








Teachers' experiences and perspectives in conducting synchronous classes: Affordances and challenges

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Highlights

- The shift to online distance learning offers benefits and challenges to teachers.
- Cognitive presence is essential to generate learning in the online distance learning.
- Technology offers new approaches to personalized and customize learning.
- Learner-to-learner interaction matters and is highly appreciated.
- The Community of Inquiry framework is relative during to synchronous classes.

Abstract

Learning institutions in the Philippines employed online distance learning using the synchronous approach for real-time interaction among learners and teachers. While the arrangement is exploratory and contingent, and responsive to the continuity of learning during the pandemic, its impact remains uncertain. This is of interest including the teaching-learning process in online classes with regard to the domains of Community of Inquiry focusing on the cognitive, teaching and social presence. In generating data, this study utilized focus group discussions involving junior high school teachers (N=15) from public and private schools who tackled questions anchored on said domains. Codified and categorized according to themes, the respondents revealed that personal and professional gains are considered as benefits of online classes but retorted that financial, technical as well as teaching learning support are among the challenges. Learning tasks and skills application draw attention under the cognitive arena, while technology, support for learner engagement and student engagement strategies warrant emphasis under teaching presence. Modes of interaction, interaction resources and approaches to ensuring belongingness underpin the areas under social presence. Results further showed that the affordances and challenges faced by the teachers may be translated into opportunities for innovation, growth, and development.

Article Info: Research Article

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1. Introduction

When the COVID 19 virus spread became a global chaos, humankind had to slow down, ceasing usual operations, humdrum, and routines, from personal to professional pursuits, from one industry to another. As the first documented case escalated to 140 from January to March 2020, the Department of Health (Coronavirus disease [COVID-19] Situation Report 3, 2020) strengthened its collaboration with various sectors. Arresting the threat of more infections among Filipinos and the already struggling economy's lethargy resulted in the seizure of significant business platforms, including education. Pokrhel and Chhetri

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(2021) cited that the COVID-19 pandemic has created the most extensive disruption of education systems in human history, affecting nearly 1.6 billion learners in more than 200 countries. COVID-19 has primarily affected the education sector, including learners of all ages and courses of most disciplines (Hoofman & Secord, 2021). Governments across the globe have decided to shut down educational institutions to avoid spreading the virus, especially among children (Nayak et al., 2021). In addition, Hoofman and Secord (2021) stated that many learners would somehow compensate for the new learning environment.

Some remain struggling, especially those families who lack time and skills to supervise in-home education. With the prevailing issues resulting from the health crisis, the foundation of education has shaken up, bringing online distance learning as the main path to continue teaching and learning for students (Barrot et al., 2021). Although online learning is beneficial in developing one's technological skills, it also poses crucial affordances and challenges for both teachers and students (Ahmed & Opoku, 2022; Maatuk et al., 2021). Published studies (Hash, 2021; Ancheta & Ancheta, 2020) suggested a comprehensive examination of various aspects such as models and curricula guide for future calamities that may require online distance learning to ensure continued progress in the field of education. Other institutions may not worry about the challenges related to the technical feasibility of implementation of systems in online education but more about the preparation of the human resource (Radu et al., 2020). However, Robosa et al. (2021) concluded that in the Philippines, public school teachers experienced the following challenges: the lack of resources, the digital age limits the capability of most public-school teachers in terms of performing specific tasks, providing an effective learning environment and communicating with students, and finally, the submission of workloads that contributes to stress and burnouts.

On the other hand, private education institutions also faced many challenges. One of these was the decrease in enrollment due to the economic downturn, like parents who could afford high fees in the private schools lost their jobs during the pandemic. Another challenge was the pressure emerging from the tedious reopening of classes provided by the Department of Education (Ancheta & Ancheta, 2020). From the students' side, the challenges identified were linked to their learning environment and least to technology literacy and competency (Barrot et al., 2021). Interestingly, innovation and strategic education experts swiftly made a prognosis of the alarming situation and engineered measures and structures to ensure the continuity of learning. It gave birth to new learning modes in printed and technology-based formats, enabling teaching and learning to prosper despite odds and limitations.

This study purports to identify the affordances and challenges of teachers during synchronous classes in online distance learning. Using the Community of Inquiry (CoI) framework, the research further examines and analyzes respondents' perspectives and teaching experiences hinged on the domains of cognitive, teaching, and social presence. Specifically, the study seeks to answer the following questions:

1. What are the affordances of the teachers in online distance learning?
2. How do teachers handle the teaching and learning process concerning the following domains of the Community of Inquiry?
 - 2.1. cognitive presence
 - 2.2. teaching presence
 - 2.3. social presence
3. What are the challenges for the teachers in online distance learning?

2. Literature

2.1. Understanding of Online Distance Learning

Responding to the challenge of developing new educational delivery systems in both public and private schools, most educational systems across the world have shifted to online distance learning modality to foster the students' learning needs. Different nations' ministries of education have encouraged or mandated

the use of online learning at all levels of education in diverse communities. (UNESCO, 2020) also declared that online learning could help stop the spread of health risks by avoiding direct interactions between students. Online learning describes as using a digital platform to facilitate learning. (Clark & Mayer, 2016). Many schools have replaced traditional classroom setups with innovative and flexible online learning styles with improved outcomes (Kim, 2020).

Many teachers experienced numerous challenges and experiences in the preparation stage of distance learning modality and the difficulty of instructional delivery (De Villa & Manalo, 2020). According to Ryan et al. (2016), online learning is the most prominent feature in the absence of physical classroom classes that have replaced the use of appropriate technologies. Thus, online courses pose chaos globally because some countries have limited technologies and are not yet ready for the complete implementation of the methodology (Sintema, 2020). Online classes sometimes create many technical hitches that range from downloading errors, issues with installation, login problems, audio, video problems, etc. Online learning is thus flattering and more significant for education during the worldwide health crisis, providing the opportunity to remain in touch, even if remotely, with classmates, teachers, and even parents. However, many challenges have been noticed and observed in various countries. The most evident and commonly discussed by the policymakers and experts is that socially disadvantaged groups face problems meeting the primary conditions required by online learning (Eyles, Gibbons & Montebruno, 2020). Further, teaching techniques and instructions, online learning settings, and social interactions will be challenging for the teachers to handle—these issues are the most significant roadblocks to online learning.

2.2. Expanding Framework to an Online Learning

The Community of Inquiry (CoI) model developed by Garrison and Archer (2000) is applied in this study. This framework recognizes the importance of interactions and shows how to create a deep and meaningful learning experience through the development of three interdependent elements that help teachers and students work together to create a supportive and cooperative learning environment. It identifies the various significant components of online learning experiences and challenges—compelling educational experiences embedded within a CoI, composed of teachers and students. The statement underpinning this concept is that effective learning or activities that enable higher learning to occur within the community of three elements: cognitive presence, teaching presence, and social presence.

2.3. Cognitive Presence

Cognitive presence is the major element in critical thinking, which is necessary for advanced levels of thinking and learning. According to (Garrison et al., 2001), Cognitive Presence (CP) is the fundamental component that characterizes the Community Inquiry model, which they described as "the extent to which learners can construct and confirm meaning through sustained reflection and discourse." Cognitive presence is the finest construct that emerges in online settings. (Garrison and Arbaugh, 2007; Garrison and Cleveland-Innes, 2005), but once improved, it notably contributes to greater levels of learning in online contexts. According to (Rourke and Kanuka, 2009), some researchers define cognitive presence as a cognitive mediator to reach and explore profound cognitive thinking in learning. The cognitive presence concept also draws relevance from the Practical Inquiry (PI) model (Kovanovi et al., 2016). It is the "multivariate measure of critical and creative thinking" (Shea et al., 2012). In addition, it purports to develop during online discussions and explanations for such concerns (Akyol and Garrison, 2011). The four phases of the PI model (Schrire, 2004) define the knowledge-building process in the cognitive component of online educational interactions (Garrison & Anderson, 2003; Kovanovic et al., 2016; Sadaf and Olesova, 2017). Further, cognitive presence in online learning environments is necessary and substantial for effective learning settings (Garrison et al., 2001). Thus, a high level of cognitive presence is possible only when individual variation exists in online learning settings. Further, Nasir, N. S., Rosebery, A. S., Warren, B., and Lee, C. D (2006) reported that metacognitive interaction occurs at higher levels in online discussion groups with participants whose individual characteristics significantly vary. The teachers

ensure students understand the lessons by engaging in different activities to develop their skills, critical thinking, and meaningful learning interactivity with other students. The teacher's fundamental task is to engage in learning activities that are likely to achieve intended learning outcomes. It reminds us that what the student does is more important than what the teacher does (Schuell, 1986). And the students should also apply the knowledge and skills they gained from the class.

2.4. Teaching Presence

The teaching faculty members who experience face-to-face classroom setting may be dubious about what it means to "teach" in an online environment. One of the most common reasons for faculty reluctance to online education is that they appreciate the immediacy of dialogue with students and can't imagine how they might educate, and students learn without it. Anderson et al. (2000) defined teaching presence as the design, facilitation, direction of cognitive and social processes to realize meaningful and educational learning outcomes. Online teachers who have been teaching for a while understand that up-front course planning is more important in online classes than in many settings. Preparing and creating curricular resources, sequencing lessons, and drafting assignment rules and evaluation criteria are all part of course design. These provide the most effective courses so that the "grand design" of the system is straightforward, according to Anderson et al. (2001). On the other hand, facilitation is continuously monitoring and commenting on students' postings and working to keep their interest, motivation, and participation in the online course. In this activity, the teacher plays an essential role in modeling the type of contributions they want students to make. Similarly, the teachers provide intellectual and scholarly leadership (Anderson et al., 2001). Determining the outset of teaching presence is that faculty plays a vital role in students' online learning, both in the up-front planning of well-aligned learning experiences and the support of learning processes through constant communication. Hence, in online education, technology empowers students to become problem-solvers, critical thinkers, collaborators, and creators of their digital lives and prepares them for their futures. Schindler et al., (2017) disputes that technology is a factor that influences student engagement in the learning process that leads to a more significant return of investment in terms of learning outcomes. Technology is an integral part of distance learning to carry out effective teaching-learning in a virtual environment.

2.5. Social Presence

Social presence is the ability of the students to project their characteristics into the community and feel that they relate to other students and the teachers in an online learning community. The importance of this element is to support cognitive presence through indirect facilitation of critical thinking carried on by the community of learners. Social presence in online learning promotes the whole e-learning experience, enhances learner-instructor interactions, and improves learners-to-learners activities. Participants' willingness in the Community of Inquiry is to project their personal characteristics into society by showing themselves to others as real people' (Garrison et al., 2000). The model identifies three categories of social presence which are expression of emotion, open communication, and group cohesion. The aspect of emotional expression incorporates humor and self-acknowledgement. Open communication consists of reciprocal and respectful exchanges. Examples of these are mutual awareness and recognition of each other's contributions, while group cohesion pertains to activities that express a sense of social commitment and belongingness.

Online learning is increasingly used in education; however, social presence relates to the need for users of technology-based communication to identify each other as real people. This can be in a synchronous system such as discussion forums, focus group discussions, and webinars. Personal profiles and images are one option indicated in the research on online learning to assist participants in learning more about one another and feel more connected. (Kear et al., 2014). As reported by Toader et al., (2020), learning communities accumulate knowledge through collaborative learning interaction. One of the essential characteristics of distance education and a significant contribution to education has been understanding the benefits of

teaching division of labor. With the rapid growth of telecommunications in education, the principle of specialization of teaching activity and use of communication medium must be applied more deliberately to distinguish between the three types of interaction: learner-instructor interaction, learner-content interaction, and learner-learner interaction (Moore, 1989). Educators must plan and create programs to ensure that every interaction is as effective as possible. It will provide the kind of interaction best suited to the different teaching tasks across multiple subject areas and for learners at various stages of learning development.

3. Methodology

3.1. Research Model/Design

This research employed a descriptive qualitative design. Using this methodology, the researchers identified a group of respondents based on cohort requirements such as length of service in the field, subject/s and grade level/s taught and exposure to online teaching. A set of questions was composed and served as the basis in the group interviews where responses were classified and were rendered frequency count. From there, the emerging preferences, options and choices were sorted out and analyzed as patterns of information became clear. Similarly, the research is also anchored on the Community of Inquiry (CoI) framework, whereby study outcomes described and dissected how the teachers have been afforded and challenged in the conduct of online distance learning. Similarly, the insights extracted from the simultaneous focus discussions and individual and group interviews shed light on the teachers' experiences in facilitating learning and engaging their students based on three CoI domains; cognitive, teaching, and social presence.

3.2. Data Collecting Tools

Using focus group discussions (FGD) or group and individual interviews as an approach to data collection, the researchers drew up guide questions based on two general premises, each addressing the aspects of affordances and challenges faced by the teachers in Online Distance Learning. Nine other questions intended to direct the participants' answers from the interviews to the three domains of Community of Inquiry were supplemented (Table 1.) Consequently, the data and other relevant information were categorized or coded to establish the patterns that are indicative of specific phenomenon or scenarios that build the findings of the study.

Table 1.

The researchers asked questions during the FGD sessions.

| Categories | Questions |
|------------------------------------|---|
| General Questions | <ul style="list-style-type: none"> • What do you like most about teaching in ODL? • What challenges did you meet in effective ODL teaching? |
| Questions based on the CoI Domains | |
| Cognitive Presence | <ul style="list-style-type: none"> • How do you ensure understanding of the lessons among your students? • How do you help your students cope with the learning tasks? • How do you make your students apply the knowledge they have created and the skills they have gained from your class? |
| Teaching Presence | <ul style="list-style-type: none"> • How do you assess your students' learning in an ODL setup? Cite an example. • How do you use technology to assist your students in their learning? • Why do the students need to feel the support of their teachers in the ODL set-up? • How do you help your students actively engage in class? |
| Social Presence | <ul style="list-style-type: none"> • How do you interact with your students, and how do the students interact with each other? • How do you establish belongingness among your students in your class? • Why is interaction significant in an ODL? |

3.3. Sampling or Study Group

The researchers identified a group of FGD participants who experienced handling synchronous classes in online distance learning. In particular, the respondents were limited to fifteen (15) junior high school teachers who either taught English, Science, Mathematics, TLE (Technology and Livelihood Education), and Filipino. The teachers provided a conglomeration of ideas from an array of perspectives. The profiling included their length of teaching experience and training received on ODL.

Table 2.

Profile of Junior high school teachers who participated in the focus group discussions (N=15)

| Teacher Code | Gender | Subject Taught / Specialization | Total years of teaching experience | Years of teaching experience in ODL | Training on ODL (Yes/No) |
|--------------|--------|---------------------------------|------------------------------------|-------------------------------------|--------------------------|
| Teacher 1 | Male | English | 10 | 1 | No |
| Teacher 2 | Male | Science | 3 | 2 | Yes |
| Teacher 3 | Female | Science | 12 | 2 | Yes |
| Teacher 4 | Male | Science | 5 | 2 | Yes |
| Teacher 5 | Female | TLE | 3 | 2 | Yes |
| Teacher 6 | Female | TLE | 4.5 | 2 | Yes |
| Teacher 7 | Female | TLE | 25 | 2 | Yes |
| Teacher 8 | Female | Filipino | 25 | 2 | Yes |
| Teacher 9 | Male | Filipino | 17 | 2 | Yes |
| Teacher 10 | Male | Filipino | 8 | 2 | Yes |
| Teacher 11 | Female | English | 4 | 2 | No |
| Teacher 12 | Female | English | 8 | 2 | Yes |
| Teacher 13 | Male | Math | 15 | 2 | Yes |
| Teacher 14 | Male | Math | 6 | 1 | Yes |
| Teacher 15 | Male | Math | 9 | 2 | Yes |

This segment contained highlights of the participants' profiles, a summary of responses from the FGD participants, and the relevant findings and discussions.

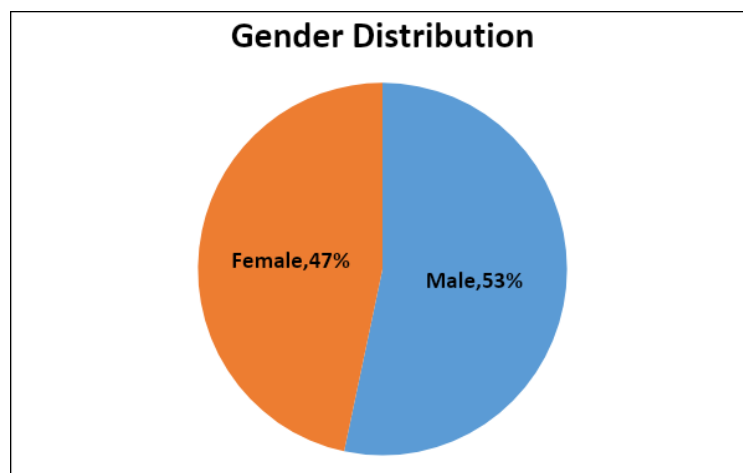


Fig. 1. Distribution of teachers according to gender.

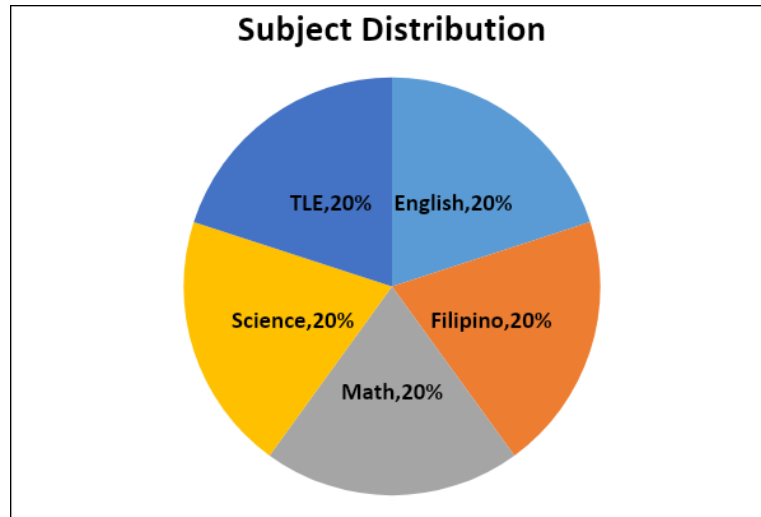


Fig. 2. Distribution of teachers according to subject specialization.

As indicated in the pie graph (Figure 1), 53.3 % of the participants are male, while the female sector constitutes 46.7%. Accordingly, there is an equal distribution of the teachers in terms of subject/s taught (Figure 2) represented at 20% each.

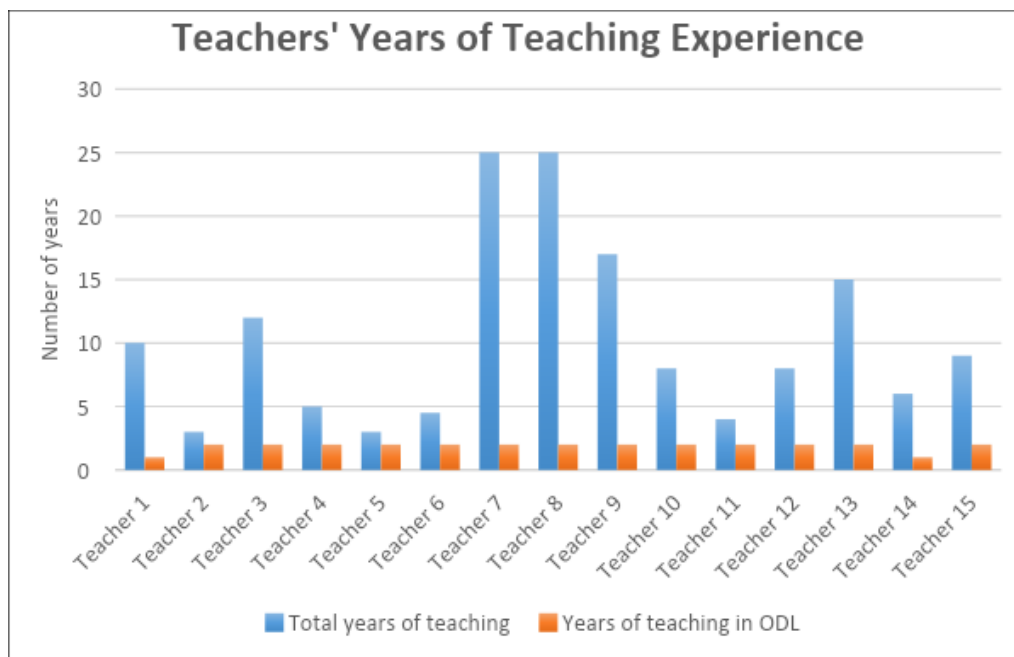


Fig. 3. The number of years in teaching as a profession and teaching in ODL.

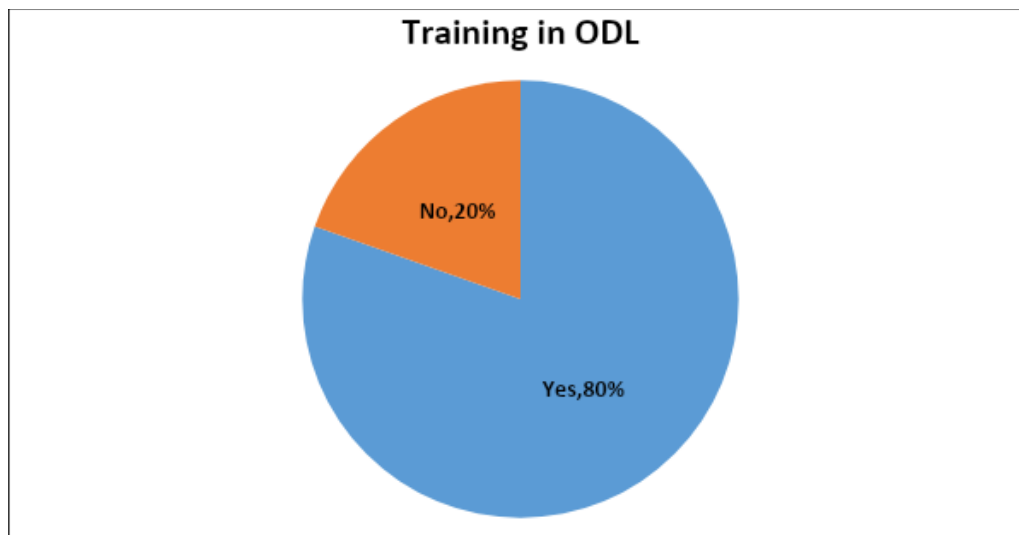


Fig. 4. Distribution of teachers according to subject specialization.

Regarding teaching experience (Figure 3), 11 teachers have five years of teaching experience, while three registered to have been in the field for three years. Two teachers registered to have been exposed to ODL for one year, while the rest have been in such practice since the pandemic started about two years ago. As to training (Figure 4), only two have not undergone any, while the rest of the teachers did, through their respective school affiliations and from other enabling units.

3.4. Data Analysis

The transcripts of the focus group discussions or group and individual interviews were collaboratively read and assigned with multiple emerging codes describing patterns on the following focus: the affordances and challenges of teachers in an Online Distance Learning (ODL), the active learning activities to ensure understanding in ODL, the students' coping with the learning tasks, the active learning activities for knowledge and application, the assessment of students' learning in an ODL setup, the use of technology in students' learning, the role of the teachers in ODL set-up, the strategies to help students actively engaged in ODL, the modes of interaction between and among the teacher and the learners in an ODL, the teachers' practices in ensuring belongingness among the learners in ODL, and the importance of interaction in ODL. The codes were outlined in matrix to establish the relationship between one factor with the other and defined the prevalent conditions that led to certain assertions.

3.5 Validity and Reliability

All fifteen participants in the focus group discussions and group interviews have had experience handling online synchronous classes during the past year or so. Two teachers had not attended training on Online Distance Learning (ODL), but all were immersed in the setup according to the subject areas they teach.

Moreover, participants' teaching experiences have been accounted for, showing stability in the teaching practice with three years as the minimum and 25 years as the maximum. With these as a baseline, the validity and reliability of the responses are guaranteed. It should also be noted that the interviewees were selected from the roster of rank and file to supervisory level, which means to say that there is a balance of perspective from the respondents' population, making the insights reliable. Consent, too, were secured from the respondents and every answer to the question posed was treated with utmost confidence thus, strengthening the validity component of data collection.

3.6. Research Procedures

The recorded insights of the participants were transcribed and consolidated to identify recurring and prevailing practices, which formed a considerable part of the data gathering. Each of these led to an understanding of how the teacher handles the teaching-learning process, considering the prevailing factors in online distance learning. The researchers also analyzed each emerging code and revised this as necessary before exploring the categories. Other related literature was referred to in choosing appropriate keywords and proper labels that suit the varying codes. Adopting pertinent theories was also considered in deciding which categories apply to the codified items. After determining the incongruities and accomplishing shared revision, the group resolved to elect appropriate themes that became the basis for the discussions and other assertions.

3.7. Findings and Discussions

Table 3 presents the consolidated responses from the FGD participants based on the questions outlined in Table 1. It unleashes the results of the focus group discussions or interviews conducted. A salient feature of the table is determination of the categories from the codified answers of interview participants.

Table 3.

Summary of Categories and Emergent Themes drawn from the three simultaneous FGDs (N=15)

| Question/s | Categories (f) | Theme/s |
|--|---|--|
| What do you like about ODL? | Professional milieu (5) Personal gains (12) | Affordances of teaching in an online distance learning |
| What are the challenges you encountered in ODL? | Financial support (2) Teaching-learning support (9) Technical support (8) | Areas of challenges in ODL teaching |
| Cognitive Presence | | |
| How do you ensure understanding of the lessons among your students? | Content focus (8) Critical thinking (3) Interactivity focus (12) Problem-solving (3) | Four types of learning activities (active learning) |
| How do you help your students cope with the learning tasks? | Allowing students to work by themselves (3) Allowing students to self-evaluate (1) Assisting student (17) Providing feedback to students (8) | Ways of helping students cope with learning tasks |
| How do you make your students apply the knowledge they have created and the skills they have gained from your class? | Be explicit about goals and experiences of the applications (0) Focus on core concepts (13) Identify the subskills to scaffold application (6) Involve students in the process (5) Make it social and collaborative (5) Provide students with practice (6) | Ways of getting students to apply what they have learned in the new context. |
| How do you assess your students' learning in an ODL setup? Cite an example. | Assessment for learning (12) Assessment of learning (11) Assessment as learning (4) | Types of assessing students' learning |
| Teaching Presence | | |
| How do you use technology to assist your students in their learning? | Access to real-time feedback using digital assessment and data (5) Empowering students (5) Making education relevant to student's lives and preparing them for their future (4) Personalizing learning (13) | Functions and use of technology in education for teaching and learning |

| | | |
|---|--|--|
| Why do the students need to feel the support of their teachers in the ODL set-up? | Personal-emotional (18) Social guidance (8) Task-oriented (3) Technical-operational (3) | The domains of teachers' role in a virtual learning environment |
| How do you help your students actively engage in class? | Building an inclusive and fair classroom community for all students (11) Encouraging, demanding, and actively managing the participation of all students (15) Giving students opportunities to think and talk (13) Monitoring behavior to cultivate divergent thinking (4) Teaching all the students in your classroom (4) | Strategies to promote student engagement and cultivate classroom |
| Social Presence | | |
| How do you interact with your students in your class, and how do the students interact with each other? | Teacher-student interaction (6) Student-teacher interaction (2) Student-student interaction (14) Facility for interaction (3) Interaction tools (1) | 3 modes of interaction resources for interaction |
| How do you establish belongingness among your students in your class? | Modeling (4) Giving choices (1) Identity building (7) Socio-emotional practices (2) Personal messaging (3) | 5 ways of establishing belongingness |
| Why is interaction significant in an ODL? | Personal emotional reason (7) Socio-emotional reason (5) Personal cognitive reason (7) | Benefits associated with interaction in ODL |

Affordances in ODL. Encapsulating respondents' feedback on the benefits of Online Distance Learning (ODL), the affordances of teaching in online distance learning were noted (Table 3). According to 12 teachers, the personal gains are remarkably beneficial while working in the comforts of their homes. “Have more time to do other things since the time is more flexible like doing sidelines for extra income. no need to wake up early compared to face to face” (T6). These are attested to by their responses, which underscore the chance of multi-tasking, flexibility in managing work and household chores, the convenience of speaking to the class using a gadget, and not physically engaging. Others also mentioned the flexibility in designing the lessons and tapping available resources online during the lesson delivery. One or two mentioned “convenience. no need to travel and commute” (T8). Another advantage exhorted by five teachers was the professional milieu. According to them, accessibility, flexibility, and productivity was attainable. In an ODL, teachers and students could conveniently attend classes immediately and could even make some adjustments in the schedule without compromising the quality of the service rendered “more flexible to teach and learn, more freedom” (T14) and “maximize the lesson, select important topics to discuss, giving of activities that are suitable especially to the online learning environment” (T3). Many education providers who endeavor to attract learners' participation in the course have advertised flexibility in ODL (Madison, 2018; Veletsianos & Houlden, 2019). It complements some of the assertions rendered by the teachers as stipulated in this section of the discussion.

Challenges in ODL. The challenges expressed by the teachers in teaching ODL are discussed herein. Despite the ease in teaching ODL, as revealed in the previous results, teachers likewise had problems. Most of them experienced difficulties along the line of the absence of teaching and learning support, regarded as unavailability of learning resources and noted that “not all (teachers and students) have good internet connection, sustaining attention of the learners that ensures maximum participation among the learners” (T12), the lack of provision of accurate assessment such as “prone to cheating , encourages unfavorable unplugged behavior such as chatting privately while the class is in progress” (T11), and the detached degree of learners' concentration on the tasks. Additionally, respondents revealed that they are “unable to monitor

who is engaged/focused/quality of tasks / homework submitted whether done by the student himself / herself or with the aid of another adult” (T10). Irrefutably, technical support was a massive issue in teaching ODL. According to the National Research Council of the Philippines, internet connectivity and speed in the country were the significant challenges for teachers in online distance teaching and learning, where more than 90 percent in all levels— elementary, junior high school, and senior high school experienced. One of the reasons for inaccessibility was that many regions in the Philippines, incredibly remote areas, did not have wired connections and signals (Perez, 2021) and “problems on interaction such as group chat/ communication because of internet connection” (T1) prevailed. While payments on network providers and internet loads were relatively high in the Philippine context, the issue on “no money to buy internet load” (T11) surfaces as another concern. It is corroborated by the fact as stipulated in the Philippine Department of Education Order No. 038 Series of 2020, stating that public school teachers were given a very meager communication allowance that could be reimbursed, amounting to only 300 pesos. One similar study conducted by Barrot et al. (2021) revealed that the most significant challenge in ODL was linked to their learning environment at home, while the minor challenges were technological literacy and competency.

The Three Domains of Community of Inquiry (CoI). The emerging themes derived from the results of the focus group discussions concerning the three domains enunciated in the Community of Inquiry framework are underscored in this report. Each of the domains is tackled as supported by the summary of responses presented in the following parts. Four themes surfaced under cognitive presence. These are the four types of learning activities (active learning), ways of helping students cope with learning tasks, ways of getting students to apply what they have learned in the new context, and types of assessing students' learning (Table 4). Teachers must ensure understanding among students, which can be realized by distributing suitable active learning activities.

Table 4.

Four themes emerged from the teachers' responses under cognitive presence.

| Cognitive Presence | | |
|---|---|-----------------|
| Themes | Categories | <i>f</i> |
| Four types of learning activities (active learning) | Content focus | 8 |
| | Critical thinking | 3 |
| | Interactivity focus | 12 |
| | Problem solving | 3 |
| Ways of helping students cope with learning tasks | Allowing students to work by themselves | 3 |
| | Allowing students to self-evaluate | 1 |
| | Assisting student | 17 |
| | Providing feedback to students | 8 |
| Ways of getting students to apply what they have learned in the new context | Be explicit about the goals and experiences of the applications | 0 |
| | Focus on core concepts | 13 |
| | Identify the subskills to scaffold application | 6 |
| | Involve students in the process | 5 |
| | Make it social and collaborative | 5 |
| | Provide students with practice | 6 |
| Types of Assessing Students' Learning | Assessment for learning | 12 |
| | Assessment of learning | 11 |
| | Assessment as learning | 4 |

The first theme, which pointed to four identified categories, can be described as the active learning activities in teaching ODL given by the teachers to ensure students' understanding. Among the categories under this theme, interactivity focus was the frequently given type of active learning activity. These involved students interacting with content, including listening to and watching a live or recorded talk, engaging with a written or visual text, engaging with multimedia, or combining these (UTAS, 2021). Teachers further utilized active learning activities such as contextualizing, feedbacking, using different online platforms, and small group discussions. They also provided students with more activities under the content focus category. It involved interaction with others, inclusive of declarative and operational knowledge. While critical thinking and problem solving were the types of active learning activities least given by teachers to students, this could imply that teachers seldom provided students with visions to think analytically or use understanding and information in innovative and exceptional means. Moreover, activities that allow students to resolve, address, meet, or deal with problems should be given more often (UTAS, 2021). "Problem-solving teaches students to consider multiple perspectives on a given situation or phenomenon" (Knilt, 2009).

Another significant theme that came out from the respondents' coded responses was the ways of helping students cope with learning tasks. The categories identified include assisting students, providing feedback, allowing students to work by themselves, and allowing students to self-evaluate. These categories were formulated in association with Lev Vygotsky's scaffolding concept. Vygotsky believed that teaching helped students develop skills and that after coaching, development must take place. (The Ohio State University, n.d.) Most of the teachers who assisted their students gave clear instructions and examples, extended deadlines, provided instructional materials (recorded lessons, handouts), and used technology tools for discussion. Teachers likewise believed that providing feedback to students could also help them cope with the tasks. They usually commented, communicated, answered students' concerns, and extended academic consultations. "Giving consultations" was the phrase repeatedly mentioned by the teachers. Interventions took place as teachers assist the learners by providing concrete examples and modeling of what needs to be done or accomplished. While assisting and providing feedback were mainly carried out by the teachers in helping students cope with the learning task in an ODL setup, the teacher-respondents seldom allowed students to work by themselves and rarely allowed students to self-evaluate. It was an implication that teachers failed in helping their students improve and reflect on how they progress while coping with the learning tasks (Ohio State University, 2017).

For the third theme under cognitive presence, an extracted assertion from the interview was picked, "I require my students to have performance tasks and written outputs to express their ideas." As per the Department of Education Order No. 31, Series of 2020, affirming that written works and performance tasks shall be administered to evaluate the content and performance standards that describe the knowledge, abilities, and skills that learners are expected to exhibit. These tasks include the students' learning portfolio and documents to substantiate all the learnings within a particular quarter, self-reflections, self-evaluations with rubrics, and self-selected most exemplary outputs from the modules. (DepEd Click, 2022) From the respondents' statements, six categories prevailed under one theme: ways of getting students to apply what they have learned in the new context. Among the categories, teachers predominantly gave the focus on core concepts. As reported by K. Patricia Cross Academy ("Getting", n.d.), teachers let the students efficiently apply the knowledge by comprehending the core principles. Providing students with practice and identifying subskills to scaffold application were also occasionally given. Some teachers also provide students with learning activities that promote collaboration and involve students in the process but not

regularly.

On the other hand, teachers did not carry out being explicit about the goals and expectations of the applications. The fact is that the setting and listing of explicit learning goals are vital, and teachers must allow the students to know precisely what would be expected of them and know what to be accomplished. (The Geological Society of America, 2022). In the same manner, teachers should also explicate their learning goals and expectations lucidly because students enhance their application practice well when they are familiar with it. They would be enthusiastically engaged when teachers gave details on the advantages of application for future learning ("Getting", n.d.).

The last theme is the types of assessment teachers utilize during ODL. Three categories were identified from the FGD interview transcripts, namely, assessment of learning, for learning, and as learning. It can be discerned from the data that under this theme, the teachers administered the assessment for learning and of learning very often, which were characterized as formative tests and summative tests. Teachers believed that assessment for learning helped to measure the students' understanding. Calixto et al. (2021, p.1) supported it, stating, "Formative assessment provides ongoing feedback to monitor students' learning and improve teachers' instruction." The formative assessment helps teachers understand the student's progress and the extent of their understanding during instructions. Some benefits are that it can be modified, identify student errors immediately, and provide remediation. Students received prompt feedback and were given opportunities to set goals and ask for clarification. Students were challenged to think critically, learn self-evaluating, and increase achievement. (What is Formative Assessment? - Strategies & Examples, 2017) Meanwhile, assessment of learning checks what has been learned to date (Learn Alberta, 2008). It measures learners' attainment of content and performance standards in a particular unit, and the result of the assessment is recorded and reported to both the students and parents. Likewise, it supports students' metacognitive skills to become lifelong learners, engaging in self-assessment and relating prior understanding to discover new learnings, Learn Alberta (2008).

Table 5.

Three themes emerged from the teachers' responses under the domain of teaching presence.

| Teaching Presence | | |
|--|--|-----------------|
| Themes | Categories | <i>f</i> |
| Functions and use of technology in education for teaching and learning | Access to real-time feedback using digital assessment and data | 5 |
| | Empowering students | 5 |
| | Making education relevant to student’s lives and preparing them for their future | 4 |
| | Personalizing learning | 13 |
| The domains of teachers’ role in a virtual learning environment | Personal-emotional | 18 |
| | Social guidance | 8 |
| | Task-oriented | 3 |
| | Technical-operational | 3 |
| Strategies to promote student engagement and cultivate classroom | Encouraging, demanding, and actively managing the participation of all students | 15 |
| | Giving students opportunities to think and talk | 13 |
| | Building an inclusive and fair classroom community for all students | 11 |
| | Monitoring behavior to cultivate divergent thinking | 4 |
| | Teaching all the students in your classroom | 4 |

As we can see in table 5, teachers commonly use technology to personalize student learning to assist students in learning. It refers to the students' access to data, content, and the cloud, such as presentations and simulations using different educational applications and platforms. In addition, empowering students, making education relevant to students' lives, preparing them for their future, and accessing real-time feedback using digital assessment and data marked the least in how the teacher maximizes the technology. Aside from the technology used in the classroom and the teachers' role in a virtual learning environment, it is also imperative that the students need to feel the support of their teachers in an online distance learning setup. According to the data, teachers give students more support that is emotional. This field focuses on developing personal and emotional meaning for students in an ODL setup (Nir-Gal, 2012).

On the other hand, teachers have also made efforts in the other domains of technical, operational, task-orientated, and social guidance. Technical-operational focuses on coaching and helping with problem-solving and acquiring the computer skills students need to take the course. In addition, the task-oriented domain focuses on general instruction to meet specific coursework requirements. Lastly, social guidance fosters social learning and collaboration in virtual environments. Teachers have also used strategies to promote student engagement and cultivate the classroom. Table 6 shows how teachers helped the students to engage actively in class. We can easily see in the table that teachers used a strategy that encouraged, demanded, and actively managed the participation of all students. Other strategies that teachers maximized were giving opportunities for students to think and talk and building an inclusive and fair classroom community for all students.

Table 6.

Three themes emerged from the teachers 'responses under the domain of teaching presence.

| Social Presence | | |
|--|-----------------------------|-----------------|
| Themes | Categories | <i>f</i> |
| Modes of interaction resources for interaction | Teacher-student interaction | 6 |
| | Student-teacher interaction | 2 |
| | Student-student interaction | 14 |
| | Facility for interaction | 3 |
| | Interaction tools | 1 |
| Ways of establishing belongingness | Modeling | 4 |
| | Giving choices | 1 |
| | Identity building | 7 |
| | Socio-emotional practices | 2 |
| | Personal messaging | 3 |
| Benefits associated with interaction in ODL | Personal emotional reason | 7 |
| | Socio-emotional reason | 5 |
| | Personal cognitive reason | 7 |

As shown in Table 6, most teachers thought that the interaction between learners as provisioned by teachers was more common. It suggests that most teachers allow for the active engagement of the learners by designing sessions that enhance the exchange of ideas and the sharing of ideas among them. Teacher intervention is thought to be prevalent among many teachers who practice online distance learning. Despite the interaction in the classroom, the aspect of belongingness among the students was necessary.

According to the table, almost half of the teachers focused on identity building, giving students chances to express themselves and engage in the class. The teachers also use modeling, personal messaging, socio-practices, and giving a choice. The last hinges on the benefits associated with interaction in ODL are displayed in three components: personal emotional reason, personal cognitive reason, and socio-emotional reason. Personal emotional and socio-emotional reasons reflect students' emotions in personal or socio areas such as belongingness, confidence, building relationships, and promoting happiness. Personal cognitive reason shows the vital skill, guides, motivates, and aligns with skills, enhancing the students' cognitive area.

4. Conclusion and Suggestions

The Covid-19 pandemic brings a new dimension to the landscape of the Philippine Education System, both in the private and public schools. Online Distance Learning has become an alternative to traditional face-to-face learning while the country faces a health crisis. The study revealed the affordances and challenges of teachers and how they handled the teaching and learning process relative to the Community of Inquiry framework during the conduct of synchronous classes. Based on the findings, the following conclusions are set forth. Personal gains and professional milieu categorize the affordances of the teachers in online distance learning. Furthermore, the CoI framework provides a dynamic model for an institutional approach to move away from a passive lecture that fundamentally reshaped the educational experience based on thinking and learning collaboratively. The teachers' challenges in online learning are teaching and learning, technical support, and financial support. Teachers experienced difficulties along the lines of the absence of teaching and learning support, regarded as unavailability of learning resources, lack of provision of accurate assessment, and the detached magnitude of learners' concentration on the tasks.

4.1. Cognitive presence

Cognitive presence is essential to generate learning in the ODL. It shows that learning activities are essential in the students' learning environment. Assisting students in the learning task is primal in strengthening the learning outcomes among students. It presupposes the focus on the core concepts, which are further delved into using meaningful chunks of exercises and classroom activities to ensure the emphasized ideas and insights' transferability. Coupled with carefully selected instructional resources, meaningful connections among students become more apparent and applying the concepts in real-life scenarios.

4.2. Teaching presence

To assist students in the learning process, the teacher should aptly use technology for personalized learning and customize learning according to the needs of the students. The teachers' role in online distance learning is crucial for using practical approaches to learning. Well-being among learners can be optimized with the appropriate emotional support and substantial academic engagement. Teachers may use various teaching strategies to promote student engagement and participation. As such, learning requires encouragement and demands the active participation of all students in an ODL setup.

4.3. Social presence

Understanding the role of social presence through the modes and resources of interaction and establishing belongingness are the benefits associated with interaction in ODL. The study shows that learner-to-learner interaction matters. Engagement strategies that support interaction were valued more. The role of the learners in the interaction is highly appreciated for online distance learning and leads to student engagement. Group acceptance and belongingness are pivotal in developing and strengthening self-worth, esteem, and identity among learners as individuals and as community members. It is important to note that

there is room for ODL to remain as an alternative modality in delivering instruction among basic education institutions. It will warrant a contingent measure during the pandemic, but it will likewise ensure the continuity of learning should interruptions occur during face-to-face class interactions. The swift development of technological tools and features responsive to remote learning provides a future that brings in a good mix of pedagogy, hopefully narrowing the perceived learning gaps in the absence of face-to-face classes. For this reason, this study enunciates the following courses of action for instructional leaders and planners, curriculum experts, and other related future studies.

Online distance learning, especially in the synchronous mode, may need to be further explored in courseware and software development, infrastructure engineering, and device features enhancement. It presupposes that technology may be stretched to reach beyond what it can currently offer, both in programming and design and critical features of teleconferencing.

Educational leaders are behooved to tap the merits of ODL as a permanent addendum to an accustomed model of a face-to-face classroom setting, giving special attention to the pedagogy of teaching, capacity building for teachers, the development of, storage and retrieval of instructional materials, and a clear-cut system of assessment.

Policymakers in all levels – national, regional, local, and school-based are beseeched to revisit existing programs and procedures, policies related to ranking and promotion of teaching personnel, national achievement test administration to determine proficiency levels of learners in critical disciplines, and Teacher Education Program in State Colleges and Universities, as well as private tertiary institutions such that among the major subjects for inclusion covers the area of online distance learning. Teacher formation programs on ODL need to be strengthened to cover the domains of Community of Inquiry which fosters cognitive, teaching, and social presence.

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References

- Ahmed, V. & Opoku, A. (2022). Technology supported learning and pedagogy in times of crisis: the case of COVID-19 pandemic. *PubMed Central*, 27(1), 365-405. Doi: <https://dx.doi.org/10.1007%2Fs10639-021-10706-w>
- Ancheta, R. F., & Ancheta, H. B. (2020). The new normal in education: a challenge to the private basic education institutions in the Philippines? *International Journal of Educational Management and Development Studies*, 1(1), 1-19. <https://iiari.org/wp-content/uploads/2020/09/The-New-Normal-in-Education-1.pdf>
- Anderson, T., Rouke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Networks*, 5(2), 1-17 <https://olj.onlinelearningconsortium.org/index.php/olj/article/view/1875>
- Barrot, J. S., Llenares, I. I., & Del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope them: The case of the Philippines. *PubMed Central*, 26(6), 7321-7338. Doi: <https://dx.doi.org/10.1007%2Fs10639-021-10589-x>

- Clark, R.C.; Mayer, R.E. (2016). *e-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning, 4th ed.*; Wiley: Hoboken, NJ, USA.
- De Villa, J. A. & Manalo F. K. (2020). Secondary teachers' preparation, challenges, and coping mechanism in the implementation of distance learning in the new normal. *IOER International Multidisciplinary Research Journal*, 2(3), 144-154. <https://ssrn.com/abstract=3717608>
- DepEd Tambayan Staff (2020). DepEd limits reimbursement of monthly communication allowance to P300. *DEPED TAMBAYAN Education News & Downloads for Teachers*. <https://depedtambayan.org/allowance-reimbursement-deped/>
- Dzakiria, H., Kasim, A., H. & Christopher, A. A.(2013). Effective Learning Interaction As A Prerequisite To Successful Open Distance Learning (Odl): A Case Study Of Learners In The Northern State Of Kedah And Perlis. Malaysia. *Trukish Online Journal of Distance Education*, 14(1), 111-125. <https://dergipark.org.tr/en/pub/tojde/issue/16895/176018>
- Edgar J. Sintema (2020). E-Learning and Smart Revision Portal for Zambian Primary and Secondary School Learners: A Digitalized Virtual Classroom in the COVID-19 Era and Beyond. <https://doi.org/10.29333/aquademia/8253>
- Eyles, A.; Gibbons, S.; Montebruno, P. (2020). Covid-19 school shutdowns: What will they do to our children's education? A CEP Covid-19 analysis Briefing note No. 001. 2020. Available online: <http://cep.lse.ac.uk/pubs/download/cepcovid-19-00>
- Garrison & Arbaugh (2007). Researching the community of inquiry framework: Review, issues, and future directions. <https://doi.org/10.1016/j.iheduc.2007.04.001>
- Hash, P. M. (2021). Remote Learning in School Bands During the COVID-19 Shutdown. *PubMed Central*, 68(4), 381-397. Doi: <https://dx.doi.org/10.1177%2F0022429420967008>
- Hoofman J. & Secord, E. (2021). The Effect of COVID-19 on Education. . *PubMed Central*, 68(5), 1071-1079. Doi: <https://dx.doi.org/10.1016%2Fj.pcl.2021.05.009>
- K. Patricia Cross Academy. (n.d.). *Getting Students to Apply What They Have Learned in a New Context*, Retrieved March 27, 2019 from <https://kpcrossacademy.org/getting-students-to-apply-what-they-have-learned-in-a-new>
- Kear, K., Chetwynd, F. & Jefferis, H. (2014). Social presence in online learning communities: the role of personal profiles. DOI: <https://doi.org/10.3402/rlt.v22.19710>
- Kim, J. (2020). Teaching and learning after COVID-19. https://www.insidehighered.com/digitallearning/blogs/learning_innovation/teaching_ad-learning_after-covid-19
- Knilt. (2009, May 4). List of benefits for using a student-centered approach [Blog post]. Retrieved from https://knilt.arcc.albany.edu/List_of_benefits_for_using_a_student-centered_approach
- Kovanović, V., Joksimović, S., Waters, Z., Gašević, D., Kitto, K., Hatala, M., & Siemens, G. (2016). Towards an automated content analysis of discussion transcripts: A cognitive presence case. <https://doi.org/10.1145/2883851.2883950>.
- Learn Alberta (2008, October 1). Assessment in Mathematics: Types of classroom assessment [Blog post]. Retrieved from <https://new.learnalberta.ca/Resources/content/mewa/html/assessment/types.html>

- Maatuk, A. M., Elberkawi, E. K., Aljawarneh, S., Rashaideh, H., & Alharbi, H. (2021). The COVID-19 pandemic and E-learning: challenges and opportunities from the perspective of students and instructors. *PubMed Central*, 3, 1-18. Doi: <https://dx.doi.org/10.1007%2Fs12528-021-09274-2>
- Mathew, I. R., & Iloanya, J. E. (2016). Open and Distance Learning: Benefits and challenges of technology usage fro online teaching and learning in Africa. Commonwealth of Learning. <http://hdl.handle.net/11599/2543>
- McKnight, K., O'Malley, K., Ruzic, R., Horsley, M. K., Franey, J. J., & Bassett, K. (2015) Teaching in a Digital Age : How Educators use Technology to Improve Student Learning. *Journal of Research on Technology in Education*, 48(3); 194-211. <https://doi.org/10.1080/15391523.2016.1175856>
- Moore, M. G. (1989) Editorial: Three types of interaction. *American Journal of Distance Education*, 3(2), 1-7. http://aris.telug.quebec.ca/portals/598/t3_moore1989.pdf
- Musingafi, M., Mapuranga, B., Chiwanza, K., Zebon, S. (2015), Challenges for Open and Distance learning (ODL) Students: Experiences from Students of the Zimbabwe Open University. *Journal of Education and Practice*, 6(18); 59-66. <https://files.eric.ed.gov/fulltext/EJ1079750.pdf>
- Nasir , N. S., Rosebery , A. S., Warren, B., & Lee, C. D (2006). Learning as a cultural process: Achieving equity through diversity. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 489–504). New York, NY: Cambridge University Press.
- Nayak, J., Mishra, M., Naik, B., Swapnarekha, H., Cengiz, K., & Shanmuganathan V. (2021). An impact study of COVID-19 on six different industries: Automobile, energy and power, agriculture, education, travel and tourism and consumer electronics. *PubMed Central*, 10(1111), 12677. Doi: <https://dx.doi.org/10.1111%2Fexsy.12677>
- Norwood, A. (2022, March 27). What does Self-Assessment and Self-Reflection bring to the Learning Journey. *School box*. <https://freeurlshortener.net/QBS>
- What is Formative Assessment? - Strategies & Examples. (2017, April 11). Retrieved from <https://study.com/academy/lesson/what-is-formative-assessment-strategies-examples.html>.
- Perez, A. (2021) Internet access 'main challenge' for teachers in distance teaching in PH: study ABS-CBN News, Retrieved from <https://news.abs-cbn.com/spotlight/08/17/21/internet-access-main-challenge-for-ph-teachers-study>
- Pokhrel, S. & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Sage Journal*, 8(1):133-141. <https://doi.org/10.1177%2F2347631120983481>
- Radu, M. C., Schnakovszky, C., Hergelegiu, E., Ciubotariu, V. A., & Cristea, I. (2020). The Impact of the COVID-19 Pandemic on the Quality of Educational Process: A Student Survey. *PubMed Central*, 17(21), 7770. Doi: <https://dx.doi.org/10.3390%2Fijerph17217770>
- Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks* 7(1), 68-88. [https://www.ideals.illinois.edu/bitstream/handle/2142/18713/RichardsonSwan%20JALN7\(1\).pdf](https://www.ideals.illinois.edu/bitstream/handle/2142/18713/RichardsonSwan%20JALN7(1).pdf)
- Rourke, L., & Kanuka, H. (2009). Learning in Communities of Inquiry: A Review of the Literature (Winner 2009 Best Research Article Award). *International Journal of E-Learning & Distance Education / Revue Internationale Du E-Learning Et La Formation à Distance*, 23(1), 19-48.
- Schindler, LA, Burkholder, GJ, Morad, OA, Marshet, C. (2017). Computer-based technology and student engagement: a critical review of the literature. DOI 10.1186/s41239-017-0063-0

- Shea, Peter & Bidjerano, Temi (2012). Learning presence as a moderator in the community of inquiry model. <https://doi.org/10.1016/j.compedu.2012.01.011>
- Shuell, T. J. (1986). Cognitive Conceptions of Learning. *Review of Educational Research*, 56(4), 411–436. <https://doi.org/10.3102/00346543056004411>
- Szapkiw, M. and A. (2010) Garrison et al.'s Community of Inquiry Framework. Retrieved from <http://www.amandaszapkiw.com/elearning/principles-of-design/module-1/garrison-et-als-community-of-inquiry-framework.html>
- Tanner, K. D. (2017). Promoting student metacognition. *CBE-Life Sciences Education*, 11(2); 113-199. <https://doi.org/10.1187/cbe.12-03-0033>
- Toader D-C, Boca G, Toader R, Măcelaru M, Toader C, Ighian D, Rădulescu AT. (2020). The Effect of Social Presence and Chatbot Errors on Trust. <https://doi.org/10.3390/su12010256>
- UNESCO (2020). Distance Learning Solutions. <https://en.unesco.org/covid19/educationresponse/solutions>
- University of Tasmania. (n.d.). *Teaching and Learning Examples of Learning Activities*. Retrieved March 27, 2022, from <https://www.teaching-learning.utas.edu.au/learning-activities-and-delivery-modes/planning-learning-activities/examples-of-learning-activities>
- Zehra Akyol & D. Randy Garrison (2011). Assessing metacognition in an online community of inquiry. <https://doi.org/10.1016/j.iheduc.2011.01.005> (<https://star.ehe.osu.edu/scaffolding-module/vygotsky/>).