

# Online Social Connectedness: A Grounded Theory

Edgermi G. Gingoyon  
Cebu Normal University  
[edgermi.gingoyon@shs-adc.edu.ph](mailto:edgermi.gingoyon@shs-adc.edu.ph)  
[main.21002334@cnu.edu.ph](mailto:main.21002334@cnu.edu.ph)  
[edgermi@gmail.com](mailto:edgermi@gmail.com)

Mark N. Abadiano, PhD  
Cebu Normal University  
[abadianom@cnu.edu.ph](mailto:abadianom@cnu.edu.ph)

## Abstract

This qualitative study aimed to conduct the social connectedness among students engaged in an online learning. The in-depth interviews of the participants exposed emergent themes and a central category on students' experiences on social connectedness. The generated theory from the data gathered and analyzed unveiled an in-depth understanding on the experiences of how online social connectedness is manifested. The theory generated can also be a basis of designing a lesson during the conduct of teaching-learning process in the online context that promotes connectedness among students.

**Keywords:** online social connectedness, online learning, grounded theory, online participation, online interaction, role awareness

## I. INTRODUCTION

Humans are profoundly social species. The need to connect has taken roots in the accounts of biology and evolutionary history such that it begins at birth, in the relationship with one's caregiver (berkeley.edu). As this is a core psychological need according to self-determination theory, it is essential to feeling satisfied with one's life. In the book titled "Social: Why Our Brains Are Wired to Connect" by Lieberman (2013), he mentioned that "the need to connect socially with others is as basic as our need for food, water, and shelter." Hence, at the base of the pyramid in Maslow's Hierarchy of Needs, they are the most important and the basis of a person's functioning. The need for social connection can be explained by the crown jewel and the most complex part of the human body, the brain. According to Lieberman (2013), there are three neural networks within the brain that promote social connection: one that involves the ability to feel social pain and pleasure; one that allows the person to read others' emotions and predict their behavior; and one that helps the person to absorb cultural beliefs and values, thereby linking the person to one's social groups.

In other words, the brains are wired for reaching out to and interacting with others.

The need to connect among students during the face to face set up is the same as the need to connect in an online environment. Whether a learning environment is face to face or online, students want to feel present (Dickers, Whiteside, & Lewis, 2012). As virtual schools are gaining popularity and utility, social connectedness in the online learning environment is heightened. Lee and Robins (1995) defined connectedness as "one's opinion of self in relation to other people" or the self-evaluation of "degree of closeness between the self and other people, the community, and society at large. Social connectedness is a phenomenon which describes the way individuals come closer and interact with each other and can be seen through relationships of people with others including their friends, family members and colleges (Sultan, Hussain, & Fatima, 2020). However, if students feel that there are missing familiar teacher immediacy and missing interpersonal interactions and social cues they more typically have when learning face to face, they feel a sense of social disconnectedness (Haefner, 2000; Menchaca & Bekele, 2008; Reistter & Boris, 2004 as cited by Tryon &

Bishop, 2009). Successful learning, according to social learning theorists, takes place in an environment where individuals can construct ideas, culture, histories, and meaning as the result of ongoing social interactions and collaborative functioning (Brown, Collins, & Duguid, 1989; Lave & Wagner, 1991 as cited Tryon & Bishop, 2009).

In the online learning, social connectedness may be a challenge as students and teachers “see” each other virtually. However, there are ways that social connectedness can be heightened and this can be done through the synchronous and asynchronous kinds of learning or a combination of both. As mentioned by Duncan, Kenworthy, and Mcnamara (2012), students’ participation can be measured in terms of their engagement with two types of online forums: 1) a synchronous forum (i.e. a chat room, scheduled during fixed time periods, within which the instructor and students simultaneously engage in text-based chat to discuss course-related content); and 2) an asynchronous forum (i.e. discussion boards accessible by the students and instructor 24 hours a day, seven days per week, where students and the instructor intermittently pose questions and comments to each other in ‘threads’ of related communications).

Social connectedness, according to different studies, has a great impact to the academic performance of students engaged in online learning. Roval (2002) and LaBarbera (2013) as cited by Diep, Zhu, Cocquyt, De Greef, and Vanwing (2019) supports this idea that social connectedness is recognized as a critical factor in online learning on the basis of its link to academic achievement and satisfactions with online courses. Likewise, the extent to which students in online learning environments perceive themselves as being socially connected to their peers appears to be a key factor in predicting online course successes (Biocca, Harms, and Burgoon, 2003; Krejins, Kirschner, Jochems, & van Buuren, 2004 as cited by Tyron & Bishop, 2012).

Hence, this study highlights the social connectedness among students in the online learning both in the synchronous and

asynchronous components. The significance of this study will give emphasis on the experiences of students who are interacting and participating online to make informed decisions about how to promote student learning in online educational environments. It is the aim of this study to unveil the themes from the experiences of students in online social connectedness.

## II. STATEMENT OF OBJECTIVES

It is the intention of this study to generate a theory on the online social connectedness among students that can shed light on (1) online participation, (2) online interaction, and (3) role awareness.

## III. LITERATURE REVIEW

The global health crisis stirs and threatens the present situations and norms of the many forms of life, organizations, companies, business sector, and most especially the education sector. Because of this, many schools shifted from face to face to online learning, e-learning, distance learning, or virtual learning which the schools think is the best way to keep the learning of the students continuous despite this hindrance. Globally, over 1.2 billion children were out of the classroom (Li & Lalani, 2020) as education has changed dramatically, whereby teaching is undertaken remotely and on digital platforms. According to UNESCO, at the end of March 2020, over 1.5 billion pupils or 87 per cent of the world’s student population across 165 countries had been affected by school closures caused by COVID-19 (Sacks, Bayles, Taggart, & Noble, 2020). To wit, according to Herold (2020) in his article in the Education Week, he stated that America’s sprawling K-12 public education system was scrambling to move online, almost overnight, with little time to plan and even less clarity about what would happen next. The coronavirus led to the mass closure of at least 124,000 school buildings, leaving more than 55 million children without access to in-person classroom instruction, counseling, and other services. In Australia, K-12 schools experienced interruptions in every state and territory, although the extent and period of closures varied significantly across jurisdictions (Sacks, et al, 2020). When

coronavirus restrictions were first imposed in March and April, it was at the start of the academic year in many South Asian countries. School classrooms across the region were closed down such that Bangladesh and Nepal continued to rely on remote learning (Menon, 2020). Schools and colleges have been rolling out virtual instruction and online learning, allowing students to continue their studies without interruption and this also happened in the many schools in Singapore (Hutton, 2020). In the Philippines, educational authorities were racing to devise a distance learning regime for 27 million children. Several private schools proceeded with online learning. Prior to the pandemic, online learning solutions were considered as a "nice to have" option but now they have become a necessity. Its being a necessary option is tantamount to the need of students to establish social connectedness on the online set up as in the face to face. The need to connect among students in the online set up is an important element as they proceed learning. When considering what constitutes quality learning experiences, it is best to look into how the students are socially connected in the online platform.

The theoretical foundations of social connectedness examines the role of social cognition. There is an underlying cognitive process involved in the development of social connectedness. An individual's ability to process, evaluate, and adapt his or her thinking in social situations is dependent upon the schemas he or she has developed for processing incoming social information, which is the cognitive mechanism for comprehending one's social environment (Bartlett, 1954; Fiske, 1995 as cited by Tryon & Bishop, 2009). The schemas discussed in Tryon and Bishop's (2009) social connectedness are status assessment and person schema, norm development and event schema, and role differentiation and role schemas.

The purpose of the initial status assessment is to collect and synthesize social information about others in the newly forming class group in order to form a knowable pattern of interactions that can reduce stress and confusion while learning. When individuals first enter a group, they immediately assess each individual's status within that group – both his or her own and

others' – by automatic activation of schema one has for initially determining the traits of others (Fitzimons & Bargh, 2003; Wyer & Carlston, 1994 as cited Tryon and Bishop, 2012). Further, an automatic assessment processing relies heavily on surface characteristics of the target such as voice, body language, gender, race, and behavior and then superficially compares those traits against the perceiver's existing stereotypes and prior expectancies, or person schemas, to find a best-fit category for understanding others quickly. Taking into consideration this theoretical backdrop, the levels of social information a respondent perceives to have about other individuals in the group is considered.

The process of establishing norms in a group dynamics is very important. Along with a need to understand how norms develop in the online learning environment, they will naturally develop among group members as a result of continued interactions with one another (Fiske & Taylor, 1991 as cited by Tryon & Bishop, 2012). Just as person schemas are activated during status assessments, event schemas are activated during norm development to help the individual decide what is the best for acting and reacting in a group (Higgins & Bargh, 1987 as cited by Tryon & Bishop, 2012). Based on this theory, what is to be considered are the varied levels of social information a respondent perceives about the events and interactions of individuals in the group.

The final stage in group structure development is the role differentiation wherein the role of each individual is specific – leader, rapporteur, facilitator, timekeeper, energizer, and the like. This role differentiation identifies individuals which task he or she has to perform. By identifying it, each one is aware on what to do, the scope of one's function, and the outcome expected from him or her based on the role. Role schemas guide a person's assessment of expected behaviors and particular qualifications for carrying out specific functions in a particular social context (Fiske & Taylor, 1991 as cited by Tryon & Bishop, 2009). Based on this theoretical foundation, varied levels of social information perceived about other individuals and the social information about the events and interactions of

other individuals in the group leading to role differentiation are to be focused.

There are also determinants of social connectedness. According to Diep, Zhu, Cocquyt, De Greef and Vanwing (2019), online participation and online interaction constitute to what social connectedness is all about. The online participation is captured by three dimensions: (1) discussion contribution, (2) collaborative facilitation, and (3) social interaction. Related to explaining, analyzing, challenging, justifying a point of view under discussion, and explicitly reflecting on one's own conceptual changes and behaviors refer to discussion contribution (Diep et al. 2016). The process of coordinating collaborative work and motivating others to achieve the mutual goal refers to collaborative facilitation. Social interaction highlights the importance of creating a collegial atmosphere. The quality of the online interaction is measured on how the online participation of the participants themselves and other learners contribute to their learning. The Community of Inquiry Framework by Garrison, Anderson, and Archer (2001) was developed to derive the conceptualization of online interaction quality. This framework employs the notion of online presences to grasp the online exchanges among the instructors and the learners and among the learners themselves. Diep et. al (2009) adopted the cognitive presence as the basis for conceptualization, so they defined online interaction quality as "the extent to which the learners perceived that the process of engaging in constructive and reflective conversations with peers online contributed to their learning motivation and knowledge construction, with a possibility of transferring learning to contexts outside the classroom.

Based on the review of the literature according to the study of Frieling, Peach and Cording (2018), there are three common components of social connectedness: socializing, social support, and sense of belonging. Socializing is the interaction between two or more people coming together (whether planned or unplanned) to have a good time and enjoy each other's company. Examples of this include friends or family members spending time together, colleagues having lunch together, or neighborhood residents having a

street party. Social support refers to the support from people in a person's social network that is either provided or perceived to be readily available in times of need. A sense of belonging is the feeling of being connected to and valued by other people. Whether it is sourced from family, friends, co-workers, club members, or a church community, people have an inherent desire to belong and be part of something greater than themselves (Ministry of Social Development). These three components are important protective factors that support people's wellbeing and resilience.

Social connectedness is associated with wellbeing. Bradburn (1969) as cited by Frieling, Peach, and Cording (2018) found that social involvement was one of the strongest correlates of positive emotions. Close and supportive relationships are not just correlates of wellbeing but have a causal effect and high levels of perceived support lead to increases in life satisfaction (Adriaansen, Van Leeuwen, Visser-Meily, Van den Bos & Post, 2011 as cited by Frieling, Peach, & Cording, 2018).

Social connectedness is also associated with educational performance such that people's ability to think intelligently drops when they feel socially excluded, particularly for more complex cognitive tasks (Baumeister, Twenge & Nuss, 2002; Williams, 2001 as cited by Frieling, Peach, & Cording, 2018). Other studies indicate that peer relationships and group membership are associated with greater interest in and more enjoyment of school, while students who do not have such social relationships tend to be less engaged with school (Anderman & Freeman, 2004; Hymel, Comfort, Schonert-Reichl & McDougald, 1996 as cited by Frieling, Peach, & Cording, 2018).

As the online learning set up is thriving in this time of pandemic, students continue to connect with each other, with their teacher, and even among students outside their school. Social connectedness can be manifested either in the synchronous or asynchronous component of online learning. Synchronous virtual learning allows for live interaction between the teacher and the learners while they are participating in

learning activities. It is done in real-time with a live instructor facilitating the session (Racheva, 2018). This is like the one in physical classroom wherein the teacher holds the class and students participate, only that it is converted virtually. This allows immediate feedback, interactions with the teacher and among students, and as well as guided drills or exercises. In this live session, students and teachers are able to interact using features such as audio, video, text chat, interactive whiteboard, application sharing, instant polling, emoticons, and breakout rooms. In addition to what Racheva (2018) mentioned, students can participate in various individual or group activities while having the feeling that they can still interact as if they were meeting face to face. The social connectedness among participants in the live meeting is very important. The success of the synchronous virtual classroom is dependent with the active participation and engagement of the learners. Social interaction is a vital factor in cognitive development. It creates a positive learning environment and helps the participants achieve the expected outcomes (Racheva, 2018). The asynchronous component of online learning offers learners the flexibility to study in a self-paced manner. Students can connect with materials, peers, and instructors on their own schedules. Asynchronous online classrooms use forums, discussion thread or message boards to keep a running dialogue between the students and the teacher or among the students themselves (Wintemute, 2021). In this case, online participation plays a large role in asynchronous classroom.

Both synchronous and asynchronous components of online learning require students' connectedness. It is in this sense that they gain new experiences in terms of their online participation, online interaction, and the role they perform. The researcher aims to know how socially connected they are in the online set up either synchronously or asynchronously. Hence, this study will be conducted.

#### IV. RESEARCH DESIGN

This paper employed the grounded theory which is an inductive methodology. Glaser and Straus (1967) as proponents of this theory, define this as a systematic, qualitative procedure used to

generate a theory that explains, at a broad conceptual level, a process of an action, or an interaction about a substantive topic. In other words, it is geared towards generating a novel theory as it emerges from the data gathered and analyzed. Its key components are data collection, coding, analysis, memo writing, and theoretical categorization. It is aimed at reaching its final product which is the formulation of a central or core category and other related categories or emergent themes.

**Participants:** The selected Grades 10 students of school year 2021 – 2022 in Sacred Heart School – Ateneo de Cebu were the participants of the study. At the height of the pandemic in 2020, the school implemented its version of Jesuit Education called HEARTER Online. Thus, these students have become online learners and have been engaged both in the synchronous and asynchronous learning. Saturation of data was considered by the researcher in determining the number of participants for the study. Sacred Heart School – Ateneo de Cebu HEARTER Online was the locale of this study.

**Instrument:** The main instrument of the study was the interview and conducted through using English language as the medium. This was done online through MS Teams meet.

**Data Gathering Procedure:** After seeking clearance from the Ethics and the Institutional Research Committees, the researcher proceeded asking permission from the target participants of the study. Informed consent form was distributed to the respondents and they were given ample time to review their participation in the study. When participants expressed their desire to submit to the study, they were oriented on the nature of the study, their extent of participation, the risks and conveniences, the participants' rights, benefits, and confidentiality. The interviews were conducted virtually through MS Teams at the most convenient time of the participants. When necessary information was gathered, data was coded following Strauss and Corbin's triadic coding

procedure.

**Data Analysis:** Grounded theory is the discovery of theory from data systematically obtained from social research (Glaser & Strauss, 2009). According to Charmaz (2009) grounded theory has considerable significance because it (a) provides explicit, sequential guidelines for conducting qualitative research; (b) offers specific strategies for handling the analytic phases of inquiry; (c) streamlines and integrates data collection and analysis; (d) advances conceptual analysis of qualitative data; and (e) legitimizes qualitative research as scientific inquiry. The main principle of grounded theory is that the generated theory by the researcher comes from the data. In other words, by collecting and analyzing qualitative data, the researcher can construct a new theory that is “grounded” in that data (MAXQDA, 2021).

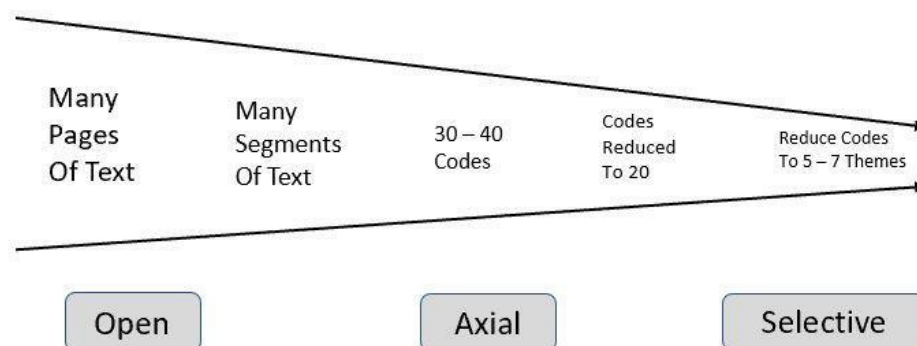
In analyzing the data, coding is usually involved to get quantifiable means. Glaser and Strauss (2009) advocate combining coding with analysis to help locate and build grounded theory. The authors describe four stages: 1) comparing incidents applicable to each category; 2) integrating categories and their properties; 3) delimiting the theory; and 4) writing the theory.

In this study, the researcher was able to unceasingly do the data collection, wrote the analyses and codes, and eventually

generated a theory. This method was used by the researcher because the raw and authentic data from the participants are valuable in noting similarities and differences of the responses and finding themes or categories. With in-depth comparison and analysis, the researcher was able to uncover a considerable theory.

## OVERVIEW OF THE CODING PROCESS

Coding is the pivotal link between collecting data and developing an emergent theory to explain these data. Through coding, the researcher defines what is happening in the data and begins to grapple with what it means (Charmaz, 2006). Grounded theory coding consists of at least two main phases: 1) an initial phase involving naming each word, line or segment of data followed by 2) a focused, selective phase that uses the most significant or frequent initial codes to sort, synthesize, integrate, and organize large amounts of data. Central to the coding process is ensuring that coding procedures are defined, rigorous, and consistently applied in order to conform with validity and reliability standards associated with qualitative research (Glaser & Strauss, 1967). More importantly, the open, axial, and selective coding strategies enable the researcher to compare data and apply data reduction, and consolidation techniques. This study follows this coding process in generating a theory.



*Overview of coding process: Open, Axial and Selective Coding (Glaser and Strauss, 1967)*

## OPEN CODING

After collecting the data, this first step called open coding is employed. During this phase, the interview transcripts were analyzed word for word, line-by-line, and phrase-by-phrase by the researcher. In open coding, the researcher identifies distinct concepts and themes for categorization. Units of meaning classifying expressions

(single words, short sequences of words) in order to attach annotations and "concepts" are applied (Flick, 2009 as cited by Williams, 2019). The aim for open coding is to begin the unrestricted labelling of all data and to assign representational and conceptual codes to each and every incident highlighted within the data (Douglas, 2011). The open coding stage allows the researcher to have emergent axial codes. Presented below is the table for open coding.

**Table 1. Open Coding**

Unmute my microphone	Try to understand the lesson	Work together	Use conversation starters	GC in messenger
Reply and react to the post	Pitch in my ideas	Participate	Attach in the assignment tab	See my work as reference
As Editor	Taking a role is a practice for me	Use different apps to communicate	Go into call	Simple discussion
Teach one another	Encourage everyone to participate	What it's like to be in that position	Comfortable in chatting	Wider point of view
Add up to their ideas	Answer any prompt	Use the chat box	Private channels that we can meet	Assists the leader or secretary
On call with my friends	Call again	Ask questions	Other applications like discord	Good connection
Listen	Explain ideas	Use different apps to communicate	Hang out in other applications	Communicate

reach out to friends, classmates and teachers	As a leader	As an actress	Supporting side	Initiates conversation
Encourage everyone to participate	Made me ready of my role	Role contributes to the discussion	Develop social skills	Like a bystander

**AXIAL CODING**

Strauss and Corbin (1990, 1998; Strauss, 1987) present a second type of coding called axial coding to relate categories to subcategories. Axial coding specifies the properties and dimensions of a category. According to Strauss and Corbin as cited by Charmaz (2006), while engaged in axial coding, the researcher applies a set of scientific terms to make links between categories visible. Participants’ statements are grouped into components of an organizing scheme which includes: 1) conditions, the circumstances or situations that form the structure of the studied phenomena; 2) actions/interactions,

participants’ routine or strategic responses to issues, events, or problems; and 3) consequences, outcomes of actions/interactions.

“Axial coding identifies relationships between open codes, for the purpose of developing core codes. Major (core) codes emerge as aggregates of the most closely interrelated (or overlapping) open codes for which supporting evidence is strong” (Strauss, 1998, p. 109 as cited by Williams, 2019).

In the table below, codes that emerged from open coding are refined, aligned and categorized into themes

**Table 2: Creating Categories from Open Codes**

Unmute my microphone			Communicate		
Reply and react to the post			Go into call		
Answer any prompt					Work together
Participate					
Pitch in my ideas					
Add up to their					

**Ways to participate in the online classroom**

**Strategies in online classroom collaboration**



ideas			
Explain ideas			Private channels that we can meet
Use the chat box			Reach out to friends, classmates, and teachers
Ask questions			

GC in messenger	<b>Use of online applications for communication</b>	<b>Awareness of one's role in the online learning</b>	Assists the leader or secretary
Hang out in other applications			As a leader
Other application like discord			As an actress
Use different apps to communicate			Supporting side
			Initiates conversation
			Role contributes to the discussion

**SELECTIVE CODING**

Selective coding requires the selection of the focal core code, that is, the central phenomenon that has emerged from the axial coding process

Selective coding requires the selection of the focal core code, that is, the central phenomenon that has emerged from the axial coding process. All the other codes derived from that axial coding process must be related in some way to this focal core code, either directly or indirectly (Douglas, 2011). “Selective coding continues the axial

coding at a higher level of abstraction [through] actions that lead to an elaboration or formulation of the story of the case” (Flick, 2009, p. 310 as cited by Williams, 2019).

The essential idea in selective coding according to Strauss and Corbin (1990) is to develop a single storyline around which all everything else is draped. In the table presented below, the emergent themes taken through axial coding are sifted or funneled into one focal or core concept which will eventually lead to the development of a theory.

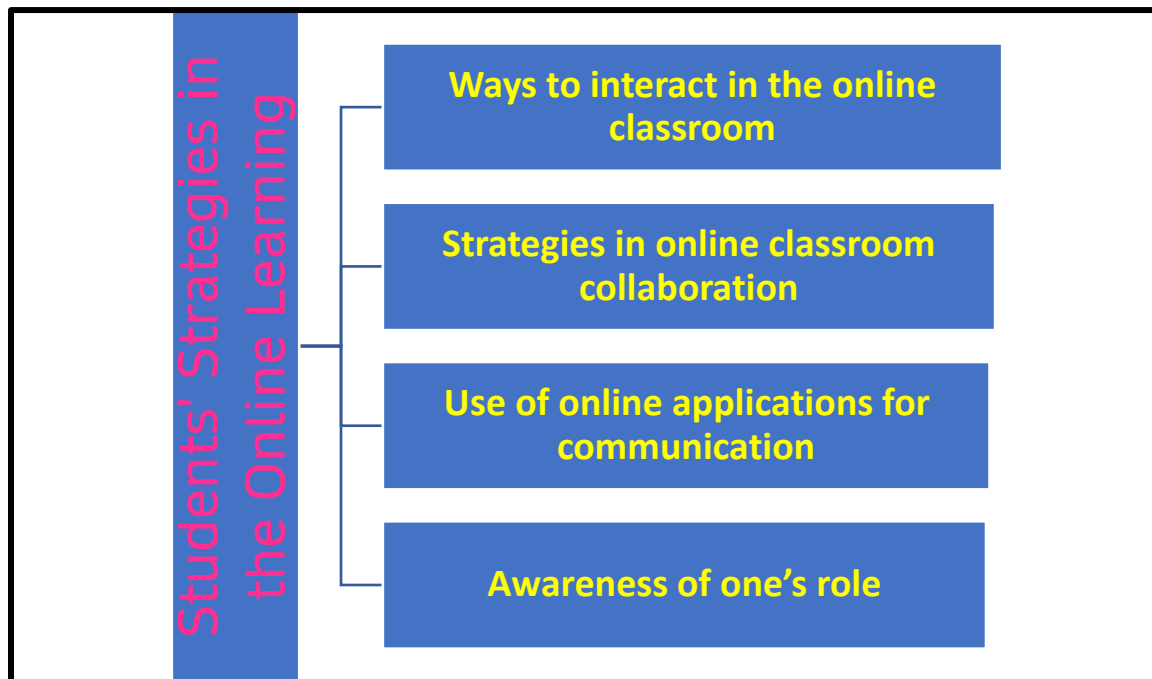


Figure 1. Open Codes to Selective Theme

## RESULTS AND DISCUSSION

After a careful and thorough analysis of the data, the focal core code that emerged was the **students' strategies in the online learning**. There are four themes that emerged under this core category, namely:

Theme 1: Ways to interact in the online classroom

Theme 2: Strategies in online classroom collaboration

Theme 3: Use of online applications for communication

Theme 4: Awareness of one's role

Out from these themes, the propositions are formulated. The hypotheses that are created are evaluated based on these propositions. There is a comprehensive discussion given for each theme.

### Theme 1: Ways to interact in the online classroom

There is a significant shift in terms of how participation in class is done for students who are accustomed to the face-to-face set up and the online learning. Students have adapted the kind of learning management system used to carry out the online learning such as google classroom, schoology, MS Teams, and the like. That is why online learners need basic technical skills to succeed (minnstate.edu). One of that is to know how to navigate the online platform they are using for synchronous or asynchronous sessions. In live sessions, students use the synchronous meeting feature such as the mute and unmute button, raise hand icon, and the chat facility to participate in the discussion. In the non-live meet ups, students can interact through reacting using different reaction buttons, commenting or replying to teacher's or classmate's post. This is supported in the study conducted by Roper (2007) when students were asked on practical steps that helped them succeed in their online courses. A few students mentioned interesting online interaction techniques stating that "As much as possible, I would post a response,

question, or comment to another student's posting. This built up an online relationship." Another student suggested, "Respond to several student postings, but make sure you have something meaningful to add, don't just say 'good post.'"

It surfaced in this study that various techniques were used by students to heighten their participation and interaction with the teacher and among themselves during synchronous and asynchronous forums. Here are some statements from the participants during the interview that showed ways on how they participated in the online classroom:

*"I usually unmute myself and answer the teacher."* **PA**

*"I usually pitch in my ideas if necessary."* **PB**

*"I really try to participate like for example, if the teacher asked a question, I really used the chat box."* **PD**

Some participants shared that aside from the mere participation in the online session, interaction with the teacher and among themselves also happened both synchronously and asynchronously. These were reflected in the statements below:

*"I would react to their replies in the chat box or I would also sometimes add up to their ideas."* **PA**

*"For asynchronous, I answer any prompt that the teacher gives us usually from the posts."* **PH**

*"I second the motion his answer through the chat box."* **PI**

*"Through group projects, mostly we can interact."* **PJ**

*"...because the interaction helps the student understand what they need to do."* **PB**

**Hypothesis 1:** The more the students employ various ways in online classroom

participation, the more interaction occurs.

**Proposition 1:** Online classroom participation will gain more interaction with the teacher

and among the students.

## **Theme 2: Strategies in online classroom collaboration**

The challenges of in-person groups are somewhat amplified in the online set up. It is easier to disappear and avoid getting work done because of less supervision from the teachers and accountability with group members. Yet, it also heightens the feeling of loneliness and disconnection because by nature, humans need to connect and interact with each other. This learning theory, Online Collaborative Learning, supports the need for students to collaborate because this provides a model of learning in which students are encouraged and supported to work together to create knowledge: to invent, to explore ways to innovate, and, by so doing, to seek the conceptual knowledge needed to solve problems.. (Harasim, 2012). Students view collaboration as somewhat a doable or possible thing even in the online set up since they can employ techniques to do so. This means that even if learning is delivered online, there are ways for them to collaborate.

Anderson and Garrison (1998) demonstrated that success in an online course depended on the relationship between the student and the content, the student and the instructor, and the student and classmates. As cited by Spencer (2020), when students are not collaborating with classmates, they miss out on new perspectives, new ideas, and new approaches to solve problems. Students stress this importance as stated in the following lines:

*"I go on call with my friends, reach out to them so we can work together."* **PA**

*"I work together with my classmates in any group activity."* **PC**

*"Showing collaboration with other people, usually we have sometimes like a private channel that we meet."* **PH**

**Hypothesis 2:** The more strategies used for collaboration, the greater the learning is among students.

**Proposition 2:** Students demonstrate strategies in the online classroom to collaborate among each other.

### **Theme 3: Use of online applications for communication**

In the online learning set up, students are exposed to the use of various types of online software applications to facilitate their learning. Taya, Limb, Nair and Lim (2014) mentioned in their studies that these online software applications include the following: (1) blogs for discussion of ideas among students and teachers, the blogs also allow for the dissemination of subject related information and content online; (2) emails and chats for online communication; (3) online games for the reinforcement of skills and concepts learned; (4) learning management system for the assessment of students' understanding via quizzes and the dissemination of subject content via the online course modules; (5) online Internet searches for relevant information for their learning; and (6) online videos for the learning of knowledge, concepts and skills. As Traya, et al. (2014) highlighted in the second reason that these online software applications are used for communication, this has been heightened in the virtual set up. Students find ways to talk with each other using identified applications wherein they can express themselves. Expressing themselves come in different purposes: to give information or get information to gain understanding and build relationships. As

mentioned by Mitchell-Holder (nd) in her book, "the goal of online communications is the same as the goal in face-to-face communications: to bond; to share information; to be heard, and to be understood." With these reasons, students utilize varied apps for them to communicate with each other for different purposes:

*"I would use different apps to communicate with them like Teams, messenger, discord." Yes, it is possible for us to finish a project because there is communication because we are not just relying on a one person, but we are including everyone."* **PF**

*"We have a gc in messenger where can ask each other question."* **PD**

*"Aside from the chat box, we also have a GC in messenger going on while having the synchronous session. If we are shy to ask, we would ask someone to ask it for us."* **PA**

*"What I have noticed is communication is really important with the people around you to gather information."* **PG**

**Hypothesis 3:** The more students use various online applications for communication, the more information they can gather.

**Proposition 3:** Students utilize various online applications for communication.

### **Theme 4: Awareness of one's role**

Primarily, students assume the role of being a student in its literal sense in the class. However, whenever there are avenues for them to assume a role especially in group or collaborative activities, students are made aware of what is expected of them to perform. Their role in a group is mostly defined as to the extent of its task designation for each member respectively. Specifying roles within the group prior to

the commencement of any group task can save time and provide structure to students (Barkley, 2014). Vonderwell and Savery (2004) highlight in their study that the learner may have roles such as editor, summarizer, task leader, group discussion leader, mentor, expert, moderator, or peer reviewer. Far more than just a title, according to Herrmann (2021) in his article on collaborative learning, these roles can ultimately lead to more effective collaborative learning and more equitable participation in intellectually rich, worthwhile work. Awareness one one's role in any collaborative work in the online learning helps the students know what to work on and who they are working with. If members are aware and even recognize their individual roles, they are able to work as a team cohesively.

Statements from participants that show awareness of their role in any collaborative work are mentioned below:

*"Usually my role is the person who either assists the leader or the secretary; sometimes I am the one who leads the group and distributes the task."* **PA**

*"I really took the role as the leader. Whenever I am given a task, I usually visualize what I want the project or the output to be. I usually say, 'Guys, can we do like that, can you also share your ideas?'"* **PD**

*"Usually, I am the leader or the secretary and when we do big performance tasks that involve the whole class, I am usually assigned to the social media team and editor... It made me ready for the role to be successful."* **PE**

*"I am usually the person who initiates in the group because everyone is like awkward and I was like who will initiate so I should be the one to initiate."* **PG**

*"If we were assigned with a role, I usually would know of it during or after the discussion but my general idea in my head is that everyone including myself is always*

*assigned to this one role which is to participate in any sort of group discussion. Always try your best to input anything you can and always try your best to help out."*

**PH**

**Hypothesis 4:** The more the students are aware of their role in any collaborative activity,

the greater performance of the role is manifested.

**Proposition 4:** Students' awareness of their role in any collaborative activity aids them to

greater academic performance.

#### **Theory Generation:**

When the responses of the participants were carefully studied, **students' strategies in the online learning**, as the core category emerged. In the course of the interview among participants, unveiled in their responses are ways to interact in the online classroom, strategies in online classroom collaboration, use of online applications for communication, and awareness of one's role which are all in relation to their experiences in the online learning. After having thoroughly analyzed the data, the experiences of students in the online learning can be described as follows:

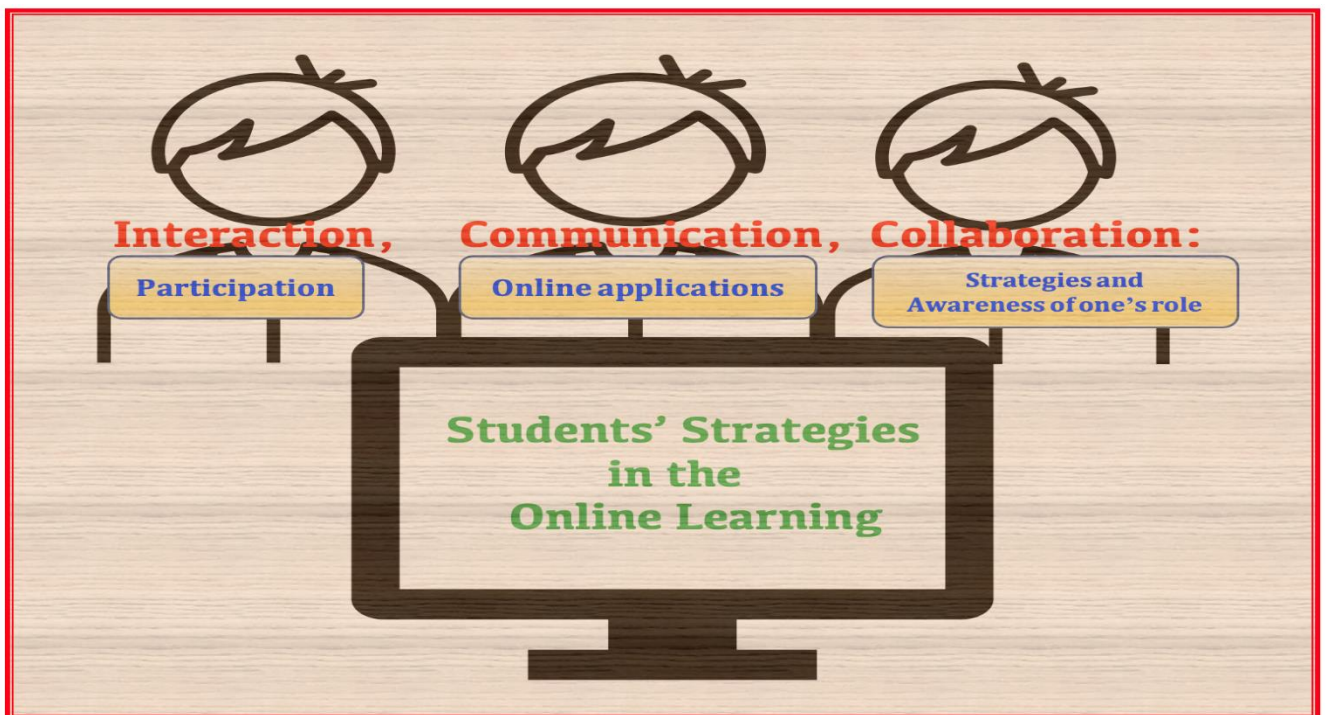
When physical schools moved to online learning at the height of the pandemic, students have somehow shifted from the regular ways manifested in the face-to-face classroom to what we call as the online classroom. The online classroom can be very challenging in terms of maintaining interaction among each other as students only see virtually. However, because of the provision of the learning management system, students can interact with each other and to their teacher as well. Students have maximized the use of its features in increasing interaction such as unmuting the microphone, replying and reacting to the

post, using the chat box and conversation starters. Although virtual, students show ways to interact among each other in the online classroom (**Theme 1**). As students continue to learn in the online set up, they cannot help but collaborate in one way or another. Since there are tasks that allow them to work with each other, they employ strategies for collaboration. Revealed in this study were the following indicators such as using private channels that they can “meet”, going into call, working together, and reaching out to friends. These mirror students’ initiatives to cooperate with each other which is a vital element in the virtual set up. Hence, students manifest strategies in online classroom collaboration (**Theme 2**). With interaction and collaboration, students continue to establish communication among each other. Aside from the provision of the communication features of the learning management system, students also employ other online

applications for them to communicate with each other such as messenger, discord, and other online applications that they mostly find comfort in terms of its usability. Because of the need to communicate to gain or transfer information, students use online applications for this matter (**Theme 3**). Furthermore, students need to be empowered especially in the online learning. There are many ways to show empowerment in them but one concrete way is for them to be aware of their roles in any collaborative work. Showing awareness of one’s role helps them own the responsibility associated with the task they are assigned to. Their execution of the role is clearly seen as it is already defined. Because they have been aware, they are able to enumerate a few of these roles such as being a leader, secretary, editor, supporting side, and the like. Students show this awareness of the role assigned to them (**Theme 4**).

### INTERACTION, COMMUNICATION, COLLABORATION:

#### Students’ Strategies in the Online Learning



**Figure 2: Conceptual Model of Gingoyon’s INTERACTION, COMMUNICATION, COLLABORATION: Students’ Strategies in the Online Learning Theory**

Gingoyon's Theory states that interaction, communication, and collaboration are considered to be the students' strategies for them to thrive in the online learning. Having been used to do the regular ways and routines in the face-to-face set up and will suddenly be shifting to the virtual environment, takes a lot of ways to thrive. Online learning requires students to interact (*participate*), to communicate (*online applications*), and to collaborate (*strategies and awareness*) for them to perform well.

The theory can provide a frame of reference for educational leaders and the academe for them to come up with guidelines and regulations in the conduct of the online learning that are responsive to the needs of the students who have shifted from the physical to the online classroom. This can also shed light to the students on how they have been thriving in the online set up considering the strategies they have been showing to continue their learning: interact, communicate, and collaborate despite distance.

All in all, the theory highlights the accounts of students who continue their education online at the height of the pandemic. Interaction, communication, and collaboration in the online learning take center stage as students use these as strategies to thrive in the online learning.

The researcher recommends similar and relevant studies on how students thrive in the online learning.

## References

Academic Affairs, Instructional and Information Technology Services. (n.d.). Retrieved from csusm.edu:  
<https://www.csusm.edu/iits/services/ats/i-design/cougarcourses/guides/groups-best-practices/index.html>

Borgatti, S. (n.d.). Introduction to Grounded Theory. Retrieved from

<http://www.analytictech.com/mb870/introtogt.htm>

Brown, D. P. (2018, April 27). The power of human connection. Li Herald.Com.

California, B. U. (2021). Greater Web Magazine. Retrieved from berkeley.edu:

[https://greatergood.berkeley.edu/topic/social\\_connection/definition](https://greatergood.berkeley.edu/topic/social_connection/definition)

Charmaz, K. (2009). *Grounded Theory*. The SAGE Encyclopedia of Social Science Research Methods 2003. SAGE Publications.

Daves, D., & Roberts, J. (n.d.). Online teacher education programs: social connectedness and the learning experience. *Journal of Instructional Pedagogies*, 1-9.

Diep, A., Zhu, C., Cocquyt, C., De Greef, M., & Vanwing, T. (2019). Adult learners' social connectedness and online participation: the importance of online interaction quality. *Studies in Continuing Education*, 326-346.

Dikkers, A. G., Whiteside, A., & Lewis, S. (2012). Get present. *Learning and Leading with Technology*, 22-25.

*evolve*. (2021). Retrieved from WebNexus:  
<https://evolve-erasmus.eu/about-evolve/what-is-virtual-exchange/>

Frieling, M., Peach, E. K., & Cording, J. (2018, December). *Social connectedness and wellbeing*. Retrieved from msd.govt.nz:  
<https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/literature-reviews/social-connectedness-and-wellbeing.html>

Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine Publishing Company. Retrieved from  
[https://faculty.babson.edu/krollag/org\\_site/craft\\_articles/glaser\\_strauss.html](https://faculty.babson.edu/krollag/org_site/craft_articles/glaser_strauss.html)

- Health, M. o. (2018). Social Connectedness. Plan, 1-8.
- Hehir, E., Zeller, M., Luckhurst, J., & Chandler, T. (2021). Developing student connectedness under remote learning using digital resources: A systematic review. *Education and Information Technologies*, 6531-6548.
- Herrmann, Z. (2021, March 17). *George Lucas Educational Foundation, Edutopia*. Retrieved from edutopia.org: <https://www.edutopia.org/article/roles-encourage-equitable-collaborative-learning>
- Herold, B. (2020). The Scramble to Move America's Schools Online. *Education Week*.
- Holder, S. M. (2021). *Humanizing online teaching and learning*. Pressbooks. Retrieved from [pressbooks.com: https://humanmooc.pressbooks.com/chapter/lets-talk-effectively-communicating-with-your-online-students/](https://humanmooc.pressbooks.com/chapter/lets-talk-effectively-communicating-with-your-online-students/)
- Hutton, N. (2020, May 11). *CNA*. Retrieved from [channelnewsasia.com: https://www.channelnewsasia.com/commentary/online-education-singapore-home-based-learning-school-936106](https://www.channelnewsasia.com/commentary/online-education-singapore-home-based-learning-school-936106)
- Li, C., & Lalani, F. (April, 2020 29). *World Economic Forum*. Retrieved from [weforum.org: https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/](https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/)
- Menon, S. (2020, September 21). *BBC NEWS*. Retrieved from [bbc.com: https://www.bbc.com/news/world-south-asia-54009306](https://www.bbc.com/news/world-south-asia-54009306)
- Moffatt, C., & Anderson, R. (2017, June 2). The Importance of Connectedness. Retrieved from [psychreg.org: https://www.psychreg.org/importance-connectedness/](https://www.psychreg.org/psychreg.org: https://www.psychreg.org/psychreg.org: https://www.psychreg.org/importance-connectedness/)
- O'Dowd, R. (2018). Innovations and Challenges in Using Online Communication Technologies in CLIL. *Theory Into Practice*, 232-240.
- Racheva, V. (2018). Social aspects of synchronous virtual learning environments. (pp. 1-3). Sofia, Bulgaria: AIP Publishing.
- Ready to Plan Your Education?* (n.d.). Retrieved from [minnstate.edu: https://careerwise.minnstate.edu/education/successonline.html](https://careerwise.minnstate.edu/education/successonline.html)
- Roper, A. R. (2007, January 1). *Why IT Matters to Higher Education, Educause Review*. Retrieved from [educause.edu: https://er.educause.edu/articles/2007/1/how-students-develop-online-learning-skills](https://er.educause.edu/articles/2007/1/how-students-develop-online-learning-skills)
- Sacks, D., Bayles, K., Taggart, A., & Noble, S. (n.d.). *PWC*. Retrieved from [pwc.com.au: https://www.pwc.com.au/government/government-matters/covid-19-education-how-australian-schools-are-responding.html](https://www.pwc.com.au/government/government-matters/covid-19-education-how-australian-schools-are-responding.html)
- Slagter van Tryon, P. J., & Bishop, M. J. (2012). Evaluating social connectedness online: the design and development of the Social Perceptions in Learning Contexts Instrument. *Distance Education*, 347-364.
- Slagter van Tryon, P. J., & Bishop, M. J. (2009). Theoretical foundations for enhancing social connectedness in online learning environments. *Distance Education*, 291-315.
- Spencer, J. (2020, July 29). *Improving Student Collaboration in Remote and Hybrid*



- Learning*. Retrieved from spencerauthor.com: <https://spencerauthor.com/remote-collaboration/>
- Sultan, S., Hussain, I., & Fatima, S. (2020). Social Connectedness, Life Contentment, and Learning Achievement of Undergraduate University Students—Does the Use of Internet Matter? *Bulletin of Education and Research*, 111-125.
- Tay, L., Lim, C., Nair, S., & Lim, S. (2014). Online software applications for learning: observations from an elementary school. *Educational Media International*, 146-161.
- Vonderwell, S., & Savery, J. (2004). Online learning: student role and readiness. *The Turkish Online Journal of Educational Technology – TOJET*, Volume 3, Issue 3, Article 5.
- What is global citizenship education?* (2021). Retrieved from UNESCO.ORG: <https://en.unesco.org/themes/gced/definition>
- Wintemute, D. (2021, September 7). *The Best Schools*. Retrieved from thebestschools.org: <https://thebestschools.org/resources/synchronous-vs-asynchronous-programs-courses/>