mode to online course delivery" (p. 2). Through CMC, learners acquire computer literacy, a much-needed skill in an online or virtual setting ([Barette](#), 2001).

Collaboration thru CMC is possible according to several studies as emphasized in Vygotsky's view on collaborative learning involving mentors and learners assisting each other in the zone of proximal development in which learning with peers requires linguistic tools to engage in "text-mediational" activities. This idea highlighted each person's unique experience in a speech community where learning is motivated by constant interaction and exchanging ideas ([Warschauer](#), 1997).

[Walnfan & Davis](#) (2004) described the members' relationships as having constant communication and interaction in forming commitment and cohesiveness like in face-to-face settings. It could be achievable if participants had an initial introduction session (a phone call) that allowed for the disclosure of personal information. This process would, then, assist in the effective collaboration and rapport among members of the team. Another factor that would accommodate cooperative and committed groups would be to inform them of their long-term engagement.

The nature of mediated communication and the use of filtered computer screens seemingly hinders the educative process. There are apprehensions that CML would not foster collaboration between and among the mentor and the learners. Hence, the need to integrate collaborative tasks with the learning experiences of students became important. Students need to balance their responsibilities at their work, in their homes, and in their studies. These collaborative strategies are supposed to lessen the sense of isolation that the students feel as they continue to coordinate and work with their peers on their academic tasks.

More importantly, the collaborative groups' success thru CMC would largely depend on the frequency of interaction, transparency in sending and receiving messages that include all members, consistent completion of outputs, openness in asking and answering queries, agreements, and expectations, the observance of prompt or early submission of work ([Walnfan & Davis](#), 2004).

Method

The study is descriptive-qualitative by design. It involved a thematic analysis of the corpus collected from selected participants who shared their experiences on computer-mediated learning (CML).

As the teacher in that graduate course under the Master of Education - English as Second Language program during the 1st trimester of the AY 2020-2021, she wanted to determine the CML experiences of the students since she knew that it was an adjustment period and saw that her students were struggling. She understood that CML was new to them, including herself, as it lacked the face-to-face elements, and they resorted to a

sudden shift to remote learning that included good internet connectivity and an upgraded laptop to cope with the hardware and software requirements.

At the time of the investigation, the researcher informed the class that she was conducting a study on computer-mediated learning (CML) because she noticed the overwhelming class preparations, webinars, and pieces of training to capacitate teachers for remote teaching. From this experience, she reflected on the situation of her students, who were teaching and studying simultaneously. In their initial discussion of the topic, the students shared that they faced difficulties with internet connectivity and in balancing their roles as teachers, students, parents, spouses, among others. They also indicated that they were not used to studying on their own, referring to the classroom setup that they normally did. So, when the researcher asked them to participate in this study, they agreed. The researcher prepared the informed consent form stating the objectives of the investigation with the assurance that their responses were for purposes of research and their identities would remain confidential. Thirteen participants answered the open-ended questions and sent their answers to the researcher via email.

The researcher initially asked her students to answer several questions on the advantages and disadvantages of CML, the manner of cooperation and collaboration, and the challenges they faced. During the extrication of codes and sub-themes, the researcher noticed that the responses merely repeated themselves. Instead, she decided to focus on the challenges and the manner of collaboration because she believed these were the most relevant issues in this study.

The corpus gathered from the participants was organized into a matrix. The researcher culled the significant statements from the responses of the participants, then she identified the sub-themes. From the sub-themes, she proceeded to classify the themes. After which, she extracted verbatim from the actual responses of the participants. These were used as examples in the discussion of results. The researcher used the cutting and sorting technique practiced by many qualitative researchers. Two assigned validators evaluated the data to assess the accuracy of the process and the extraction of the themes. Appropriate correction was, then, made according to their suggestions.

Results

Themes on Challenges

The discussion below shows the challenges and the corresponding verbatim responses.

Theme 1: Internet connectivity

Intermittent or non-existent internet connectivity was one of the major issues encountered by the participants in CML. One of the effects of such a problem was the missed discussion, especially during synchronous sessions. A participant had this to say:

I usually encounter internet connection problems. I worry if I missed the discussion (ChDS-1)

Another effect of having intermittent or zero internet connectivity was the inability of the participant to finish or join the class as stated below:

Sometimes, we don't get to have the full 4-hour session due to internet issues or app issues [ChDS-4]

Sometimes, I couldn't join due to my poor connection [ChDS-6]

Moreover, we can see the gaps or the inequalities that the participants experienced in their remote classes. One of them mentioned the lack of load or data allowance to connect to the internet.

Insufficient load/data allowance [ChDS-11]

The location also spelled a big difference when it came to internet accessibility wherein those who live outside the city experience this unstable or slow internet connectivity as exemplified by one participant who said:

Unstable internet connection: this is the topmost problem that I have encountered for a reason that the place where I lived has a slow connection to the internet (ChDS-13)

To further explain how location affected internet connectivity, one participant expressed:

I need to go to our town, which is 15-30 minutes' travel from our barangay every Saturday to minimize the risk of trouble in the connection (ChDS-14).

Other participants voiced out their frustrations when they said that intermittent internet connectivity negatively affects learning as it disturbs the discussion, and sometimes, the Zoom meetings:

Unstable internet connectivity hampers learning (ChDS-20)

Discussions can be very choppy due to poor internet connectivity. (ChDS-24)

There was also a time when we couldn't have our Zoom meetings. (ChDS-25)

These situations are generally familiar since Zoom connectivity and the quality of discussion and learning depend so much on stable internet connectivity. Other participants also lamented that they could not actively join the online classes:

This is the number one problem I know everyone is facing. Having an internet connection is not a guarantee that everyone can actively join the online classes (ChDS-32).

They also could not interact and participate as one participant wrote:

Less interaction- it is difficult to interact because one has to wait for the other to finish talking and sometimes, the internet connectivity delays the interaction and, in some cases, be the reason why others chose to listen than to interact. (ChDS-38)

Significantly, the internet service provider and the weather also came into the picture as they affected the quality of connectivity and interaction shown in the following verbatim responses, like intermittent drops:

Our current service provider suffers from intermittent drops in the quality of their connections. I will need to switch from the WiFi to data (assuming I have any) just to stay engaged during a Zoom class. (ChDS-52)

It made asking questions problematic, like what one participant expressed:

I find it difficult to ask questions due to the intermittent drops in network quality (ChDS-54).

One participant commented that the service provider and WIFI connectivity are unstable during inclement weather:

CONNECTIVITY OR POWER INTERRUPTIONS. Both are unstable especially when a typhoon is about to hit the place because it can cause delays during discussions. (ChDS-57)

Likewise, the problem with the bandwidth made access to videos and presentations almost impossible:

Heavy bandwidth- presentations of videos and PowerPoints sometimes require heavy bandwidth (ChDS-39).

Theme 2: Online tools and gadgets

Another theme in CML would be on online tools and gadgets. Here, online tools mean web-based applications, while gadgets/devices refer to cellphones, laptops, tablets, desktops that the participants used in accomplishing their tasks. The problems discussed here point to the lack of literacy or skills in navigating the web and the defective and outdated gadgets. Lack of skills in using the said gadgets was one of the factors in the participants' inability to use these gadgets. Another was on defective memory that turned off the mobile phone.

On this issue, one of the participants noted that the mobile phone shuts down due to low memory:

I only used my mobile phone, because of too many files in my storage; my phone gets lag and would shut down all of a sudden (ChDS-2)

Some would have difficulty in accessing applications and tools due to low-quality gadgets as well as disruptions due to lagging, updating, or heating:

We need to have quality laptops or phones that can access all the applications that we need for online classes (ChDS-34)

It also happens when my laptop suddenly lags, processes an update in the middle of a session, and turns off as a result of heat or having too much to process simultaneously (ChDS-56)

However, one participant understood the nature of the problem and found a way to troubleshoot it:

My netbook does not have enough space and lags whenever its screen is open for hours. I need to transfer files from time to time to avoid crashing applications (ChDS-61).

Worthy to note here is the inadequate technical skills that affected class participation as some participants felt left out due to the inability to access information:

Tendency to be left out this happened at the beginning of the trimester for a reason that I am not that techy in using the different platforms, as well as I, cannot retrieve the information as much as I want, that is (ChDS-19).

There was confusion in dealing with applications, delay in interaction due to lack of technical skills, and the inability to join activities due to technical issues:

Different applications sometimes gave us confusion maybe because we are not that tech-savvy (ChDS-22)

Technical difficulties- not all have the skills in navigating the computer; thus, delays in presentations and instructions occur (ChDS40)

This happens sometimes that I can't join some activities prepared by my classmates because the passwords won't work, or I am directed to another website (ChDS-44)

Theme 3: Motivation

A deteriorating motivation level is also one of the issues faced in CML. One of the participants mentioned a problem with the gadget and the internet:

Motivation gets lower and lower every time encounter issues with your phone and internet, lose hope of passing this course [ChDS-3]).

Perhaps, this also happened at some point since there are numerous works to be submitted on deadlines:

The level of my motivation is also deteriorating at some point (ChDS-17)

MOTIVATION. I would lose this whenever there are a lot of deadlines (ChDS-58)

Theme 4: Emotional and mental health

Of the many challenges experienced by participants, the emotional and mental issues could be sensitive subject matters. They dealt with the feelings and state of mind of the participants during these stressful and uncertain times. One of the participants expressed this:

Mental health is now being at risk as well (ChDS-27)

These emotions may be classified as sadness, disconnection from class, and anxiety due to a sense of disconnection from others:

So, I feel sad and at the same time I feel not connected in the class (ChDS-7)

Having anxiety attacks (ChDS-12)

Being disconnected from the online classes from time to time brings stress and anxiety to everyone (ChDS-33)

Overwhelming feelings caused by workload and requirements; uneasiness due to deadlines, a sense of isolation, and frustration were also identified:

Unusual workload/ requirements- unlike in the regular class, the number of requirements in the CML setting is quite overwhelming (ChDS-18)

Deadlines made us a little bit uneasy (ChDS-22)

Isolation during this time of pandemic is true to most of us (ChDS-23)

In our other class, we had classes during the weekdays. Most of the time I felt so frustrated with the schedule as I also want to attend but because of work I could not (ChDS-29)

Other emotions were also highlighted, like a combination of being stressed out and panicked as well as questioning one's patience, confidence, and motivation to continue graduate studies at this time:

This pandemic caused everyone to panic and be stressed out by a lot of things from our health concerns to work and of course education (ChDS-37)

COVID-19 puts our patience, confidence, and motivation in question, like do we need to finish our studies right now or pause for a while? (ChDS-45)

Theme 5: Limited interaction

One of the problems was limited interaction between and among mentors and students in the CML setting. Aside from internet connectivity, there was also the issue on applications that shortened the usual four-hour class:

Sometimes, we don't get to have the full 4-hour session due to internet issues or app issues. Consequently, this gives us a very limited time for class discussions (ChDS-5)

It also resulted in less social interaction by using application that limited meaningful interaction, unlike in the face-to-face collaboration:

There is less interaction as we can only communicate through an application. Meaningful learnings always happen when we collaborate in a physical face-to-face interaction (ChDS-28).

Theme 6: Environmental distractions

Distractions also formed part of the CML challenges. First, there was the issue of absentmindedness or distracted behavior due to social media and external noise from karaoke singing and power tools, to name a few:

Pre-occupied/Conflict of other things and Distractions (social media, noise from the neighborhood) (ChDS-9)

I would be fortunate if the place where I am attending a virtual class is free from drunken karaoke ballads, the sound of power tools, and other disruptive noise (ChDS-55)

Then, there was inattentiveness and less interaction due to a sense of comfortability in the home setting which also created the temptation to doze off:

Losing attention and focus- I became too comfortable sometimes that my attention to the discussion given was minimal. Since the class was done in my comfort, I tend to be less interactive with the class (ChDS-16)

The temptation to doze off (ChDS-48)

Significantly, websites also distracted a participant and consumed most of his/her time even though he/she was online most of the time:

Using the internet creates too many distractions. I'm quite guilty of this at times. It's an avenue to too many websites that are consuming most of our time (ChDS-46)

Theme 7: Physical wellbeing

CML also caused issues on the physical well-being of the participants. These are in the form of headaches caused by prolonged screen exposure that could also inflict eye strain and fatigue, and other unfavorable effects:

I am experiencing headaches as well as eyestrain due to overexposure to radiation emitted by the gadgets used (ChDS-15)

Because of the long screen time, eye strain and fatigue are now becoming usual problems (ChDS-26)

Facing these gadgets or tools for a long period could bring negative effects to one's eyes (ChDS-36)

Other health problems included exposure to radiation that caused mental fatigue as well as back pain due to the quality of one's chair:

Health concerns- too much radiation exposure isn't good. In most cases, the human brain gets tired easily and cannot function well if radiation consumes all the energy (ChDS-41)

Not ergonomic (backpain, eyestrain) (ChDS-49)

The said health problems could incur additional expenses when one decides to visit a medical professional due to eye strain and headaches:

I need to consult my doctor because I think that my eye grade has increased because of too much exposure to the computer. Also, from time to time I am experiencing frequent headaches (ChDS-59)

Theme 8: Time management

The next theme discussed in this study is time management. Here, participants expressed difficulty in balancing work and studies:

It is hard to balance our time in working and studying but I believe that as we move forward and continue with these online classes we could eventually adjust to the demands of the "New Normal." (ChDS-35)

However, students should be aware that they need to adapt to the situation, as expressed by one of the participants, and balance their studies and work responsibilities no matter how demanding their job is:

Many of us are attending graduate school have jobs that we find it difficult to juggle things up at this time, yet we need to adapt to survive (ChDS-43)

Juggling academic and professional responsibilities (ChDS-51)

Due to the increasing demands of my job (which starts from 9 PM to 6 AM) and my work as a freelance writer, I found it difficult to keep track of lessons and classwork. Despite the flexibility, I find little time for doing my outputs (ChDS-53)

This challenge in managing their time between course requirements and work or home, in turn, resulted in the delayed submission of their weekly outputs:

I just have a hard time passing on time because of other responsibilities at home (ChDS-60)

Theme 9: Access to learning resources

When it comes to accessing learning resources, participants shared that they had difficulty using the library resources. They also found online resources unreliable:

Because we cannot go to school, we were not able to use the materials in the library (ChDS-30)

I would want to make use of these sources as I feel that these are more reliable compared to the online sources (ChDS-31)

Themes on Collaboration

The second objective discusses the manner of collaboration applied by the participants, although they also shared the challenges experienced in collaborating with their peers and their mentor. The discussions below show the themes on collaboration applied by the participants in CML.

Theme 1: Online applications and tools

For many of the participants, collaboration in CML entails the use of online applications and tools, especially in planning to accomplish the tasks and presentations. Zoom and

chat or messenger applications could be used to achieve the goal of teaching and learning experiences:

We have tried using 'zoom breakouts' or even tried to make our group chats for a specific group to decide about the tasks (CoDS-1)

...learning should not be a hindrance to this pandemic, though most of us are not accurate in using the different applications on the web, yet we have no choice but to learn, our eagerness to learn paved our way to experiment with this new normal (CoDS-8)

For them, collaboration on CML became effortless with the use of online platforms during class time as it also paved the way for bridging learning between the teacher and the learners, and among their peers:

When it comes to online discussions, thanks to the different online platforms that we are using that collaborating is still possible (CoDS-14)

More than that, I appreciate CML in bridging learning, plus factor is that our instructors are very considerate to us. We are very thankful for making this trimester full of learning (CoDS-10)

Participants described the online tools or applications that were used when they collaborated. One of them identified Quizziz, among the many, as it made the discussions and activities more fun:

Actually, for me, it is more fun collaborating with my classmates using CML because of the various online platforms available that could be utilized in making the discussions and activities fun. I am especially having fun answering the Quiziz (sic) activities at the end of the lessons (CoDS-15)

Another one is Zoom, an accessible tool that made collaboration easier:

With the availability of Zoom web conferencing, a virtual face-to-face meeting is readily accessible to all. As a result, collaboration is much easier as communicating is efficient through the app (CoDS-16)

Facebook messenger was also considered as one of the useful tools because it provided a much faster collaboration through updates:

It was also faster to update each other in the group through Facebook Messenger (CoDS-17)

Moreover, the said online tools enabled interaction and collaboration, sharing of materials, and simulating of presentation by having full access to the video conferencing application:

The apps and softwares aid a lot in making the class interactive and collaborative (CoDS-23)

In addition to that, materials were easily shared because all of them were made online (CoDS-18)

We also had a simulation of our presentation as we have full access to the video conferencing app. Collaboration has never been easier and more efficient (CoDS-19)

Theme 2: Adjusting to peers' schedules

Another manner of collaboration that the participants adopted was their continued cooperation in exchanging ideas by freeing their schedule:

In my experience, each member is cooperative and trying their best to be available at the scheduled time or meeting (CoDS-2)

When the team was not complete, they continued collaborating by exchanging ideas at separate times:

However, there are times we could not meet due to prior commitments. The team is not complete but still exchanging ideas and still, collaboration is being practiced (CoDS-3)

As time was limited due to their work, the participants also shared that collaboration was done during the available time of peers on weekdays before working on assigned tasks:

...and we should also take into consideration the available time of my classmates during weekdays to work on the group tasks assigned or topics for presentation assigned to us (CoDS-12)

Significantly, once they entered into a routine of knowing their peers' schedule, they found it easier to collaborate and discuss the topics:

As time goes by, everything gets easier because we already have an idea of the available time of our classmates during weekdays so we can talk about our topics with ease (CoDS-13)

Theme 3: Lending mutual peer support

One of the manners of collaboration was through mutual peer support during challenging and difficult situations:

Class collaboration on this CML way is very challenging in the sense that it's frightening for me. Because there's a lot of what-ifs running on my mind (CoDS-4).

Another was through peer motivation to establish unity in class:

In regard to collaboration with my classmates, I am grateful because they are willing to understand any difficult situations, and everyone is helping each other to motivate and make sure that there's still unity within the class (CoDS-5).

Through this peer support, sharing, and participating in the tasks, their work became manageable:

I find collaboration and peer support evident in Computer-Mediated Learning. We tend to provide each other with moral support in finishing tasks and by sharing/participating in collaborative work, things become light (CoDS-21).

Moreover, the participants had no difficulty in collaboration because they accepted the different views and adjusted to deliver good outputs:

There are no difficulties because most of us are open to accepting different views and we manage to adjust with these things so that we can come up with good and meaningful outputs (CoDS-29).

Most importantly, they complemented their differences which they believed made their collaborative efforts successful:

We complement our differences which is why no chaos has been fostered during collaborative work (CoDS-30).

Theme 4: Challenges

While collaborating through CML, some participants voiced out the challenges they encountered. Some of these challenges viewed such setup as an unfamiliar form class participation that is entirely different from in-person or face-to-face mode:

Collaboration is somehow another struggle when using the CML unlike in the face-to-face setting where everybody is participating as long as they are present in the classroom (CoDS-6)

One of the responses clarified that unstable internet connectivity weakened collaboration and participation:

The disadvantage in using CML is that, if there is trouble in the connection, some of my classmates cannot participate in the activities prepared by the discussants and this for me weakens the value of collaboration (CoDS-7)

Another response stated that collaboration was possible but limited due to unstable internet connectivity:

The common issue which restricts collaborative activities to become effective is internet connectivity (CoDS-20)

This issue on unstable internet connectivity that affected collaboration in CML was, likewise, observed by other participants during fun collaborative work getting interrupted due to the limited participation in group activities:

Working collaboratively is fun until one of your classmates lost connection (CoDS-22)

...but the problem is not all of you can join since some have a poor internet connection. For example, if 6 of you are tasked to do a certain task, only half can do it because the other 3 have varied reasons (conflict schedule or poor connection) (CoDS-24)

Other participants stressed the idea that CML could affect immediate peer feedback during their collaborative tasks due to time constraints:

Ideas don't get refined or contested when you are talking with someone virtually compared to face-to-face interactions where instant feedback occurs (CoDS-26)

Other than that, there is also the issue of availability for brainstorming and group work. In my experience working with a partner, we had a few opportunities to collaborate, and these were only brief periods reiterating instructions (CoDS-27)

Their collaboration also suffered when other members of the class lacked engagement or the initiative to interact with their peers:

During breakout sessions, I have observed that someone should say first before everyone gets engaged. If no one will first speak, everyone is silent (CoDS-28)

Perhaps, the lack of engagement was due to the adjustment experienced by the participants in CML, which also included freeing their schedule and time for their peers whenever they were needed to prepare for class presentations or reports:

Collaborating with my classmates was not easy at first because everyone is still adjusting (CoDS-11)

For me, there is a little difficulty in collaborating with my classmates especially during pair reports, we need to adjust the time, schedule and be more considerate of the internet connectivity (CoDS-9)

Discussion

Results for CML challenges indicate that the participants emphasized the 1) need for stable internet connectivity, 2) high bandwidth, 3) updated gadgets, 4) the technical skills to navigate the online tools and applications, 5) ability to manage their time between work, family and studies, 6) access to online learning resources, and 7) ability to perform troubleshooting whenever their gadgets malfunction. These were deduced during the analysis of the themes as part of the participants' wishes to continue learning in a remote mode.

Significantly, a CML study by Gelera, et al (2021) also discussed that university students experienced issues like family duties, noisy surroundings, inability to access devices and resources, and accompanying expenses. These challenges make CML difficult. Similarly, [Goertler](#) (2009) identified challenges like conflicting schedules, security, privacy, computer literacy, access, and logistics.

[Jopillo](#) (2020) mentioned the difficulties experienced by university students in the country when education shifted to remote learning. These were internet connectivity, balancing between office and home, to name a few, as they were unprepared to shift due to outdated gadgets and programs. These were supported by [Barrot et al](#) (2021) when they claimed that "self-regulation"; "technological literacy and competence"; "student isolation"; "technological sufficiency"; "technological complexity"; "learning resources"; and "learning environment". "Self-regulation" emphasizes the ability of the students to learn on their own without the constant presence of the mentor. In a constructivist approach, the mentor becomes a facilitator of learning, no longer the sage on stage.

These studies underscored the common problems and difficulties experienced by learners when the COVID-19 pandemic forced educational institutions to adapt the

remote mode of learning. Except for [Barrot et al \(2021\)](#) who included “student isolation”, the rest of the studies focused mainly on the aspects of technical skills, financial woes, and conflicting schedules. However, deteriorating motivation level, challenges on emotional, mental, and physical wellbeing, limited interaction, and difficulty in collaboration were culled from the corpus, pointing to the possibility of conducting a subsequent research endeavor that will explore the affective aspects of CML. Such study could delve into effective strategies that may assist students in regulating their loneliness, sense of isolation, frustrations, physical pains, and motivation to finish their course.

These themes that focus on the physical, psycho-social, and emotional aspects of the learners did not appear much in the reviewed literature. Perhaps, this is because of the urgency in resolving the most obvious problems on internet connectivity and outdated gadgets that the other equally important concerns were neglected. Hence, this paper would like to highlight these results, understanding full well that learners, for them to be at their optimal selves, should be wary of eyestrains, loneliness, a sense of isolation, and lack of motivation to be able to continue their graduate studies. Without the needed awareness on the downside of CML, these difficulties could add much to the already challenging conditions that they experienced with intermittent or non-existent internet connectivity alone.

Moreover, the manner of collaboration in CML employed by the participants turned out to be through online applications and tools, adjustment in peers’ schedules, and through mutual peer support.

Results of the thematic analysis show that CMC, indeed, fosters collaboration and interaction due to its flexible and accessible features ([Goertler & Winkler, 2008](#); and [Konemer, 2008](#) cited in [Goertler, 2009](#)). This is supported by [Crystal’s \(2001, cited in Catalan, 2010\)](#) statement emphasizing “fluid” and “talk-like” system that relies heavily on text messaging albeit other tools like Zoom, Google Meet, to mention a few, are video-based.

[Grooms \(2003\)](#) emphasizes the role of mediated communication as a medium of learning signifying that this is used among higher education learners to communicate and collaborate with each other. In fact, [Lewis et al \(1999, cited in Grooms, 2003\)](#) wrote that this ushered in the advancement of teaching and learning in several educational institutions.

Interestingly, several CML studies identified the tools that make collaboration possible. [Arnold et al \(2009\)](#) enumerated them to include a course management system, chat or instant messaging, E-mail, etc. Similarly, [Goertler \(2009\)](#) emphasized that these tools such as Facebook, Instagram, and Zoom allowed learners to collaborate and interact. [Walnfan & Davis \(2004\)](#) also indicated that mediated communication should solicit commitment to share, and constant communication should be established for the learners to succeed.

The results of this initial investigation suggest that the affective forms of CML should be considered more in the subsequent study that the researcher wishes to conduct. These issues should focus on enhancing collaboration such as, but not limited to, 1) use and mastery of online applications and tools for communication and motivational activities, 2) flexible schedules throughout the week for individual and group “consultations” or meet-up to chat informally, 3) familiarization of gadgets and devices to maximize their functions, and 4) enhancing collaboration by using class strategies or methods that require students to share and discuss as a group, which could pave the way for an improved delivery of lessons that is inclusive and engaging, and to help the learners cope with their studies without the dreaded sense of isolation and loneliness.

Indeed, the themes on collaboration point to the fact that online applications and tools are the media through which teachers and learners could communicate remotely. As well, these are the only means by which the participants could continuously communicate and collaborate in a CML setup as they learn to adjust to their peers’ schedules, proving that CML could provide a venue for them to discuss and prepare their tasks. This mutual peer support contributed much to the success of their collaboration.

With regard to the challenges in collaborating, the participants know that internet connectivity would still be one of the factors for discontinuance or interruption in their group efforts to finish their tasks. Another would be their conflicting schedules. However, all these challenges are remedied by the participants’ willingness to adjust and cope with the setbacks.

Conclusion

The study aimed to discuss the challenges experienced by the participants in CML and the manner of collaboration that they adapted to interact and work with each other during the remote setting. Themes on challenges and collaboration were identified and discussed. Subthemes were also included in the discussion to furnish the readers with the factors and effects of using CML during this pandemic.

Although computer-mediated communication and learning has always been here, the sudden shift caught everyone unaware and unprepared. For one, internet connectivity was required to connect to the synchronous classes held during the first few semesters of its implementation, whereas the asynchronous mode, though it was not online, still needed internet connectivity to access the learning materials uploaded to the learning management of the university. Students faced challenges that included outdated gadgets and devices, not to mention, deteriorating motivation level, emotional and mental health issues, limited interaction that led them to feel isolated, distractions from the neighborhood noise and the web, issues on their physical wellbeing like eyestrain, inability to manage their time, and problems in accessing learning resources were also identified.

From the results of the thematic analysis, it could be discerned that CML played up the need of the educational institutions to invest in a high-quality internet facility to resolve issues on participation, access, and collaboration. It also highlighted the importance of

quality gadgets that could meet the demands of the various tasks when learners engage in synchronous and asynchronous modes. In areas of collaboration, a well-designed learning material such as a syllabus or a lesson plan that could include learning activities allowing learners to interact with one another could foster that sense of cooperation in the group. It could help them divide the tasks and lessen the impact of isolation felt during asynchronous sessions.

Furthermore, to maximize CML, teachers could include flexible and inclusive learning materials and activities with the idea of formulating a feedback mechanism for students to facilitate self and peer observations. In addition, developing the computer literacy and skills of the teachers and students at the start of every term or academic year would equip them the knowledge in troubleshooting technical issues.

Moreover, there is a need to treat social media as part of the students' learning and group interaction as they maintain connection and collaboration to nurture friendships. Since CML could establish interaction and learning during this remote setting, teachers could devise strategies and methods that would allow students to constantly contact and work with each other. Since the value of collaboration was acknowledged to be important during these times, it would be commendable to allow students to learn and regulate their learning with the help of their peers.

For collaboration to thrive, students could maximize the tools and applications that are available online. They could also adjust to their schedules whenever one or two of them would miss a meeting due to time constraints. More importantly, the feeling of affinity and closeness should be fostered so that students would not feel lonely or isolated during the remote learning setup.

The acknowledgment of blended learning as the "new normal" in education should allow workshops and seminars to maximize the benefits of CML. These would provide the teachers and students the skills and mindset to effectively adapt to this new learning model.

As part of the output, the table below could guide those who wish to reap the benefits of CML, especially in building collaborative teams. It could also remedy mental health problems once they work together and communicate regularly.

In the table below, various CML tools are described and given their uses. For teachers and students who were caught unaware of the sudden shift to remote learning, this CML table could provide hints on their collaborative features. These may not resolve the issues of internet connectivity or outdated gadgets, but these could help the teacher, along with the learners, to successfully manage and implement collaboration through various learning activities and tasks.

Table 1. Comprehensive Audit of CML Tools [Adapted from [Goertler \(2009\)](#)]

Tool	Description	Use
Learning Management System (LMS)	A system protected by a code known only to its users used to manage an academic course	<ul style="list-style-type: none"> • Asynchronous • Repository of learning materials • Uploading of students' outputs • <u>Forum</u> used in exchanging of ideas and collaboration between mentor and learners, among peers
E-mail	Google Mail with the individual address assigned to the officially enrolled student	<ul style="list-style-type: none"> • Asynchronous • Sharing of learning materials • Submission of outputs • Communication tool
Zoom	An online application for video communications	<ul style="list-style-type: none"> • Synchronous • Virtual Lectures and presentations • For video communication that may enhance collaboration, particularly, in discussing projects and presentations
Facebook Messenger/ Other messaging and calling applications (Whatsapp, Viber)	Online messengers for video calling and text messaging	<ul style="list-style-type: none"> • Synchronous or Asynchronous • Class communication • With chat group features • For sharing of learning materials such as files, links, photos, etc • Alternative video conferencing between the teacher and the students, and among peers • For collaborative use due to its fluid feature on text messaging and video chatting between mentor and learners and among peers
Google Drive	An online file storage service	<ul style="list-style-type: none"> • Asynchronous • Sharing and storage of learning materials • For collaboration like for sharing completed

Tool	Description	Use
		projects or presentations between mentor and learners, and among peers
Online applications and software (Quizziz, Wheel of Names, Mentimeter, Slido, etc)	Online applications that aid in creating quizzes, selection of names, motivational activities	<ul style="list-style-type: none"> • Synchronous • For activities that require a quick response mechanism • For motivational activities
Google Sheet	An online spreadsheet	<ul style="list-style-type: none"> • Synchronous or Asynchronous • For creating the class list, attendance, grade sheet • For collaboration particularly on shortlists and statements between mentor and learners, and among peers
YouTube	A website for video sharing	<ul style="list-style-type: none"> • Asynchronous • For uploading of videos used for lecture and presentation • For creating a source of educational videos
Photo and Video Editing Applications (iMovie, Quik app, etc)	Online applications used to edit videos and photos	<ul style="list-style-type: none"> • Asynchronous • For creating lectures/presentations • For editing videos and photos
Powerpoint	A program used for creating presentations	<ul style="list-style-type: none"> • Asynchronous • For preparing class presentations
Word	A program used for creating documents	<ul style="list-style-type: none"> • Asynchronous • For writing tasks such as essays, research
Websites/Online sources Virtual Library (JStor, Research Gate, etc)	Websites that contain a collection of books, journals, and other educational learning references	<ul style="list-style-type: none"> • Asynchronous • For researching reference materials

In the table, the tools and applications that show collaboration potentials, most often, require internet connectivity. Although this poses a problem due to the poor internet and low bandwidth in some parts of the province or the country, teachers and learners could choose to utilize those tools that could also function in an asynchronous mode. Careful planning of learning activities and tasks should be considered to overcome the challenges in collaboration. For now, the university LMS could be the ideal tool of teaching and learning engagement between and among teachers and students.

Structured like an online classroom, it could maximize FORUM, a chat feature that could facilitate both synchronous and asynchronous communication. This could replace what face-to-face interaction do in terms of sharing and discussing of ideas. Importantly, the FORUM could facilitate self-regulation in planning the content of one's message or contribution before it is posted for the class to read and react on.

Walnfan & Davis (2004) suggested ways to tap into CML collaboration. These come in familiar strategies such as 1) giving opportunity for students to know one another at the beginning of class; 2) assigning a facilitator or coordinator to the group to instill a semblance of accountability and leadership; 3) accessing learning resources, tools, and media possible to ensure students' utmost participation; 4) brainstorming and discussing ideas and tasks using either synchronous or asynchronous mode; 5) reporting of class participation to the teacher to provide the necessary intervention; and 6) resolving conflicts or misunderstanding if one arises.

For future research, those who are interested in conducting a similar study should include classroom methods, strategies and techniques that would provide opportunities to collaborate and interact. The Jigsaw Puzzle could be one of these methods. This, however, requires a separate study and discussion in the succeeding research undertaking.

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