INVESTIGATING EXPERIENCES AND OUTCOMES OF K-12 BLENDED LEARNING CLASSES THROUGH THE COMMUNITY OF INQUIRY FRAMEWORK

A Thesis submitted by

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Abstract

Despite barriers and challenges to information and communications technology integration in Philippine schools, open and distance elearning programs under the Alternative Delivery Mode are being implemented as a viable means to provide quality basic education. Blended learning programs and flexible learning options are emerging to serve marginalized student populations. However, teaching and learning interactions in these K-12 programs remain hidden. The purpose of this case study was to investigate the experiences and outcomes of K-12 blended learning classes through the lens of the Community of Inquiry, a longstanding framework in higher education research to examine online educational experiences. It has yet to be applied in the K-12 setting where there are gaps in research to leverage support for blended learning and the development of learning communities. This study sought to explore the elements of the framework to determine its applicability in settings where traditional and didactic methods dominate classroom teaching approaches.

Qualitative data were gathered through interviews, focus group discussions, surveys, class observations, virtual classroom stored data, and field notes to examine the nature of blended learning interactions in three urban public schools. The study captured the experiences of K-12 teachers and students engaged in blended learning classes. Using content analysis and descriptive statistics, K-12 blended learning interactions were examined and revealed similar themes from higher education research, namely: 1) learning as best of both worlds, 2) learning as anytime, anywhere, and 3) learning with technology. Findings point to the positive experiences of both teachers and students. Overall positive student satisfaction was indicated among students who were learning on their own and with others. Positive outcomes were also demonstrated through interactions with varied content and learning activities in face-to-face and online classes enabled through a learning management system and Facebook Messenger.

The study likewise re-examined the blended learning interactions through the categories and indicators of teaching presence, social presence, and cognitive presence. Manifestations of these presences revealed learning

communities as outcomes of K-12 blended learning interactions. Results revealed setting the climate for learning at the intersection of teaching presence and social presence, as the space where teachers and students engage in role fulfillment and building connectedness as members of a learning community. Students experienced the teaching presence through the design and organization of online lessons and activities and facilitation in their face-to-face classes. Social presence was highly demonstrated by teachers and students through examples of affective expression and interactive communication. The data revealed a shared motivation among students to interact and learn and a shared view on the importance of technology to learning. The findings also affirmed regulating learning at the intersection of teaching presence and cognitive as applicable to the K-12 setting. Within this space, students and teachers manifested trust and reciprocation towards the attainment of shared goals which are indicative of learning communities.

This study justified the Community of Inquiry as a practical framework to understand and guide teaching and learning in K-12 blended learning classes in the Philippines. Given the recent shift to fully online learning, the study's documentation of blended learning practices strategically positioned the schools for knowledge sharing to influence blended and online learning pedagogy and practices within the district. A Development Model of K-12 Blended Learning Communities was drawn from the study to represent how current blended learning programs can transition to a transformative kind of blended learning. It recommends the application of the proposed CoI framework for K-12 Learning Community Building to guide and inform blended learning orientation and course design and delivery. A self-reflection tool for teachers based on the CoI instrument is being proposed to highlight the role of teachers in the development of learning communities. The proposed modification of the CoI categories and indicators and corresponding K-12 CoI instrument are areas for validation in future research. Policies related to blended learning program development and implementation may be formulated based on models and practices documented in this study. Future linkages with the University of the

Philippines Open University are highlighted which include pre-service teacher education field practice in K-12 blended learning programs and prospective Year 12 blended course offerings as pathways to open university education. Opportunities for the professional development of teachers and service learning initiatives through academic learning support and co-development of open resources are also recommended.

Certification of Thesis

This Thesis is entirely the work of Juliet Aleta R. Villanueva except where otherwise acknowledged. The work is original and has not previously been submitted for any other award, except where acknowledged.

Principal Supervisor: Dr. Petrea Redmond

Associate Supervisor: Dr. Linda Galligan

Student and supervisors' signatures of endorsement are held at the University.

To Mauro, my dear son –

we get lost at times, but we always find our way.

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List of Acronyms and Abbreviations

ACE	Adolescent Community of Engagement
ADM	Alternative Delivery Modes
CoI	Community of Inquiry
CP	Cognitive Presence
DepEd	Department of Education
ESL	English as Second Language
FB	Facebook
FGD	Focus Group Discussion
GC	Groupchat
ICT	Information and Communication Technologies
ISP	Instructor Social Presence
K-12	Kindergarten to Grade 12
LCD	Liquid Crystal Display
LMS	Learning Management System
ODeL	Open and Distance eLearning
OHSP	Open High School Program
SP	Social Presence
SPSS	Statistical Package for the Social Sciences
TP	Teaching Presence
UPOU	University of the Philippines Open University

Chapter 1 – Introduction

1.1 Overview

This chapter provides the background and justification for the study. It discusses briefly the current state of Open and Distance eLearning (ODeL) programs in the Philippines where blended learning programs are situated. Gaps in research for blended learning are revealed. The chapter draws from research into learning communities and argues for the Community of Inquiry framework to further investigate the problem. Previously mentioned contributions to the theory and practice of ODeL in the Philippines are elaborated as they relate to blended learning, learning communities, and the Community of Inquiry framework.

1.2 Background of the Study

ODeL programs in the Philippines have grown in recent years to accommodate secondary level students and adult learners (Alfonso, 2014; Bonifacio, 2013; Sabio & Sabio, 2013). ODeL provides students with the flexibility of time and space for learning (Maboe, 2019) in educational programs which advocate the philosophy of open learning, distance education pedagogies and the use of modern technologies (Alfonso, 2014; Arinto, 2016). Originally coined in the Philippines, ODeL is defined by Alfonso (2012) as "forms of education provision that use contemporary technologies to enable varied combinations of synchronous and asynchronous communication among learners and educators who are physically separated from one another for part or all of the educational experience" (as cited in Arinto, 2016, p. 163). It has become an accepted field of research among distance education and online learning practitioners in Asia where such programs continue to thrive.

The observed growth of these ODeL programs in the Philippines coincided with the Department of Education's shift to the K-12 Enhanced Basic Education program for quality education for all. The shift entailed much needed policies and reforms to include a commitment to invest in technology

to improve access to quality education. The integration of information and communication technologies (ICT) in K-12 educational programs were anticipated to enable computerization programs, flexible learning options, and the use of educational technologies and online learning resources (Bonifacio, 2013; Prias, 2012; Tomaro & Mutiarin, 2018). However, barriers and challenges to ICT integration in schools have been reported. Examples are lack of software and hardware infrastructure, facilities and materials to integrate the use of technology; connectivity issues; and concerns regarding teacher preparedness (Aguinaldo, 2013; Ertmer, 1999; Kubota, Yamamoto, & Morioka, 2018; Tinio, 2002; Tomaro & Mutiarin, 2018).

Despite the above-mentioned limitations, some Filipino teachers have been reported to hold favorable attitudes and positive perceptions towards ICT use in their classrooms and a high regard for the innovation it brings (Bonifacio, 2013; Cajilig, 2009; Dela Rosa, 2016). Some students have also gained motivation and confidence while learning with the supplementary use of digital technologies in their classes (Aguinaldo, 2013; Carreon, 2018). In Philippine ODeL higher education institutions, instructors' explorations with the use of digital media tools and platforms (Cantada, 2012; Dayagbil, Pogoy, Suon, & Derasin, 2018; De Jesus, 2017; A. F. D. Librero, 2014) and approaches to blended learning (Malto, Dalida, & Lagunzad, 2017; Mancao, Hermosisima, Baclagan, & Aggarao, 2014) have brought about positive student engagement. Notwithstanding these positive findings, K-12 teachers admittedly have limited knowledge of how to integrate ICT with their teaching, therefore, an indication of much needed professional development in the areas of ICT-curriculum integration and ICT-enhanced teaching (Caluza et al., 2017; A. Flor, 2008; Tomaro & Mutiarin, 2018).

Enthusiasm and positive attitudes towards teaching with ICTs and teacher professional development paint only a part of the picture. The bigger part is whether these actions and efforts are grounded in pedagogies so that teaching and learning become truly transformative (Christensen, Horn, & Staker, 2013; Halverson, Spring, Huyett, Henrie, & Graham, 2017). Suffice to say, Philippine classrooms are often dominated by traditional, transmission, and

content-driven pedagogies (de Mesa & de Guzman, 2006), and in some rural areas, there exists a low quality of instruction (Santillan, 2011). Despite diverse topics being covered in professional development, teachers resort to direct instruction and didactic methods to ensure coverage of curriculum standards and content required (Espiritu & Budhrani, 2019; Gutierez, 2015). In a study among expert ODeL practitioners in the Philippines, Arinto (2016) observed that teaching with ICT tools through blended and online learning required going beyond acquiring technology skills. The study recommended for ODeL professional development to be grounded on a good understanding of the varied forms of technologies, and how this affects class interactions. Pedagogical reorientation and engagement in communities of practice were also recommended to design courses and learning materials meant for the varied needs of distance learners (Arinto, 2016). Beyond these are ways to promote social values among students by capitalizing on social media spaces (Alfonso & Garcia, 2015) and sense of community and reciprocation in virtual learning communities within ODeL programs (Villanueva & Librero, 2010).

Despite these barriers, issues, and challenges in ICT integration and blended learning, K-12 ODeL programs have continued to serve marginalized student populations, especially in public secondary schools where blended learning and flexible learning options are emerging. The K-12 system in the Philippines is comprised of government run-public schools and privately owned schools, as seen in Figure 1.2. Under the private schools are sectarian schools (e.g. Catholic schools, Filipino-Chinese schools) and non-sectarian schools (e.g. Montessori schools, Progressive schools). Within the public and formal K-12 education system of the Philippines, ODeL programs have been conceptualized and implemented under the Alternative Delivery Modes (ADM) to target potential school leavers, minimize youth dropouts and provide access to other students in unusual circumstances (*DepEd Order No. 54 s.12*, Phils). One kind of ADM is the eLearning Program which has been adopted selectively in one city school district. The said program capitalizes on the strengths of blended learning delivery and support from current stakeholders. Another kind of ADM is the Open High School Program (OHSP) which aims to enable children, youth, and adults to continue and

complete a secondary education outside of the conventional classroom delivery (*Open High School System Act 2014 s. 2277*).

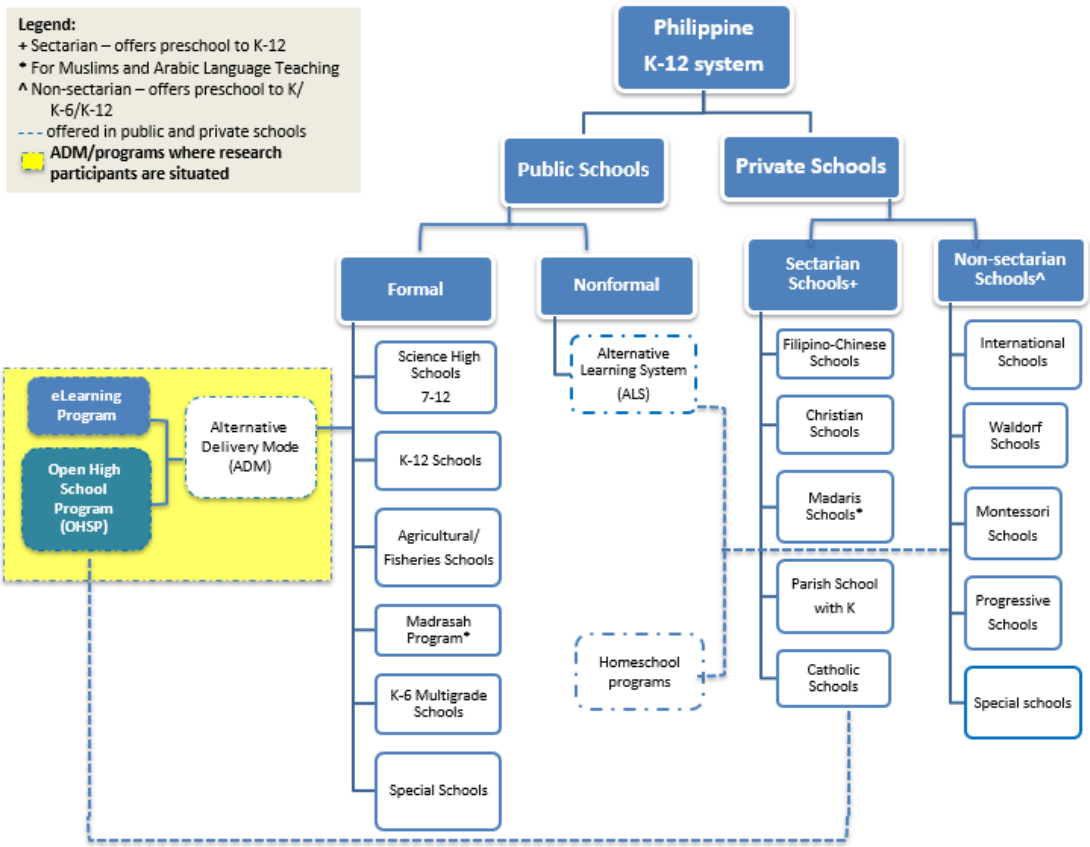


Figure 1. 1 K-12 Schools/Educational Programs in the Philippines

Findings on these selected programs recommended in-depth teacher training on blended learning course delivery and the use of methodologies and technologies for independent learning (Seameo-Innotech, 2015). Case studies on these ADM reported gains and challenges to their current implementation but with a limited number of schools becoming involved in genuine blended learning. The findings from these case studies have called for a policy review to ensure quality learning and alignment of curriculum to the K-12, together with directives and guidelines to support school-level innovations and the improvement of teachers' skills and pedagogies to ensure independent and self-directed learning among youth learners of the OHSP within the public school system (Seameo-Innotech, 2019). Further research to improve the quality of student engagement and assessment in blended learning and flexible learning delivery was also suggested in studies which examined the OHSP in the private school system (A. Flor, 2014; B. G. Flor &

Flor, 2017; B. G. Flor & Yabut, 2014).

While the shift to a K-12 system is in its transition years from a ten-year basic education program, research to leverage support specifically for blended learning and flexible learning options in the Philippines highlights the need to widen access to marginalized student populations. However, studies that explicitly shed light on the current state of blended learning pedagogies and practices, teacher and learner interactions, and experiences have yet to take place. Findings on K-12 blended and online learning in the Philippines are limited (Barbour et al., 2011) and the same can be said of the state of research internationally (Barbour, 2018). The existing scholarship focuses on programs in the United States with minimal reports coming from New Zealand, Canada, Australia and South Africa (Barbour, 2018; Hu, Arnesen, Barbour, & Leary, 2019). A major study often mentioned is by Barbour et al. (2011) which reported on issues and challenges in K-12 blended and online learning practices worldwide. The study discussed the scope of current research into standards of quality courses, effective online teaching, and teacher roles which impact on student learning. Findings indicated that though teacher training is available, there is a lack of pre-service teacher preparation and quality standards to guide teaching. More importantly, there is a lack of knowledge of the practices and benefits of blended and online learning (Barbour et al., 2011). Future research was recommended specifically into effective online teaching strategies, ways to increase student interaction, and the need to further investigate learning interactions and experiences (Barbour, Archambault, & DiPietro, 2013).

Given that blended learning is still emerging as a workable practice in the few schools implementing programs under the ADM of the Philippines, understanding real-life experiences of teachers and students may serve to inform future practice and pedagogy. In this way, blended learning can continue to thrive within the K-12 Enhanced Basic Education system in the Philippines in conditions that allow for it to succeed and benefit its target population. If K-12 blended learning programs are to thrive within contexts such as the Philippines where barriers and challenges to ICT integration

exist, these must draw from research-based practices and frameworks in the field of ODeL. Certainly, there has to be a common frame through which blended and online learning experiences and its outcomes may be understood at the K-12 setting. The construct of learning communities has been applied in prior higher education studies to further understand blended and online learning interactions and outcomes. Kowch and Schwier (1997) defined learning communities as "collections of individuals who are bound by a natural will and a set of shared goals and interests" (p. 1). Key to learning communities are open and harmonious interactions which are facilitated through varied modes of communication and result in "the engagement of ideas, people and processes" (Schwier, 2001, p. 10). This study is grounded on research into learning communities to examine interactions in emerging blended learning programs situated within the K-12 educational system of the Philippines.

Blended and online learning programs have proven to be viable spaces for learning communities to flourish through varied levels of interactions (Moore, 1989; Swan, 2003). Research into blended and online learning attested to the formation of learning communities wherein knowledge construction and social learning through interaction, collaboration and personal accountability take place (Swan, 2002; C. M. Zhao & Kuh, 2004). The formation of learning communities indicate strong links between interaction, sense of community and student satisfaction and success in blended and online learning programs (Rovai, 2002; Shea, 2006; Swan, 2002; Swan & Shea, 2005) which contributed to a reduction of attrition rates among students (Liu, Gomez, Khan, & Yen, 2007; Rovai, 2002). Learning communities may be explicitly built, designed and maintained allowing participants to communicate in an atmosphere of openness, mutual support, trust, and respect (Brown, 2001; Palloff & Pratt, 2007; Schwier, 2001; Tsai, 2012; Vesely, Bloom, & Sherlock, 2007) which in turn serve as a strong foundation for meaningful discourse and quality learner engagements in blended and online learning environments (Shea, 2006; Swan & Shea, 2005). These findings on learning communities have been researched extensively in higher education (Brown, 2001; Garrison & Arbaugh, 2007; Palloff & Pratt,

2005; Parra, 2017; Wenger, 2000).

However, there is a gap in research in the context of learning communities at the K-12 levels which have increasingly moved into blended and online learning and flexible modes of delivery, particularly in non-Western contexts (Barbour & Reeves, 2009; Christensen et al., 2013). Hence, this study seeks to fill that gap in research related to K-12 blended learning in contexts different from that which dominates current literature on blended learning. This research posits that learning communities as outcomes of blended learning may be further understood through research-based frameworks drawn from the field of ODeL, particularly the Community of Inquiry (CoI) framework by Garrison, Anderson, and Archer (2000). This study intends to inform K-12 blended learning pedagogy and practice in settings where innovations are emerging from the grassroots level and where the learning culture is still largely influenced by instructivist pedagogies.

Learning communities in higher education are exemplified by communities of inquiry where participants experience active engagement in knowledge construction and reflection through constant communication and dialogue (Palloff & Pratt, 2007; Swan & Shea, 2005). A community of inquiry is described by Lipman (2003) as where "students listen to one another with respect, build on one another's ideas, challenge one another to supply reasons for otherwise unsupported opinions, assist each other in drawing inferences from what has been said, and seek to identify one another's assumptions" (p. 20). In the Philippines, there have been earlier attempts to explore Lipman's community of inquiry as a pedagogy in the public schools as early as 1992 (Mancenido-Bolaños, 2018). Lecture discussions on creative thought and critical discourse were delivered through teacher training workshops. Reflective thinking as a practice was introduced in selected elementary school classes (Z. Lee, 2009) through the implementation of the Philosophy for Children (Canuto, 2015; Z. Lee, 2014; Mancenido-Bolaños, 2013). Successes have been documented based on student and teacher testimonials of engaging in a range of higher order thinking skills (Sta. Ana, 2008). In sum, these initiatives to infuse Lipman's community of inquiry as a

pedagogy in basic education were largely fueled by Filipino philosophers. Whether these have led to lasting innovations to benefit a wider teacher and student population is another matter altogether, as there is still much needed professional development on the CoI (Mancenido-Bolaños, 2018). This study, while building on the use of the CoI in the Philippine setting, intends to capitalize on the work of Garrison et al. (2000), it being as timely to the emergence of blended learning in the Philippines. As a theoretical framework, the CoI has been proposed by Garrison et al. (2000) to examine educational experiences in higher education blended and online learning environments. Its major function is "to manage and monitor the dynamic for thinking and learning collaboratively" (Garrison, 2017, p. 24). The CoI has been reported to be a valid, influential, and often cited theory that has fueled research into blended and online learning for decades (Halverson, Graham, Spring, & Drysdale, 2012; Rourke & Kanuka, 2009).

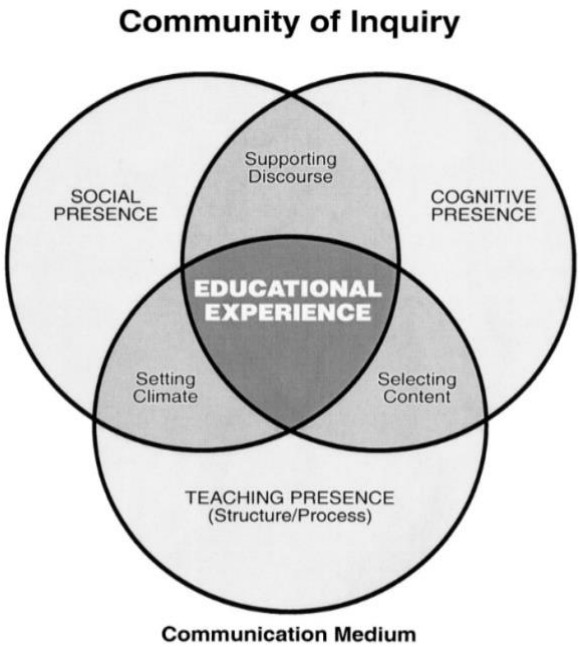


Figure 1. 2 The Community of Inquiry framework by Garrison, Anderson and Archer (2000)

The CoI framework posits that meaningful and deep learning can take place in blended or online environments and this largely happens through the interplay of three presences: teaching presence, social presence and cognitive presence. Teaching presence is "the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson,

Rourke, Garrison, & Archer, 2001, p. 5). Social presence "is the ability of participants to identify with a group, communicate openly in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities" (Garrison, 2017, p. 25). Whereas, cognitive presence is defined "as the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry" (Garrison, Anderson, & Archer, 2001, p. 11).

At the crux of the CoI framework are educational experiences considered as process and product of the co-construction of knowledge through analysis, questioning and challenging assumptions, critical thinking and reflection (Garrison & Arbaugh, 2007) which are marks of constructivist engagement in one's learning and learning with others. Facilitation and instruction, though seen as shared roles among teachers and learners, are directed toward the fulfillment of common learning goals. Through interaction and collaboration largely mediated by communication and technology, learners are able to tap into their psychological tools to internalize learning (Cox-Davenport, 2010). Therefore, within a successful community of inquiry, the social interactions are not end in themselves; rather these become explicit processes for knowledge sharing and intellectual discourse to be sustained over a period of time towards high-level learning (Palloff & Pratt, 2007).

The CoI framework has been proven to be a valid framework to examine blended and online learning as it identified a set of categories and indicators through which the three kinds of presences may be examined and analyzed. These "were generated to allow for the objective and consistent coding of transcript messages specific to the categories" (Garrison, Anderson, & Archer, 1999, p. 102). A brief summary of categories and indicators is shown in Table 1.1. Teaching presence is believed to play a vital role in maintaining the balance and function of the other elements of the CoI framework in achieving desired learning outcomes (Garrison & Anderson, 2003; Garrison & Cleveland-Innes, 2005). Cognitive presence and social presence are likewise achievable in a learning community, through the instructor's design of quality

learning tasks (Akyol & Garrison, 2008). Studies have also indicated that teaching presence positively influences these two presences, (Garrison, Anderson, & Archer, 2010; Joo, Lim, & Kim, 2011; Shea & Bidjerano, 2008; Szeto, 2015) and student sense of classroom community (Shea, Li, & Pickett, 2006).

Table 1. 1

Community of Inquiry Categories and Indicators

Elements	Categories	Indicators
Teaching Presence	Design & Organization Facilitating Discourse Direct Instruction	• Setting Curriculum & Methods • Shaping Constructive Exchange • Focusing and Resolving Issues
Social Presence	Open Communication Group Cohesion Personal/Affective Expression	• Learning Climate/Risk-Free Expression • Group Identity/ Collaboration • Self-Projection/ Expressing Emotions
Cognitive Presence	Triggering Event Exploration Integration Resolution	• Sense of Puzzlement • Information Exchange • Connecting Ideas • Applying New Ideas

Note. Adapted from *E-Learning in the 21st Century A Community of Inquiry Framework for Research and Practice* (p.28) by D.R. Garrison, 2017, New York, NY: Routledge/Taylor and Francis Group. Copyright 2017 by Taylor and Francis.

The CoI framework is now being appreciated by researchers for its coherent whole by closely examining patterns and relationships between the elements (Garrison, Anderson, et al., 2010; Garrison, Cleveland-Innes, & Fung, 2010). Through the interplay of teaching presence and social presence, trusting relationships are sustained and remain of great importance as it positively influences cognitive presence (Peacock & Cowan, 2016). However, there is still a lack of research in CoI which establishes in detail how the presences work in unison. Swan et al. (2008) indicated that few studies have examined interactions among these presences, hence validating the CoI survey instrument which measures all three presences. However, Parker and Herrington (2015) while doing a systematic review of CoI found that limited

studies are looking into the intersections of the elements of the CoI framework, and a theoretical analysis of these areas has not been thoroughly undertaken.

For over a decade, the CoI framework has been validated in empirical studies that examine the instructional design, teaching practices, and facilitation of communities of practice and measure the quality of engagement and learning outcomes in virtual or online learning communities, although mostly in higher education. This study aims to apply the CoI framework in other blended learning contexts where K-12 teachers and learners engage in varied interactions and experiences though they may not have explicit guidance nor knowledge of constructivism and learning community building.

1.3 Problem Statement

Among developing countries in Asia, research on the successful integration of ICT in course design and school environments, as well as in blended and online learning programs at the K-12 levels is limited (Prias, 2012; Tinio, 2003; Wright, Dhanarajan, & Reju, 2009). Therefore, blended learning experiences in these contexts are hidden and their outcomes remain unknown. This study posits that the elements of the CoI framework have the potential to reveal and deepen understanding of blended learning experiences and outcomes at the K-12 setting. For its central question, this research asks: In what ways do the experiences of teachers and students signify learning communities as outcomes of K-12 blended learning classes?

The research sub-questions for the study are as follows:

1) What is the nature of interaction in K-12 blended learning classes?
2) How is teaching presence manifested in blended learning classes?
3) How is social presence manifested in blended learning classes?
4) How is cognitive presence manifested in blended learning classes?

1.4 Research Goals

This study was situated in the teaching and learning experiences of K-12 teachers and learners engaged in blended learning within selected public

schools implementing ODeL programs in the Philippines. The purpose of this study was to investigate the experiences and outcomes in K-12 blended learning classes through the CoI framework proposed by Garrison et al. (2000). This study seeks to capture actual experiences and outcomes of blended learning which may aid in decision-making in terms of policies and guidelines in the implementation of ODeL programs and professional development of teachers. This study explored the CoI framework to determine its applicability among Filipino teachers and learners to ascertain its rightful place to frame prospective intervention in terms of blended learning pedagogy and practice, teacher professional development, and school-based implementation and policymaking.

1.5 Significance of the Study

The study built relevancy to stakeholders within the K-12 education system in the Philippines, most especially in the emerging practice of K-12 blended learning considered as ODeL programs, and more so to the wider education research community. The study sought to contribute to knowledge sharing among teachers, instructional designers and school leaders within the district who are immersed in the practice of ADM and flexible learning options within the basic education system. Evidence of K-12 blended learning interactions serves as samples of teaching presence, social presence and cognitive presences. These demonstrated and validated the current practice of blended learning at the K-12 level.

The qualitative methodology in this study encouraged teachers to reflect on shared experiences and perceptions of blended learning. This study also sought to engage instructional designers in developing countries where blended learning programs are now emerging through the support of ICT, specifically the use of social media and content and learning management systems among K-12 learners. The results of the study captured interactions at varying levels to include interactions with technology interfaces. This research was meant to increase awareness of blended learning and initiatives in the area of integrating ICT in teaching. These may in turn influence school leaders and district level education supervisors on professional development

to effectively implement blended learning or other forms of flexible delivery through the strategic use of research-based frameworks, K-12 learning platforms, and technologies in their alternative learning programs and learning community building in general.

The study has the potential to influence policymakers and researchers into K-12 ODeL, and other flexible learning options of the Department of Education as it continues to develop ways to address program needs in the area of pedagogy, instructional design and learning community building. The results of the study gave credence to concrete teacher and learner initiatives to undertake blended learning despite challenges. The study hoped to engage commitment from stakeholders towards the provision of mechanisms of support through teacher and school capacity building as people and systems learn to cope with a growing number of students getting into these types of education programs.

Likewise, this study presents future opportunities for action research and design-based research geared towards pedagogies and practices to enhance learning community building, as well as professional development for K-12 blended learning. Baseline qualitative data on outcomes of blended learning will lend perspective to both future quantitative and qualitative studies in the Philippines along the lines of K-12 learning community building, instructional design and delivery of blended learning. Likewise, teacher-researchers and practitioners will benefit from a demonstration of K-12 classroom-based research which makes use of a longstanding theoretical framework grounded in ODeL practice in higher education.

This study builds on existing theory and research in the CoI framework as it widens its application in educational environments in developing countries such as the Philippines and within the K-12 context. Findings from this qualitative study are deemed generalizable within the population included in this study; this research demonstrates meaningful use of valid measures of learning communities. The study will extend the understanding of its elements and ascertain its compatibility in a particular or peculiar context.

The CoI Survey will be adapted to the K-12 Filipino teachers and learners and in a language suited to the context of the research participants. It will, therefore, add value to existing measures of the CoI to solidify prior findings based on a qualitative research methodology.

1.6 The Structure of the Thesis

The chapter that follows focuses on the literature review of the thesis. This reveals the gaps in the literature related to learning communities, blended learning and the CoI framework. The methodology chapter comes next to justify the exploratory case study design and discuss in detail data collection and analysis undertaken in this research. In keeping with this study's qualitative methodology, the subsequent parts contain four chapters of findings and discussion, namely:

Chapter 4 The Nature of Blended Learning Interactions in K-12 Blended Learning Classes

Chapter 5 Manifestations of Teaching Presence in K-12 Blended Learning Classes

Chapter 6 Manifestations of Social Presence in K-12 Blended Learning Classes

Chapter 7 Manifestations of Cognitive Presence in K-12 Blended Learning Classes

The final chapter concludes the thesis with the response to the central research question, contributions and implications for future research.

1.7 Chapter Summary

This chapter introduced the main thesis of this study through its aims and objectives based on the context of ODeL programs in the Philippines. Gaps in research related to learning communities, blended learning in the Philippines, and the Community of Inquiry framework were briefly discussed and situated in this study. The chapter justified ways this study seeks to contribute to existing research on K-12 blended learning and the CoI framework. The next chapter will delve deeply into the research literature to further discuss themes on learning communities and findings on the CoI and blended learning in higher education and the K-12.

Chapter 2 - Review of Related Literature

2.1 Overview

This chapter presents a discussion on the following issues: a review of research on learning communities, the CoI framework and blended learning. The chapter provides a background on learning communities through varied conceptions of communities and a thematic discussion on learning communities. These notions assert that a socio-constructivist view on learning is at the heart of learning communities, setting it apart from other constructs discussed in the literature.

The CoI exemplifies learning communities through its elements, namely teaching presence, social presence and cognitive presence. These are discussed at length to reveal its categories and indicators and research on its links with either student satisfaction or learning success, most importantly in the development of learning communities. Areas for further research on these presences will also be established in this chapter which indicates its possible applicability in the K-12 setting.

The section on blended learning clarifies its meanings and forms beyond the modalities of learning often mentioned in literature. The review will highlight gaps in research on blended learning, making it a robust space to examine the lived experiences of participants in a learning community through the lens of the CoI framework.

2.2 Learning Communities

This section of the literature review initially discusses the conceptions of communities leading to the construction of learning communities. Arguments for learning communities raised by Bielaczyc and Collins (1999) are first discussed then aligned with the themes on learning communities found in research.

2.2.1 Conceptions of Community

Conceptions of community have been studied in the fields of social sciences, education and community development in attempts to capture its complexity as a social phenomenon (Barab, Warren, del Valle, & Fang, 2006; Hunter, 2008). Varied definitions, characteristics, and elements of community reveal ways individuals and groups have experienced what it means to be part of a community. Shaffer and Anundsen (1993) defined a community as:

> a dynamic whole that emerges when a group of people participates in common practices, depend upon one another, make decisions together; identify themselves as part of something larger than the sum of their individual relationships, and commit themselves for the long term to their own, one another's, and the group's well-being (p. 11)

Peck (1987) acknowledged that the seeds of community lie in humans, being social species possessing individual differences. Upon realizing the idea of the other beyond the self, humans can choose to go beyond themselves and see the value of collective spirit. This leads to realistic decision-making through communication, contemplation and consensus (Peck, 2010). Communities, therefore, provide a safe place for their members to be themselves and be accepted. When conflicts arise, these are in time resolved as every member is called to transcend conflicts despite their differences in order to become "true community" (Peck, 1987, p.59). In community development practice, the community becomes a space for adults to develop critical awareness and engage in the cycle of action and reflection for development or transformation (Freire, 1970; Hope & Timmel, 1984). In education literature, Barab (2003) stated that the term community has been used most often as a slogan which sometimes fails to pursue pressing questions towards an analytical construct worthy of further investigation. Still, she claimed that a community has a shared history and cosmology, social interdependence, a common cultural and historical heritage, and a reproduction cycle (Sasha Barab, 2003; Sasha Barab & Duffy, 2000). As participants evolve together in their roles, other new and peripheral members become more active, thereby contributing to the community's growth. Thus, in a community, there exists a sense of self, a sense of others, and a sense of

purpose towards a common goal such as growth, learning, or knowledge contribution.

Building communities connotes strategies, stages, processes or levels which may be either implicitly or explicitly acted upon by members, and these result in some kind of change. Freire (1970), a pioneer of transformative education, believed that dialogue is a means to build and enhance community. Dialogue allows for meaningful sharing of experiences, listening and learning, making community a space for learning and transformation. Together, human beings are able to engage in praxis, grounded in their ability to trust, reason and bring to light solutions to their own problems. For this process to happen authentically, however, it is best executed intentionally with others (Hope & Timmel, 1984). Interpretations of Freire's (1970) work have led to exercises in conscientization, trust-building, shared leadership, self and mutual criticism, decision-making, and action planning applied to community building and organizing. Likewise, in community development practice, Manalili (1998, 2013) emphasizes forming communities for the people and by the people, namely through participatory methods: immersion, core group building, and mobilization grounded in the concept of equality and justice towards empowerment.

Communities may be borne out of crisis, or by accident, and most importantly can happen by design (Bielaczyc & Collins, 1999; Peck, 1987; Schwier, 2001). In the process of running community building workshops to effect community by design, Peck (1987) asserted that "communication is the bedrock of human relationships" (p.258). He proceeded to propose stages of community building which can be explicitly designed for groups of people to become community. Likewise, in maintaining true community, certain values and behaviors have to be observed. Celebration and appreciation of differences, keeping an openness to the idea of others, and effective communication are some of the examples explored (Peck, 1987). These principles that guide community building by design have been applicable to a variety of scenarios, namely organizational work, the formation of cooperatives, and people's organizations at the grassroots level.

Most of the conceptions of community and insights into community building are framed within the context of adult individuals and organizational experiences in face-to-face settings. When applied to schooling and classroom work, Bielaczyc and Collins (1999) referred to learning communities as a culture of learning and similarly highlight collective effort. Four characteristics were identified, namely, diversity of expertise, shared objective, emphasis on learning how to learn, and mechanisms for sharing. With these are arguments to justify learning communities as an approach to redesign education given the more complex world students find themselves in (Bielaczyc & Collins, 1999). These arguments are described in Table 2.1 and aligned with notions of community building discussed in this chapter.

Table 2. 1

Arguments for Learning Communities aligned with this Study's Literature Review

Arguments for Learning Communities by Bielaczyc and Collins (1999)	**Themes on Learning Communities** in this study's literature review	**Community building** by design and through community development strategies
Social-constructivist argument: People learn best through knowledge construction according to Dewey and Vygotsky. This view of education requires that for individuals to construct knowledge, the process must be modeled within a supportive learning community.[a]	Learning communities as socially negotiated through communication and collaboration	Conscientization, mobilization, shared leadership towards finding solutions together (Hope & Timmel, 1984) Use of dialogue and praxis or cycle of action and reflection (Freire, 1970)
Learning to Learn Argument: Increase in knowledge which students are expected to learn resulted in a changing demand for students to instead learn how to learn and with fellow learners towards becoming expert learners.[a]	Learning communities as a dynamic process of interaction and rapport building	Observation of shared values and community maintenance (Peck, 2010) Trust-building (Freire, 1970)
Multicultural argument: Communication technologies resulted in diverse people interacting and getting more connected, becoming closely integrated. Learning environments need to be constructed	Learning communities as a fulfillment of roles and functions; the shared experience of connectedness and sense of community	Openness and effective communication as key; observation of expected behavior despite differences (Peck, 2010)

to foster respect for diversity of views and the abilities to work and learn with one another.[a]		Participatory methods towards equality and empowerment (Manalili, 1990, 2013)

Note. [a]Adapted from Bielacyzc and Collins (1999)

With the emergence of computer-mediated communication, came multimodal ways to interact, thus the emergence of learning communities in virtual spaces. Constructs of learning communities as enabled by technologies abound in the literature (Schwier, 2001) and have carved their space in higher education, and these are virtual communities (Brown, 2001; Parra, 2017; Rheingold, 2008), communities of practice (Wenger, 2000), online learning communities (Garrison & Arbaugh, 2007; Palloff & Pratt, 2005). Virtual communities are considered "as an aggregation of individuals or business partners who interact around a shared interest, where the interaction is at least partially supported and/or mediated by technology and guided by some protocols or norms" (Porter, 2017, p. para. 10). Communities of practice consist of "people who engage in a process of collective learning in a shared domain of human endeavor: a tribe learning to survive, a band of artists seeking new forms of expression, a group of engineers working on similar problems, a clique of pupils defining their identity in the school, a network of surgeons exploring novel techniques, a gathering of first-time managers helping each other cope" (Wenger, 2011, p. 1). Online learning communities, whether within a course and/or a program have a clear purpose and are characterized by group processes such as interaction, collaboration and knowledge construction based on negotiated meanings by its members (Palloff & Pratt, 2007). Thus, online learning communities and virtual communities share the idea of occupying a virtual space and are used interchangeably. Communities of practice operate in face-to-face or online environments bound by shared expertise. In all these forms of communities, learning with and from each other as well as knowledge contributions may take place. Thus, learning communities are possible outcomes of member interactions.

Virtual communities behaving as learning communities have been researched in higher education. In an online graduate degree program of newly admitted students, Lipscomb (2019) observed that while students have indicated learning on their own, they have also felt the need for connectedness within a collaborative space outside their online courses. Drawing from Nye (2015), the suggestion of creating a collaborative space which mirrors residential university experiences, Lipscomb (2019) conceptualized a virtual community project. The virtual community was grounded on multimedia principles and aspects of the CoI framework where students are made responsible for learning community formation while working with an instructional designer tasked to facilitate and manage the virtual community project. Strategies for learning community building were outlined for potential use in the said project based on the works of Palloff and Pratt (2003). Examples of which are: orienting members on the responsibilities of students and roles of instructors; providing opportunities to reflect on these, and the community itself; modeling openness, humor, honesty; co-sharing roles of facilitation; and, willingness to allow students to take control of the learning process (Lipscomb, 2019).

A similar project was documented in a virtual community for undergraduate students in an open university in the Philippines. Through a case study, Villanueva and Librero (2010) examined the member perceptions and discussion forum posts in a virtual community site created outside online courses. Through the voluntary co-facilitation and site moderation of a few students and faculty members, online interactions were sustained among members coming from varied programs of the open university. The strategy of using a combination of online and offline activities for learning community building resulted in program-level events and participation in a major university-wide activity. Deeper forum discussions tackled topics such as student leadership and organization, academic learning support issues, and virtual community membership. These paved the way for program level improvements to address student needs in a cyber campus (Villanueva, 2011). The virtual community site participation served as a vehicle for students to

build their sense of community and identity as members of a top university alongside other residential campus students (Villanueva & Librero, 2010).

In both these fully online scenarios found in higher education, students and instructors alike were positioned to take on roles of facilitating interactions towards learning community building outside their usual courses. Both projects capitalized on a sense of community, open communication and group cohesion to sustain interactions towards learning community building. Sustained interaction in these forms of learning communities afforded by the use of ICT has forged the feeling of connectedness and belonging among community members towards the fulfillment of common needs which has been termed a sense of community in higher education research (McMillan & Chavis, 1986; Rovai, 2002). With the sense of community was a common intent to learn and contribute as members actively participate and collaborate to meet their educational needs beyond the grades and academic requirements (Chatterjee & Correia, 2020; Rovai, 2002; Rovai & Jordan, 2004).

Learning communities in K-12 indicated closely similar experiences to that of learning communities in higher education. K-12 online learning communities were likened to communities of practice which benefitted students based on a review of three exemplary learning communities by Pope (2013). She contended that the presence of teachers, the use of hybrid tools, and the design of an effective online environment resulted in learning community formation. Through a qualitative multi-case study and using Rovai's (2002) Classroom Community Scale, teachers' beliefs of community were examined and how they contributed to their online instruction. The study concluded that teachers' strong beliefs of learning community, to include trust, interdependence, and sense of community, enhanced positive course feelings and student retention in K-12 online education (Pope, 2013).

The present study is interested in blended learning communities where similar outcomes may be delivered. Possibly, increased opportunities to connect and collaborate through online platforms and other ICT tools afforded by blended learning contribute to learning community building. In a K-12 setting, teachers are expected to build rapport, direct learning, and

provide more guidance through sustained communications. Online and face-to-face communications with students are intrinsic to blended learning. Thus, research into learning communities in these contexts is deemed useful to inform diverse ways for interaction leading to student success in blended learning.

The next section elaborates on blended and online learning by unpacking themes of learning communities. These are based on findings in higher education and limited studies from the K-12 setting.

2.2.2 Learning Communities in Blended and Online Learning

Learning among community members, as it is today, is not merely experienced within a fixed physical space, nor through the face-to-face presence of co-learners with a common set of content and within a given time. Instead, learning has taken a multifaceted dimension with the use of technologies which allow for synchronous and asynchronous communications. Synchronous communications entail the exchange of information as simultaneous events compared to asynchronous communications wherein exchanges between the sender and receiver do not happen at the same time (Cacciagrano & Corradini, 2001). Learning synchronously involves the use of live chats or video-conferencing tools while learning asynchronously most often uses email groups or discussion forum activities. Modern technologies have also afforded learning in blended and fully online learning environments, combining the use of asynchronous and synchronous modes. Blended learning is afforded by the use of both face-to-face and online delivery of instruction while online learning relies on digital technologies and the internet. These modes of instruction have resulted in learning as happening anytime and anywhere (Bourne, Harris, & Mayadas, 2005), giving greater flexibility and control as well as transparency of roles and actions among its participants. More importantly, learning is not simply about outcomes of academic achievement nor the completion of degrees as concrete outcomes. The experience of learning is also about individual and shared gains grounded on sustained, meaningful discourse, collaboration, and reflection among community members (Garrison & Anderson, 2003; Lipman, 2003).

This study argues that wherever learning communities are situated, these share a common grounding in a socio-constructivist view of learning. The discussion in the next sections highlights the aspects and processes of learning communities in support of this socio-constructivist view of learning. These themes were drawn from research in blended and online learning experiences in higher education except for a small number from K-12 practices. Each theme corresponds to a set of arguments for learning communities stipulated by Bielaczyc and Collins (1999) namely, the socio-constructivist, learn to learn, and multicultural arguments presented in Table 2.1.

This research posits that what sets online learning communities apart from face-to-face communities is the manner by which teaching, and learning are experienced. Thus, themes of learning communities characterized by varied education literature are discussed thereafter, namely: learning community as interaction and rapport building, learning community as a dynamic process, learning community as the fulfillment of roles. These themes also reveal strategies for learning community building aligned with those of face-to-face communities. Most importantly, the review reveals gaps in research on learning communities.

2.2.2.1 Learning community as a dynamic process of interaction and rapport building

A learning community may be described and understood as a set of interactions to arrive at a common goal. Swan (2002) sought to extend thinking along the lines of blended learning and online community building through areas of interactivity discussed in research by Moore (1989) which are: interaction with content, interaction with instructors, and interaction with students. Swan's (2002) study involved two levels: the first study used a quantitative methodology to show findings according to these three types of interactivity, while the second study closely examined interaction among students based on an analysis of discussion in a graduate-level course. Key findings by Swan (2002) pointed to the value of interaction and harnessing opportunities to interact among learners within a learning community.

Support for the development of interaction among learning community members deserved further investigation (Swan, 2002).

Garrison and Cleveland-Innes (2005) also examined the nature of online learning and interaction among graduate-level students undertaking four course designs to examine the attainment of deep learning. Learning outcomes were not solely attributed to members actively engaging in interactions, rather the explicit design and strategies for learning were just as important to their experiences. The study echoed the assertions of Peck (1987) on the importance of explicit design to arrive at deep and meaningful experiences to attain common goals. Therefore, "interaction is not enough" (Garrison & Cleveland-Innes, 2005, p. 133) and collaboration through critical discourse is just as valuable for academic achievement and attainment of learning outcomes.

One definitive study which relates to increasing interactions for learning community building has been undertaken by E. Murphy and Rodriguez-Manzanares (2008) among distance education high school teachers. Rapport is said to facilitate mutual understanding, satisfactory communication, and harmonious interaction (E. Murphy & Rodríguez-Manzanares, 2012). Teachers deliberately engaged in rapport building to make up for a lack of face to face presence. "The more contact that you have with the student and the more familiar you are with them, the more they contact you regularly, the greater the chance of their success" (E. Murphy & Rodríguez-Manzanares, 2012, p. 175). These align with earlier findings on rapport building as a technique and as a phase which community members go through to organize and mobilize themselves towards a shared goal. Through rapport building, people break into the culture of trust, honesty and openness needed for a community action to thrive (Hope & Timmel, 1984). Relationship building for common understanding was also noted by Peck (1987) and the focus for community making efforts. Thus, these emphasize the value of interaction as a means to build rapport and connectedness.

However, in the context of ODeL, E. Murphy and Rodríguez-Manzanares (2012) found that challenges to rapport-building are teacher workload, design of the learning and software limitations. The choice of media and role of technology in blended and online learning environments has been studied in contexts where ICT has been accessible and readily applied (Bowers-Campbell, 2008; Mazer, Murphy, & Simonds, 2007; Velasquez, Graham, & West, 2013). However, there are settings where ICT integration in education is in its emerging stages (Bonifacio, 2013; Majumdar, 2013; Tinio, 2002) hence its potential in learning community building has yet to be fully realized. In these scenarios, examining ways teachers and students maximize technologies to build rapport and sustain interaction may provide interesting nuances. This study seeks to understand the experiences of students and teachers at different levels of interactions within blended learning classes which capitalize on the use of available technologies. This study intends to reveal the ways varied interactions are maximized for learning community building within chosen platforms or technologies for communicating and learning.

As far as learning communities in blended learning environments are concerned, studies supported the notion that blended learning provides the best of both worlds (B. Ward, 2004; G. Young, 2002). In blended learning, student interactions take place online and face-to-face, opportunities to socialize and learn in communities are increased. This study is interested to find out ways learning communities may be examined in contexts where blended learning, is not as prevalent or where learning community building may be hidden. The CoI framework to investigate blended and online learning in the K-12 setting was recommended by Garrison (2017), acknowledging the steady growth of programs catered to younger students. Despite sustained interest and research in the CoI, according to Befus (2016), only a handful was completed in the context of K-12 teachers and students. This study intends to address this gap and with a greater focus on learning communities.

2.2.2.2 Learning community as the fulfillment of roles and functions

Palloff and Pratt (2005) suggested that the process of creating and sustaining community goes beyond the notion of interaction and participation. They set apart a learning community from that of other virtual communities by considering the nature and role of participants towards meaningful learning. Most importantly, their study offered a model of a learning community consisting of elements as described below:

- People – the students, faculty, and staff involved in an online course
- Shared Purpose – coming together to take an online course, including the sharing of information, interests, and resources
- Guidelines – create the structure for the online course, by providing the ground rules for interaction and participation
- Technology – serves as a vehicle for delivery of the course and a place where everyone involved can meet
- Collaborative learning – promotes student-to-student interaction as the primary mode of learning and also supports socially constructed meaning and knowledge creation
- Reflective practice – promotes transformative learning (Palloff & Pratt, 2005, p. 3)

Members purposely engage in fulfilling their roles and functions as well as adhering to certain guidelines to ensure collaboration and reflective practice. Doing so results in learning experiences as transformative, thus likened to communities as conceptualized by Freire (1970) and Manalili (1990).

From the study by Brown (2001), nine themes were generated pertaining to community building, of which three themes brought to light the role of the teacher and veteran students at the center of the community building process. In particular, these themes were: instructor's role, student's role and class structure. In the context of the higher education setting, both teachers and active learners felt responsible for ensuring deep engagement among community members. Although the majority of the participants valued

interaction as a means to achieve camaraderie, specific roles and actions have to be taken to show responsibility not just for their own learning but that of others. Hence, building learning communities is viewed as a set of strategies to be employed by teachers and students as they go about fulfilling their roles. One of the strategies mentioned by Brown (2001) pointed to the promotion of openness, respect, trust, sincerity and understanding. Vesely et al. (2007) concurred with the above elements, but also included the following:

- establishment of boundaries defining who is a member and who is not
- establishment and enforcement of rules/policies regarding community behavior; interaction among members
- a level of trust, support and respect among community members (p.2)

Vesley et al. (2007) examined the views of instructors and students regarding the development of a learning community. The survey instrument was based on the study by Brown (2001), which generated open-ended responses from 48 graduate-level students and 14 faculty members. Findings indicate a common view on developing learning communities as a more challenging task compared to face-to-face communities. Both instructors and students found that being part of a learning community was supportive of student learning and performance and was thus valuable. Their study aligned with findings on blended learning as opportunities to nurture and sustain interactions while facilitating structured collaborations (Garrison & Cleveland-Innes, 2005; Yerasimou, 2010).

Therefore, this research intends to examine the roles teachers and students take on within their blended learning interactions and whether the fulfillment of these roles leads to learning communities as outcomes. Making these explicit serves to affirm current practices in terms of role expectations and fulfillment within blended learning classes in these contexts. This may influence the ways schools to prepare teachers and students to take part in blended learning programs, not only as participants of the program but as

members of learning communities with shared values and goals to achieve and enrich their learning experiences.

2.2.2.3 Learning community as socially negotiated through communication and collaboration

In the same way that Peck (1987) discussed the celebration of differences in becoming community, Kilpatrick, Jones, and Barrett (2003) claimed that the acceptance of diversity in a learning community signified willingness to learn new ideas, skills and practices. This willingness is made evident through collaboration and problem-solving. Schrage (1991) considered that collaboration is considered to be a higher form of communication and cognition because the process involves shared discovery, dialogue, productivity, and for a greater purpose, and that is to contribute to knowledge building. Tu and Corry (2003) stated that a learning community is the space for a group of individuals to collectively define, deliberate and act on solutions to their problems.

For the collaboration and knowledge contribution to take place in learning communities, trust must be felt and experienced by its members (Blanchard & Markus, 2004; L. Zhao, Lu, Wang, Chau, & Zhang, 2012). Shea et al. (2006) emphasized that research must be concerned with the development of trust, shared goals and mutual support more so because these qualities serve as a strong foundation for meaningful discourse. Their large-scale study involving 2036 college students from varied courses suggested that a successful learning community is likely to be built based on the strength of the relationship at the program level. This is mainly accomplished through collaboration. At the core of collaboration is social interaction and not as a mere byproduct of learning but as a major vehicle for knowledge construction. However, Reilly (2014) stated that beyond what collaboration is able to accomplish in terms of learning engagement, cognitive processes and discourse, is in itself a worthy outcome of learning communities.

This study will examine whether collaboration is experienced in settings other than adult learning and higher education. If so, this study is interested in meanings K-12 teachers and students derive from these experiences within their blended learning interactions. Findings are foreseen to recognize the outcomes of these experiences and inform ways teachers can further design instruction and facilitate collaborative interactions with the development of learning communities in mind.

2.2.2.4 Learning community as a shared experience of connectedness and sense of community

Research into distance education often shows a positive relationship between a sense of community and learning among adults in a learning community. Having a sense of community is what sets apart a learning community from a virtual group or forum (Jones, 1997). This sense of community is said to emanate from the exchange of support, identity construction and offline activities resulting from online interactions in a virtual community settlement. As participants sustain these interactions and develop a sense of community, involvement in virtual communities routinely occupies the lives of adult learners (Blanchard, 2008).

McMillan and Chavis (1986) defined the sense of community as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (p. 9). Four elements constitute this sense of community: membership, influence, integration and fulfillment of needs, and shared emotional connection. Dueber and Misanchuk (2001) further expanded on these elements in a qualitative study which examined communications among members of online distance education programs. The study examined and discussed findings on a sense of community based on these four elements summarized below:

> (1) Membership is concerned with boundary issues, often represented by feelings of belonging or sharing.

> (2) Influence is related to an individual's sense of mattering, being shaped by the group, and able to make a difference.
>
> (3) Needs, more specifically the integration and fulfillment of needs, deal with reinforcement and distribution of resources.
>
> (4) Emotional connection speaks to a community's shared history, similar experiences, and common worldview (p. 7)

Rovai (2002) built on this notion of learning community by making worthy mention of interactions involved in facilitating a sense of community. The goal of learning happens through task-driven interactions, while socially driven interaction takes place through meaningful online discourse and dialogue. When applied to online learning environments, a combination of these types of interactions are required to facilitate connectedness, foster a sense of community and contribute to reduced attrition rates among students (Liu et al., 2007; Rovai, 2002).

Likewise, for instructors to purposely design a sense of community in the context of learning, Brook and Oliver (2003) identified forms of engagement which instructors may employ as it relates to a sense of community, namely: reason and context for communication, enabling communication, supporting communication and facilitating communication. Their initial review of the literature within the context of online learning gave way to a framework which included varied types of communication to guide instructors. Their work supported the notion of community by design as purposeful and intentional in learning communities.

Like other research into the sense of community, however, studies rarely examine specific aspects in contexts where blended and online learning are still considered as an emerging practice. For example, prior research found the value of a sense of community among adolescents through face-to-face scenarios (Pretty, Conroy, Dugay, Fowler, & Williams, 1996). However, Evans (2007) asserted that a sense of community among adolescent learners has not been captured sufficiently in research.

A study on sense of community in the K-12 setting was completed by Wendt and Rockinson-Szapkiw (2015) using the sense of community scale of Rovai (2002). The study found that the sense of community among Grade 8 students was higher in the face-to-face classroom compared to the experimental group of students doing online collaboration using the Edmodo platform. However, there were no significant differences in terms of experiencing connectedness which was attributed to their familiarity and comfort level with their social media interactions. In addition, students found online communication to be inhibited and that certain collaborative activities were more difficult compared to face-to-face experiences. Future research was recommended on the role of adults in providing support for adolescents finding their voices and still learning to contribute in their circles of influence (Evans, 2007) as well as the role of rich media in facilitating communication to build collaboration and a sense of community (Wendt & Rockinson-Szapkiw, 2015).

Thus far, findings on a sense of community among adults and adolescents in face-to-face, blended and online learning environments have provided perspective on the value of connectedness among community members. Nuances were revealed as they related to the choice of media and the role of teachers among adolescent learners. These studies have been conducted in learning cultures where blended and online learning are established with institutional support. This study argues for research examining sense of community and connectedness which are equally important among adolescent learners situated in other school cultures and within their blended learning experiences. Making these known may inform the future practice of learning community building where blended learning is still emerging or beset with challenges to be fully realized.

In summary, from the themes of learning communities discussed in the prior sections, what these call to mind are aspects of learning communities which have mostly evolved in higher education learning environments. These are likewise supported by findings from face-to-face communities. For example,

trust, belongingness, identity, and connectedness are valued as integral to learning communities which are achieved through sustained interaction, rapport building, and explicit design, whether face-to-face or otherwise. All these are grounded on the idea that learning communities are marked by a sense of community, knowledge construction and contribution towards the attainment of personal and collective goals of learning.

With the rise of blended and online learning in the K-12 setting in recent years (Hartshorne et al., 2018) the formation of learning communities in these settings likewise merits attention. However, research on K-12 blended learning was reported to be limited in using theoretical frameworks or validated instruments (Barbour, 2018). While studies have shown quality interaction within learning communities leading to student success, not much is known about K-12 blended learning interactions and experiences (Blaine, 2019; Thurlings, Vermeulen, Bastiaens, & Stijnen, 2014). Blaine (2019) asserted the need to examine the nature and frequency of interaction among teachers and students in secondary schools. The CoI proposed by Garrison et al. (2000) was recommended as a worthwhile framework to guide understanding of the design and implementation of blended and online learning at the K-12.

2.3 The Community of Inquiry Framework

A longstanding framework related to research in learning communities is the CoI espoused by Garrison et al. (1999). This framework is grounded on the work of Dewey (1938), specifically his principles of interaction and continuity. Through interaction, ideas are generated, and meaning is shared and constructed, while continuity assures the foundation of new and much needed learning experiences (Garrison & Anderson, 2003). Likewise, the CoI has been associated with social constructivism which claims that knowledge is constructed among members or participants of a learning community. From a social constructivist viewpoint, learning happens by using prior knowledge to build new ideas and concepts. Thus, the CoI framework assumes that meaningful and deep learning can take place in an online environment. Through interaction and collaboration largely mediated by

communication and technology, learners are able to tap into their psychological tools to internalize learning (Cox-Davenport, 2010).

At the crux of the CoI framework are the educational experiences happening through the process of co-constructing and reconstructing knowledge by members of a learning community interacting through critical thinking, analysis, questioning and challenging assumptions (Garrison & Arbaugh, 2007). Collaboration and reflection allow students to learn critically and meaningfully (Garrison & Cleveland-Innes, 2005) while the facilitation and instruction, although seen as shared roles among teachers and learners, are directed toward the fulfillment of learning goals. Therefore, within a successful community of inquiry, the social interactions are not ends in themselves; rather these become explicit processes for knowledge sharing and intellectual discourse to be sustained over a period of time towards a high level learning (Palloff & Pratt, 2007).

Social interactions and critical discourse are made possible within CoI through the interplay of the three elements or presences deemed necessary for a fruitful online community of learning to take place (Arbaugh, Bangert, & Cleveland-Innes, 2010). These elements are teaching presence, cognitive presence, and social presence, with definitions which have evolved over time. With each element comes a set of indicators through which the presences may be examined and analyzed. These indicators "were generated to allow for the objective and consistent coding of transcript messages specific to the categories associated with cognitive presence, social presence, and teaching presence" (Garrison et al., 1999, p. 102). The categories and indicators are summarized in Table 2.2 and a discussion of the presences follows.

Table 2. 2

Community of Inquiry: Categories and Indicators

Elements	Categories	Indicators
Teaching Presence	Design & Organization Facilitating Discourse Direct Instruction	• Setting Curriculum & Methods • Shaping Constructive Exchange • Focusing and Resolving Issues
Social Presence	Open Communication Group Cohesion Personal/Affective Expression	• Learning Climate/Risk-Free Expression • Group Identity/ Collaboration • Self-Projection/ Expressing Emotions
Cognitive Presence	Triggering Event Exploration Integration Resolution	• Sense of Puzzlement • Information Exchange • Connecting Ideas • Applying New Ideas

Note. Adapted with permission from E-Learning in the 21st Century A Community of Inquiry Framework for Research and Practice by Garrison (2017).

The presences have also been found to be interdependent, as depicted by the overlaps or the intersections pictured in Figure 2.1. In the overlaps between the presences, specific aspects of the educational experiences are addressed, and these are: setting the climate, selecting content, and supporting discourse to facilitate deep learning (Garrison et al., 1999; Swan, Garrison, & Richardson, 2009; Swan & Ice, 2010). However, a gap in research exists when it comes to understanding the intersections.

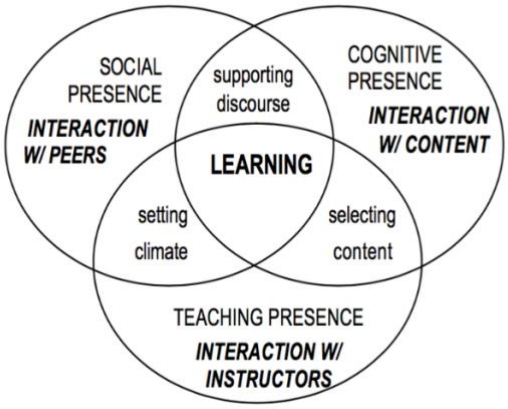


Figure 2. 1 Interactivity and Learning Online by Swan (2003) adapted from the CoI framework of Garrison et al. (1999)

Along with these intersections, Swan (2002) studied varied interactions within online learning in higher education and applied Moore's (1989) levels of interaction to the CoI. Likewise, studies have emerged to extend the framework by proposing additional presences or refining categories and indicators (Kozan & Caskurlu, 2018; Lam, 2015; Richardson et al., 2015). The next sections discuss research related to each presence in the CoI.

2.3.1 Teaching Presence

Within constructivist learning communities, varied instructor roles are fulfilled, and these are characterized and examined through the element of teaching presence. Teaching presence (TP) is believed to play a vital role in maintaining the balance and function of the other elements of the framework in achieving desired learning outcomes (Garrison & Anderson, 2003; Garrison & Cleveland-Innes, 2005). The increasing role of TP in the direction of cognitive and social processes within blended learning communities in the higher education has been emphasized (Vaughan, Cleveland-Innes & Garrison, 2013). It facilitates social interaction and critical thinking among peers (Law, Geng, & Li, 2019). In fact, "teaching presence evolved out of research on social presence and teacher immediacy" (Lowenthal & Parscal, 2008, p. 3). The three dimensions of TP are: 1) the design and organization of the course structure, process, interaction, and evaluation of student learning; 2) facilitating discourse; and, 3) direct instruction. Through acts of moderating dialogue, modeling, scaffolding and coaching, meaningful learning takes place (Morueta, López, Gómez, & Harris, 2016). Thus, TP is described as an amalgam of instructor roles in learning communities which must be fulfilled to ensure effective and successful learning. Without these explicit actions expected of an instructor or tutor, interaction becomes limited to personal exchanges and not at all supportive of critical thinking and reasoning (Angeli, Valanides, & Bonk, 2003). Likewise, in the absence of TP, students may be left to simply deliver monologues with no meaningful intent to engage nor connect with fellow participants (Garrison & Cleveland-Innes, 2005; Pawan, Paulus, Yalcin, & Chang, 2003).

Research findings point to TP as demonstrated through effective design of instruction and thus, highly correlated with student satisfaction (Shea, Pickett, & Pelz, 2003; Wise, Chang, Duffy, & Del Valle, 2004). Through the instructor's design of quality learning tasks (Akyol & Garrison, 2008), cognitive presence and social presence are achievable in a learning community. Studies have shown teaching presence as definitely having a positive influence on both these two presences, (Garrison, Anderson, et al., 2010; Joo et al., 2011; Shea & Bidjerano, 2008; Szeto, 2015) to include student's sense of classroom community (Shea et al., 2006). For example, Feng, Xie, and Liu (2017) applied the element of TP to qualify tutor roles in scaffolding learning through the CoI framework. The study found that when the tutor's TP was high, so were the manifestation of social presence and teaching presence. To scaffold meaningful discourse, the tutor likewise needed to model the process of moderating discourse and in doing so, students were eventually able to demonstrate expected rigor in the discourse, a mark of cognitive presence.

Sheridan and Kelly (2010) delved into the indicators of TP to find out which were most important to students. Data were collected through a cross-sectional survey from 65 respondents of undergraduate and graduate programs enrolled in several online courses in two large universities. Indicators which students valued most pertained to consistently making course requirements clear and being responsive to the needs of the students, timeliness of feedback, and clarity of information being presented in the course. However, the instructor's role in developing and maintaining a sense of community was also of relative importance. This was quite unexpected given that previous research by Shea (2006) indicated otherwise.

The initial work of Shea (2006) was concerned with thoughtful design methods through which social and cognitive processes can best flourish in a constructivist learning environment. Through his large-scale study involving higher education students, he was able to establish that TP, through strong instructor facilitation and direct instruction, as the strongest predictor of student sense of community. Teacher behaviors which students perceive as

valuable to the learning community are building rapport with participants, creating an accepting atmosphere for learning, keeping students at pace, and diagnosing students' misconceptions.

Studies have questioned whether TP, with its categories, indicators, and corresponding survey items, sufficiently accounted for the distribution of teaching roles and actions which members of the learning community take on (Dempsey & Zhang, 2019; Shea et al., 2014; Stenbom, 2018). Garrison (2017) asserted that within the CoI framework, the construct of TP was applicable to both teachers and students, especially within a constructivist learning community. Constructivist learning lends support to the idea that students actively participate in learning and collaborative work as part of knowledge construction. In such a case, participants of a learning community collaboratively engage in facilitating and elevating discourse. Thus, a recent study by Dempsey and Zhang (2019) suggested a reconstruction of the TP to highlight the distributed function and responsibility of teaching among members of a learning community, an aspect of TP underscored by Garrison (2013). In contrast, Blaine (2019) explained that students take on different roles, set apart from that of teachers while engaged in online learning. These findings were based on his study's qualitative content analysis of FGD data from teachers and students in advanced placement courses. Aside from regulating their own learning, students provided instruction to fellow students, actions which he believed were best categorized under learning presence.

Other studies have affirmed learning presence as a possible addition to the framework (Kozan & Caskurlu, 2018). Shea et al. (2012) initially proposed the addition of learning presence, paying close attention to the specific behavior that only students demonstrate as members taking responsibility for their learning within a community of inquiry. This was based on an earlier study which included transcript analysis of students' posts (Shea & Bidjerano, 2010). Upon a re-examination of the data gathered from college online students, it was found that students engaged in self-regulation, specifically planning, forethought, reflection and monitoring of their own individual

learning. In a later study by Hayes, Uzuner-Smith, and Shea (2015) learning presence was stipulated as inclusive of co-regulation and shared regulation. Co-regulation is a supportive behavior from a skilled or capable member toward fellow learners in need. According to Hadwin, Järvelä, and Miller (2011) this kind of behavior is usually demonstrated through social interactions amidst working on tasks considered as "solo, cooperative or collaborative products" (p. 69). Alternatively, shared regulation requires more collective forethought and planning to direct members of a learning community towards common goals and outcomes (Hayes et al., 2015).

Still, other studies preferred to focus on other ways students contributed to the collaborative inquiry through actions indicative of TP. Chen, Lei, and Cheng (2019) examined the involvement of peer facilitators based on 738 discussion messages in a graduate-level course. Specific peer facilitation techniques demonstrated by students contributed to students' cognitive presence. Techniques which proved to be effective were asking factual and explanatory questions, and making clarifications reinforcing the notion of TP as enacted by students.

A case study by Choi (2019) among graduate-level students described how a class was designed with students becoming lead discussants in the discussion forum activities. This Discussion Director activity allowed students to take leadership of discussions. Preliminary findings revealed how student-generated discussions helped fellow students broaden their perspectives and gain timely feedback. The study also signified the attainment of shared goals through dynamic interaction afforded by the use of Google classroom and asynchronous discussions. These roles and outcomes are likened to TP in prior research which relates to a sense of community of Shea and Bidjerano (2010). Their study affirmed positive links between TP, course satisfaction and learning engagements. What these studies emphasize is that the pedagogies coupled with the tools for learning determine to some extent the kind of teaching presence manifested in these learning environments. In these studies, the choice of pedagogy and technology tool allowed the students to enact teaching presence with fellow students.

Additionally, studies on TP by Villanueva (2012, 2013b) found actions driven by adult learners in English as Second Language (ESL) classes which contributed to teaching presence and sustained learning engagements. A follow-up study by Villanueva (2013a) pursued the construct of learning presence. Arising themes of learning presence from the case study using content analysis were connecting with online participants, directing and facilitating language learning, validating online learning experiences, and disclosing. The study however mostly framed TP as a function of the teacher. It also did not utilize the coding protocols proposed in research which could have resulted to actions categorized as social presence. Garrison (2017) recommended studies which utilize the CoI framework more integratively by examining the interactions of the presences. Hence, in this study, the researcher is expected to frame TP as enacted by both teachers and learners and consider the use of the coding protocols for the categories and indicators across the three elements of the CoI.

This study intends to investigate teaching and learning acts through the manifestations of TP, to include its interaction with the other presences and within K-12 blended learning interactions. While earlier studies have been reported to focus on either of the presences (Stenbom, 2018), this study intends to approach the CoI integratively as it seeks to uncover manifestations of all three presences in the blended learning interactions among selected classes at the secondary level. More importantly is to determine whether these manifestations indicate learning communities as outcomes for contexts where the dominant pedagogies are perceived as relying on didactic methods and teacher-directedness. It seeks to draw further insight on the application of the CoI framework to a specific context. These will in turn further the cause of this longstanding framework and potentially reveal other areas worth questioning. Among the presences, it is social presence which has been most researched given that its construct has been studied before it came to be part of the CoI framework.

2.3.2 Social Presence

Social Presence (SP) is described as the element that supports cognitive presence, of which instructors are also made responsible for facilitating in a learning community. Indicators of social presence are categorized as affective responses, open communication and group cohesion. Through open communication, students can gain and express a sense of belonging and concern for fellow community members, and likewise, actively listen and respond to others' concerns with emotions (Peacock & Cowan, 2016). Group cohesion as an indicator of SP is found to be correlated with high quality learning outcomes (Shih & Swan, 2005), especially if beyond the personal interactions, relationships are grounded on common purposes and goals for higher leaning which according to researchers, essentially develop over time (Vaughan & Garrison, 2005). These are believed to support and facilitate common goals of learning with and from each other towards achieving learning objectives. It has been argued that collaborative learning and interaction is positively related to the quality of learning. Hence, a higher SP indicates an equally high cognitive presence (S. Lee, 2014).

Social presence was found to have a positive influence on student satisfaction, effective learning and overall class participation (Bozkaya & Aydin, 2008; Joo et al., 2011; Swan & Shih, 2005; Tu & McIsaac, 2002) as well as perceived learning (Hostetter & Busch, 2012; Picciano, 2002; Richardson & Swan, 2003) and student motivation (Bozkaya & Aydin, 2008). Richardson, Maeda, Lv, and Caskurlu (2017) while doing a meta-analysis on current research in SP, asserted the valuable function of SP as a predictor of student outcomes, thereby reinforcing prior findings by Garrison and Akyol (2015) that SP supports higher order thinking skills necessary in sustaining knowledge construction in constructivist learning environments. This study intends to examine whether the manifestations of SP in higher education are also valid in the K-12 setting where adolescent learners are particularly situated in secondary level blended learning classes.

The next sections will discuss studies related to SP to teacher immediacy, instructor SP, sense of community and choice of media. The review will

include findings on the categories and indicators of SP, particularly group cohesion or collaboration. The links between SP and the construct of sense of community.

2.3.2.1 Immediacy

The concept of SP may be traced to the work of Wiener and Mehrabian (1968) which defined immediacy as the psychological distance between two communicators. Certain nonverbal and verbal interactions were able to bring instructors and their learners closer together (Mehrabian, 1971). Q. Zhang and Oetzel (2006) referred to immediacy as a student's perception of the qualities of directness and intensity of interaction with other members of an online classroom. Prior to SP in the CoI framework, Andersen (1979) examined teacher immediacy in the context of post-secondary education and defined immediacy as "those nonverbal behaviors that reduce physical and/or psychological distance between teachers and students" (p. 544). Within the CoI framework, immediacy was closely studied by Swan (2002) as it related to the development of a sense of community among course participants in a graduate-level course communicating asynchronously online. The study performed a content analysis of online discussions which consisted of a large amount of verbal immediacy indicators across the affective, interactive and cohesive categories set by Garrison et al. (1999).

Garrison et al. (1999) mentioned that considerations have to be extended in studies involving learning communities which rely on computer-media and other technologies. In the context of the CoI framework, SP is therefore seen as a shared responsibility among teachers and learners, but with teacher immediacy behaviors such as expressions of warmth, personal anecdotes, and self-disclosure, are afforded by text-based communications. Given that this research will look into elements of the CoI in the context of an emerging learning community, precisely at the secondary school level, this study then calls for examining setting the climate for learning. This study posits that TP is inclusive of immediacy behaviors or actions and that SP is inclusive of social interactions and a sense of community.

Arbaugh (2001) suggested that increased teacher immediacy leads to increased student outcomes. Examples of immediacy behaviors which positively influenced student attitudes towards the course were using gestures, and relaxed body posture, appropriate levels of eye contact and smiling at students (Garrison et al., 1999). Other behaviors which contributed to student's affective learning were the use of praise and humor, sharing experiences and giving positive feedback to student work (Arbaugh, 2001; Gorham, 1988). These immediacy behaviors are largely observed in face-to-face settings which rely largely on the instructor role and teacher directedness. Teacher actions grounded in caring and likewise related to immediacy were discussed by Velasquez et al. (2013) while investigating technology choices of teachers and learners in the context of an open high school learning community in the United States. The study outlined the teacher behaviors which sustained learning interactions among secondary school students in an online learning environment.

Hence, selected studies examined SP by comparing online and face-to-face components. This study, however, is interested in both face-to-face and online manifestations of SP given that blended learning has been made possible through the use of social media platforms. This study is interested in ways both modes of learning enhance each other in appreciation of the nature of blended learning interactions at the K-12 level. Capturing these interactions through social presence will provide insight into lived experiences of blended learning among secondary level teachers and students in the Philippine setting.

2.3.2.2 Instructor social presence

In response to calls for critical review of the CoI, Pollard, Minor, and Swanson (2014) examined instructor social presence (ISP) and suggested that ISP may be seen as a separate construct from student social presence. The study developed an initial ISP survey instrument adapted from the measures of TP by Garrison et al. (2001) and classroom community scales by Rovai (2002). The survey was completed by 137 students for the purposes of finding out whether instructor presence can account for learning community

and the learning environment. The study concluded that there is a significant impact of SP to the classroom community which can be attributed to actions or behaviors of the instructor outside of the roles in the area of direct instruction and class facilitation. Though ISP was found to be a significant predictor of the learning environment, peer SP had more impact on the classroom community compared to ISP.

Some instructor behavior and characteristics while engaged in online teaching exemplify communication styles and the choice of communication media (Dunlap & Lowenthal, 2014). While these enhance their TP roles, certain actions and behaviors may influence the kind of social presence being manifested (Bangert, 2009); thus, it cannot be denied that instructors fulfill valuable roles in the choice and use of strategies to build on SP, all of which Sung and Mayer (2012) identified in detail through their study which built on the set of indicators of SP. The study made for practical application of SP which are summarized as follows:

> 1) Online instructors and learners need to express respect for learners' efforts in teaching and learning activities;
>
> 2) Online instructors and learners need to share personal information as a way to build social relationships between the instructor and learners;
>
> 3) Online instructors need to make an open and hospitable atmosphere in which learners can state their feedback and constructive opinion;
>
> 4) The instructor and fellow learners need to be aware of each learner's identity as represented by their name or the name of their team or group; and,
>
> 5) The instructor and learners need to share their personal stories and experiences. (pp. 1745-1746)

This study considers social presence in the light of learning communities where teachers and students are considered members. Through the use of the coding protocols stipulated in the CoI research, the study aims to capture

the SP manifestations of teachers and students. More so, it seeks to ascertain whether manifestations of SP reveal ways teachers see themselves beyond their roles subsumed under TP. If so, it intends to describe teacher actions and outcomes in student experiences which particularly lead to learning community building given that blended learning involves face-to-face interactions. Findings are foreseen to affirm current practices of K-12 teachers, if not to inform the professional development of teachers as they gradually embrace blended learning.

2.3.2.3 Social presence and the role of media technologies

Garrison and Arbaugh (2007) suggested that further investigation be undertaken to understand how patterns of social presence develop over time. Their suggestions include whether there is a natural progression in the indicators presented of SP or whether there are differences between offline or face to face and online development of SP. The rise of video conferencing tools and the creation of Facebook groups/pages for course learning resulted in research into its effective use in teaching and learning. These provide credence that studies into the role and value of SP still prove to be timely and needed at this time, and all the more in secondary school settings. A small amount of research suggested that the arising interactive tools and other communication media, impact on the nature of interaction and student perception in learning communities. Thus, research has reiterated that media possess certain qualities and factors which determine the nature of SP of participants (Richardson, Swan, Lowenthal, & Ice, 2016).

One such research project is that of Lomicka and Lord (2007) which investigated the differences in the qualitative manifestations of SP indicators across varied groups using traditional approaches, email dyads and discussion boards. The differences may be attributed to the fact that email exchange dyads allowed for more intimacy. Therefore, affective and interactive indicators were more pronounced. In discussion boards, group cohesion was more evident because greater effort was needed to establish a group virtual sense of community over intimacy. Findings from their study established that differences in the nature of SP and indicators thereof may

vary depending on the nature of the tool used (Lomicka & Lord, 2007). Since the study was undertaken within the higher education level and with working professionals undergoing training, there may be areas which can be further explored but within the context of secondary level students engaged in blended learning and the use of social media. This kind of study is even more timely as secondary school level learners are expected to proceed to higher education settings which now look at online instruction as an integral and essential mode of delivery (Berg, 2003; Natriello, 2005).

Studies have shown how social networking technologies are able to develop and enhance instructor and student interactions (Bowers-Campbell, 2008; Kabilan, Ahmad, & Abidin, 2010; Mazer et al., 2007) and SP (Deng & Tavares, 2013; Goodwin, Kennedy, & Vetere, 2010). However, it was still generally viewed as an informal way to facilitate learning given ease of access to interact, inquire, share, and discuss (Madge, Meek, Wellens, & Hooley, 2009; Waiyahong, 2014). A study by Deng and Tavares (2013) examined experiences with the use of Moodle and Facebook, based on a cohort of final year student teachers of English Education based in Hong Kong. It specifically found the reasons why students were more motivated to use Facebook while exchanging information with peers. The study used the Activity Theory as a theoretical lens for data analysis and interpretation. This theory emphasizes activities which people engage in, with individuals treated as subjects, to include tools and objects, the community and its rules, the social and contextual relationships, and outcomes (Deng & Tavares, 2013). Students found the Facebook design as more attuned to immediacy, promoting interactions, and a sense of community although it was not ideal for storage and sharing. Discussions were observed to be messy especially in instances where there were a high number of comments. A few students however stated that Moodle allows for more meaningful and critical thinking in the process of posting in the discussion forum. Hence Moodle was seen to fulfill academic functions while Facebook afforded a good mix of social, informational and academic activities. Generally, students described that they felt more confident and empowered while learning from each other on Facebook. Thus, the more participants were able to feel the presence of

peers, the more likely they are able to engage in the activities within the learning community (Deng & Tavares, 2013).

A study by Milošević, Živković, Arsić, and Manasijević (2015) tested a variety of hypotheses related to Facebook adoption, educational usage and Facebook as a virtual classroom. Results showed that when used as a social network, as originally intended, Facebook provided conditions for group identity and social relations, concepts likened to sense of community and social presence, which in turn positively influenced the use of social network as a virtual classroom, an example of a learning community (Milošević et al., 2015). As a virtual classroom, Facebook's design was said to facilitate interaction among peers and instructors, improved discussions, and generally provided support for students. Interactions which led to cooperation were said to be the most important factor for the educational usage of Facebook. This study is interested in knowing how teachers and students make use of virtual classrooms, social media and other technologies to interact and learn in their blended learning classes.

Velasquez et al. (2013) investigated technology choices in the context of an open high school in the United States and found that teacher and student participants favored technologies which increased accessibility such as chats, texting, mobile phone and emails, but asynchronous discussions were just as acceptable. Teachers valued the role of technology as a means to get to know students, their perspectives and different circumstances in a prompt manner, making them more prepared to address student needs in a timely manner (Velasquez et al., 2013). At the same time students felt that through the tools of technology, teachers jointly experienced the learning process with them. In the bigger scheme of things however, participants pointed out that what counts most were the content and quality of interaction and therefore, the medium.

2.3.3.4 Social Presence in other K-12 frameworks

Among the elements of the CoI, it is SP which has been described as multidimensional and has been studied extensively and interpreted

differently in already built constructivist learning communities for adult learners (Kim, Song, & Luo, 2016; Richardson et al., 2017; Richardson et al., 2016). A later study by Akyol and Garrison (2008), speculated that the dynamic nature of social presence may well be captured through studies applied in other learning communities, stating that:

> social presence may well have more influence in informal learning environments, K-12 settings, or in online learning where students are new to this medium. Based on these results, it is suggested that the integration of the elements of a community of inquiry should be designed, facilitated and directed based on the purpose, participants and technological context of the learning experience. (p. 18)

Thus, it cannot be denied that given the multidimensional nature of SP, this construct continues to establish itself as a valuable area of research at the secondary and post-secondary levels.

One attempt to utilize SP in research at the secondary level was by Garrett Dikkers, Whiteside, and Lewis (2013) through their proposed Social Presence Model. Its usefulness was examined among teachers and students of a virtual public school. The model consisted of five integrated elements: affective association, community cohesion, instructor involvement, interaction intensity, and knowledge and experience. In an earlier study, Whiteside (2007) indicated that student knowledge and experience through sharing and disclosure influenced the level of SP within the virtual learning environment. Instructor involvement as an element was evidenced by the instructor's use of strategies, for example, daily activities and icebreakers, areas which were considered as establishing SP (Garrett Dikkers et al., 2013). The element of interaction intensity was interpreted by students as one-on-one interaction with teachers demonstrated through discussion boards which permitted positive exchanges with peers. Interaction intensity also included assistance with assignments, keeping each other motivated and completion of work. As for the element of knowledge and experience, teachers and students appreciated bringing their prior knowledge into the class as a way to facilitate learning from each other which reinforced peer learning and was readily

accepted among students (Garrett Dikkers, Whiteside, & Lewis, 2013).

Unlike SP and other elements of the CoI, however, there are intersections in the Social Presence Model which have yet to gain ground in online learning. This study argued for applying the CoI instead and in response to calls for understanding the intersections of the presences. This study posits that the CoI should be applied holistically, while giving due consideration to its intersections of TP and SP such as setting the climate for learning.

Social presence also found relevance in studies related to adolescent learning where self-regulation, self-direction, motivation and self-efficacy are in its development stages. These studies focused on social learning, interaction and self-regulation as crucial to overall success in learning among adolescents. Adolescent learners generally comprise the student population of virtual schools and open high schools which are steadily increasing by the year. The Adolescent Community of Engagement (ACE) framework by Borup et al. (2014) has been developed to research adolescent online behavior and learning environment. The ACE framework focuses on engagement relevant to adolescent learning environments which can be likened to areas of interaction by Moore (1989). Its categories and indicators have clear overlaps with that of the CoI. The engagements described in the ACE are categorized as teachers, parents, peers and learners. Borup, Graham, West, Archambault, and Spring (2020) recently repurposed the framework as Academic Communities of Engagement based on a series of case studies among K-12 online using the ACE. The recent framework identified support elements which would improve student engagements, and these are two kinds of communities, the course community and personal community. Individuals, such as peers, instructors or family members in these communities have varied abilities to contribute to a student's academic success whether face-to-face, online or in a blended manner.

The CoI framework on the other hand puts a focus on the educational experiences with the presences or elements manifested by any community participant at one time, and not necessarily pegged to teachers, learners nor

parents. This study asserts that the CoI is a better framework to apply considering that it puts into focus on the learning community. In this study however, it will be applied to an emerging learning community not necessarily grounded on constructivist learning but may have capitalized on SP or setting the climate for learning within the context of learning community. Thus, the CoI in this case emerges as a sound framework that will contribute to the wealth of study on the CoI and secondary school blended and online learning research.

2.3.3 Cognitive Presence

Cognitive presence (CP) is defined as the extent to which learners engage in sustained reflection and intellectual discourse in order to construct and validate meaning (Garrison et al., 1999; Garrison & Arbaugh, 2007). This element was operationalized through the practical inquiry model, depicting four phases: triggering event, exploration, integration or construction of meaning, and resolution where learners apply their new-found knowledge in other settings (Garrison & Arbaugh, 2007; Garrison & Cleveland-Innes, 2005; Morueta et al., 2016).

Cognitive presence is considered to be the most important element indicative of higher order learning (Layne & Ice, 2014), hence research continues to understand its role within a learning community. Studies have further examined and qualified its indicators (Richardson & Ice, 2010) and examined these alongside self-regulation and co-regulation as shared metacognition (Garrison & Akyol, 2015) or reflection as an additional indicator (Redmond, 2014). Akyol and Garrison (2011) aimed to build on cognitive presence by validating the construct of metacognition. Metacognition is viewed as intentional actions to critically assess the learning process hence they claimed that within the model there is an embedded practical inquiry cycle. This cycle gives space for critical self-reflection and conscious use of strategies for higher learning through the phases of inquiry namely, triggering event, exploration, integration and resolution.

Garrison and Akyol (2015) elaborated on the dimensions of metacognition as knowledge of cognition, monitoring cognition and regulation of cognition. Their study assessed the metacognition construct based on a transcript analysis for an online graduate course with 16 students, after nine weeks' worth of discussion, article reviews and a final project. The study surfaced indicators of metacognition and through the analysis of discussions, the students were observed to demonstrate such indications of metacognition as the ability to regulate cognitive processes and monitor their learning (Akyol & Garrison, 2011). Further studies have led to the development of a Shared Metacognition Questionnaire for use alongside the instrument (Garrison & Akyol, 2015). Studies which seek to validate the shared metacognition construct likewise proposed the intersection of CP and TP to become "monitoring and regulating learning" (Akyol & Garrison, 2011) over the originally proposed "selecting content" by Garrison et al. (2001). The suggestion has given new focus and purpose to the role of self-regulation and metacognition within blended and online learning communities.

The influence of educational technologies on CP and the CoI has been rarely examined as noted by Kovanović, Gašević, Joksimović, Hatala, and Adesopec (2015) though their role as major enablers of learning communities have been acknowledged. Kovanović, et al. (2015) sought to examine the technology uses of graduate-level students, to include its effects on their educational experiences and particularly to their cognitive presence. Students were found to have diverse profiles of technology use which affected their use of learning platforms, their levels of cognitive presence as observed through self-regulation, motivation and metacognition (Kovanović et al., 2015). Students demonstrated differences in levels of participation across the exploration and integration phases of their learning and these depend on the students' learning goals. Few students were characterized as having high motivation to participate as well as high usage of technologies. However, the low use of their LMS did not necessarily result in poor academic outcomes. The study implied that task-focused students with quality postings can be just as successful as highly engaged users (Kovanović et al., 2015). Thus, the availability of technology tools did not necessarily result in successful use.

Findings implied the need for more scaffolding and better instructional and motivational support for some students despite their high usage of the LMS.

These previous studies coincided with other studies which reexamined the categories and indicators of CP given learning behavior influenced by digital and collaborative technologies and due to the widespread application of the CoI framework in research. Some studies argued for additional presences while others kept to the integrity of the three presences (Garrison, 2017; Kozan & Caskurlu, 2018). A discussion of these studies follows.

Redmond (2014) observed that reflection was not as explicit within the CoI. Her study advocated for its inclusion as an indicator of cognitive presence, specifically in the resolution phase of the practical inquiry process learners go through. The research involved analysis of discussion posts by pre-service teachers in a blended course from a higher education institution which was undertaken for six weeks. The students participated in a critical inquiry through interactions with peers and experts, collaboratively engaging with carefully selected course content to allow time and space for reflection through writing a reflective piece and scenario response on their engagements (Redmond, 2014). Data from archived discussions, course materials and instructor reflections were also gathered and analyzed using the indicators of CP and the reflection indicator. Redmond (2014) concluded with a modification of the framework, stating reflections on learning outcomes and learning process as possible additions to the set of indicators, arguing that it was more apt and aligned with the original construct and likewise had its roots in the work and words of Dewey (1933).

Studies also reviewed the development of cognitive presence through the phases of inquiry within a learning community (Anderson & Kanuka, 1999; E. Murphy, 2004; Vaughan & Garrison, 2005), raising questions as to whether in fact meaningful and deep learning can be achieved in learning communities. Hence, Morueta et al. (2016) sought to explore whether cognitive presence may be attributed to the type of learning task by examining the processes involved in the social and cognitive presences

among students across different learning tasks with differing levels of cognitive demand. Data were gathered from 96 discussion forums by 206 students from nine universities within a span of three academic years. Learning tasks were designed but all required sharing information, engaging in group work, and sharing learning goals and were basically delivered through one common course mounted in Moodle. The usual spaces for resources and documents were created, as well as private and open forum activities but were moderated by students hence with hardly any form of direct instruction nor facilitation from the faculty in charge whose only role was to monitor the course. It was found that in the area of CP, the most common student actions were those of exploration and integration while the least common were triggering actions and resolution (Morueta et al., 2016). It was also observed that with greater cognitive inputs required, there was an increase in the frequency of group engagements. The study affirmed the high correlation between the nature and design of learning tasks and the social and cognitive presences.

Prior findings also point to the challenge of elevating participant engagements toward the integration and application phases (Anderson & Kanuka, 1999; E. Murphy, 2004; Vaughan & Garrison, 2005) hence the need to ensure the interaction of CP with the other presences within the CoI. Garrison and Arbaugh (2007) explained that according to research in group dynamics, groups do not automatically progress into the performing stage where members are able to reach common targets and understandings. Members of a learning community, therefore, need to feel connected to group members, clarify shared targets and goals—all of which are partly established through engagements characterized as manifestations of SP and sense of community.

Hence, research into the interactions of the presences, especially across its categories and indicators have been recommended (Garrison, 2017). For example, Garrison and Akyol (2013) asserted that SP relates to critical thinking, learning and social interaction. This was despite reports by Annand (2011) on SP having the least impact on CP mentioned. Kozan and

Richardson (2014) suggested that increasing CP may improve SP due to feedback amidst collaboration. CP and SP were also found to be driven largely by TP in terms of attainment of learning goals (Szeto, 2015). Heightened and meaningful interaction to achieve cognitive and personal learning goals has also been attributed to instructor roles and actions within an online environment (Coppola, Hiltz, & Rotter, 2001; Picciano, 1998; Richardson & Ting, 1999; Vesely et al., 2007). Hence, the interactions of the presences remain a robust area for investigation.

2.3.4 Interactions of the Presences

The CoI framework has been utilized in higher education blended and online learning research and mainly through studies which describe, qualify and measure gains in online learning communities (Kozan & Richardson, 2014; Shea & Bidjerano, 2008; Swan & Ice, 2010). Initial research in the CoI focused on each element, redefining and validating indicators as the framework was applied to varied settings where adult learners and professionals are largely situated. It has likewise been utilized as a sound rationale for online instructional design, course development, or for evaluating the effectiveness of courses within online learning environments (Akyol, Vaughan, & Garrison, 2011; Makri, Papanikolaou, Tsakiri, & Karkanis, 2014; Shea & Bidjerano, 2008).

Akyol and Garrison (2008) investigated how the elements interacted and progressed over time within a learning community. A mixed method was employed, to include transcript analysis and content analysis, and a survey instrument was also given to participants to reveal the relationship of the three elements to student satisfaction and perceived learning. The study found that the elements and corresponding categories were distinguishable hence allowed for further analysis of change over time. Likewise, the presences seem to develop in different ways within a learning community. While TP and SP demonstrated significant changes over time, the same is not observed of CP. Interestingly, an increase was observed in three categories in each of the three elements thus this was interpreted as "social presence through group cohesion and teaching presence through

direct instruction supports integration and higher levels of cognitive presence (i.e., integration)" (Akyol & Garrison, 2008, p. 17), but this interaction was still in need of further study.

In a mixed method study among 484 students in two Israeli academic institutions, Zilka, Cohen, and Rahimi (2018) examined the TP and SP and its relationships with challenges, self-efficacy, and motivation. The study defined 'teacher presence' based on teaching styles, and also indicated providing feedback and harnessing the development of learning community as important aspects of TP. These were believed to keep students motivated to engage in their blended and virtual courses. Findings revealed that student participants valued personalized, concrete and timely feedback over general feedback to help them improve their work. Zilka et al. (2018) cautioned against lack of quality and timely feedback may lead to feelings of helplessness and lack of belonging thereby affecting student success. Findings indicated that some students avoided forums and preferred face to face session due in part to the lack of focused attention by the teacher to their responses and affective need for encouragement and belonging. The study did not use the CoI instrument and indicators since it focused on other questionnaires. Definitive findings on the interaction of TP and SP through its categories and indicators were not covered. Though the role of TP in learning community building was emphasized, the study was not clear about concrete strategies on learning community building through TP and SP.

The CoI framework is now being seen by researchers for its coherent whole by examining patterns and relationships between the elements (Garrison, Anderson, et al., 2010; Garrison, Cleveland-Innes, et al., 2010). For example, Peacock and Cowan (2016) documented their holistic view of the CoI based on experiences with the framework. They asserted the interplay of SP and TP is of great importance to the deepening of learning and sustaining interactions especially since it continues to positively influence engagements in CP. Through the CoI framework, findings continued to validate the strong relationship between higher order learning and the social constructivist

theory of learning (Lambert & Fisher, 2013) as well as its steady relationship with learning outcomes (Garrison & Arbaugh, 2007).

Peacock and Cowan (2016) also pointed out that although there may have been investigations into the relationships between the presences, there still lacked research which establish in detail how the presences work in unison. Parker and Herrington (2015) while doing a systematic review of various research on the CoI, found that limited articles are looking into the three intersecting elements of the framework, namely supporting discourse, setting climate and selecting content in the context of this model. Among all the intersections, setting the climate, the intersection of TP and SP received the least number of studies. Specifically, they stated that only three studies were found to specifically addressing this intersection. Likewise, it was also found that a theoretical analysis of these areas has not been elaborately fulfilled. A few studies on setting the climate in higher education are summarized in the next section.

2.3.4.1 Setting the climate for learning

Setting the climate for learning was originally discussed within the framework as the intersection of TP and SP. Later, however, Garrison, Cleveland-Innes, et al. (2010) stated that "...the dynamic relationships among the presences could have been emphasized to a greater extent" (p. 6). Cox-Davenport (2010) mentioned that "although climate factors create ways for essential processes to occur, there is a lack of research into the best practices for environment creation" (p. 23).

A qualitative study by Khurana and Boling (2012) explored the intersection of TP and SP, which is by revealing how setting the climate was presented in a course built in an LMS when using multimedia tools to extend course features and functions. The study aimed to build on existing literature surrounding SP and course design. It recommended the sustained use of multimedia tools for both students and teachers throughout the course in support of prior findings of establishing positive links between SP and instructional design by Tu and McIsaac (2002) and Lowenthal (2009).

Szeto (2015) applied the CoI as an instructional approach to explore ways the presences influence blended synchronous learning experiences of students and their instructor in a Hongkong university. The study outlined specific instructional methods for each presence, to include its intersections. For example, at the intersection of TP and SP, the methods identified were "provide immediate feedback, post timely questions, share finished learning artefacts between two groups of students" (p.194). At the intersection of SP and CP, the instructional methods included facilitation of activities, moderation of group discussions and reflection on the content of the discussion. The intersection of TP and CP entailed presenting content, explaining theories, demonstrating skills and linking knowledge with activities (Szeto, 2015). The findings affirmed the prominent role of TP over the other presences as establish in prior research (Akyol & Garrison, 2008; Shea et al., 2006). A possible explanation could be that within the intersections of the presences, the instructor was able to demonstrate multiple roles to fulfill the pre-identified instructional methods. These varied roles enacted by the instructor were as "content presenter/ demonstrator, a facilitator and a moderator" (Szeto, 2015, p. 199). The findings, however, were limited to one class and that the online experiences documented were content-specific, in this case, the class subject which was an engineering course in higher education. Further research was recommended to ascertain the changing roles of instructors in other contexts and ways these contribute to the overall educational experiences of both teachers and learners.

In prior studies undertaken by Francis and Cowan (2008) and Peacock and Cowan (2016), it was found that TP and SP are positively linked at every phase of building online learning communities, reinforcing prior findings regarding TP and SP by Garrison and Akyol (2013). Thus, in attempts to fill this gap, they have intentionally used the word "trusting" (Peacock & Cowan, 2016, p. 272) in place of setting the climate for learning. Additionally, it was described that in this intersection of setting the climate and beyond, values of fairness, safety, openness and debate are developed likewise to nurture self-efficacy. Likewise, while looking into the intersection of TP and CP, Peacock

and Cowan (2016) identified four distinct tutoring roles which impact on the learning community through the development of a sense of belonging. These tutoring roles are positioned to address learner comfort in online discussions, nurture skills to project their personal characteristics, encourage the use of cognitive maps in managing their plans, and prepare learners to cope with emotional issues which come with being a member of an online learning community. These findings from higher education continue to demonstrate the value of the teacher's role in modeling interactions, providing support, and forging interactions among higher education students and adult learners. These different tutoring roles address both cognitive and socio-emotional aspects of learning.

In the Philippines adolescent learners have options to engage in blended learning at the secondary level. As such, these students are foreseen moving into higher education institutions and consider flexible learning options. While at the K-12, they may benefit from the direct instruction and learning support expected of their teachers and other supervising adults. Positive experiences resulting from these teacher enactments as part of their blended learning experiences may lead them to opt for blended and online learning as they move to higher education. As such, this study contends that examining these teacher roles and actions leading to outcomes among secondary level students is of interest in this study. Understanding teacher roles and actions will therefore inform blended learning pedagogy and practice at the K-12.

This research therefore aims to further understand the overlap of TP and SP and the other intersections especially within the context of emerging learning communities at the K-12. It is through setting the climate of learning that communities may be able to develop first and foremost. Likewise, in the process of looking into the presences in setting the climate for learning, this study shall revisit instructor role, as part of TP and SP as it relates to a sense of community. More so, this study seeks to suggest sense of community as integral to social presence and within that space of setting the climate for learning.

2.4 Gaps in Research into Learning Communities and the CoI

Learning communities have been researched extensively among adult learners at the higher education levels. Phases, stages and elements have been defined and studied in prior research through the construct of sense of community and social presence (Brown, 2001; Gunawardena & Zittle, 1997; Palloff & Pratt, 2007; Rovai, 2002; Schwier, 2001). However, there is a gap in the research in the context of learning communities at the K-12 levels which have increasingly introduced flexible modes of delivery through ODeL programs referred to as cyber schools (Carnahan & Fulton, 2013) or virtual high schools in Western countries (Barbour & Reeves, 2009; Garrett Dikkers et al., 2013), or open high schools in developing countries (Seameo-Innotech, 2019). These settings need to ensure student engagement and interaction with peers and teachers through computer-mediated communications and other media technologies to accommodate a growing population of secondary level learners seeking access and alternative ways to educate themselves. Unlike undergraduate or graduate-level students, adolescent learners are generally described as nascent to while they are acquiring skills in metacognition and self-regulation (Borup, Graham, & Drysdale, 2014a; Cavanaugh, Barbour, & Clark, 2009; Lock, Eaton, & Kessy, 2017; Matuga, 2009), and therefore in need of support and encouragement which may be very well provided for through learning communities.

Yet, research into blended and online learning at the K-12 levels is still in need of frameworks to guide its pedagogy and practice (Barbour, 2018). The very few frameworks which have been formulated for the K-12 setting drew from a longstanding framework studied extensively in higher education research is the CoI by Garrison et al. (2000). This framework has been validated through varied quantitative and qualitative studies in tertiary level courses and programs.

Castellanos-Reyes (2020) indicated that research on the CoI has spanned two decades, with 2000-2009 as the initial phase for the establishment of the framework in higher education, specifically the elements. Research in this

period revolved around the content analysis of transcripts, with TP being proven to greatly influence CP and SP. The next phase, 2010-2019 included further research to test the applicability of the CoI instrument. While most research has transpired in Canada and the U.S. being English speaking countries, to date the CoI instrument has been translated to Chinese (Z. Ma et al., 2016), Korean (Yu & Richardson, 2015), Portuguese (Moreira, Ferreira, & Almeida, 2013) and Turkish (Olpak & Kiliç Çakmak, 2018). Studies have shown the CoI survey instrument as valid and reliable in higher education (Arbaugh, Cleveland-Innes, Diaz, Garrison, Ice, Richardson, & Swan, 2008; Bangert, 2009; Stenbom, 2018; Swan et al., 2008).

The second decade of research using the CoI also involved criticism on the framework which resulted to calls for additional presences (Castellanos-Reyes, 2020; Kozan & Caskurlu, 2018) namely emotional presence (Cleveland-Innes & Campbell, 2012; Majeski, Stover, & Valais, 2018), autonomy presence (Lam, 2015) and learning presence (Hayes et al., 2015; Shea et al., 2012; Y. Zhang, 2018). These proposed presences were in addition to the three existing elements, but a consensus has not taken shape. Hence, further application of the CoI to address these gaps were suggested (Castellanos-Reyes, 2020; Kozan & Caskurlu, 2018), also particularly for K-12 blended and online learning in keeping with earlier recommendations by Garrison (2017). Very few studies have assured the framework's applicability at the K-12 (Harrell & Wendt, 2019; Y. Zhang, 2018), and thus research into CoI and blended learning environments have also been recommended (Harrell & Wendt, 2019).

Recent research indicated clear attempts to address this gap in CoI within a K-12 setting. Sanders and Lokey-Vega (2020) applied the CoI among teachers though in a virtual high school in the United States. The case study sought to understand the teaching practices of experienced social studies teachers through the CoI presences and indicators. The study revealed explicit learning activities and strategies which fall within the three presences. For example, phases of inquiry through the CP were observed with teachers making use of real-world samples, small group work and

student-led instruction. TP was demonstrated through individualized and differentiated instructions, provision of supplemental resources, varied assessments, frequent and timely feedback. SP was established through classroom management techniques, building special relationships and fostering a positive learning environment.

More importantly, Sanders and Lokey-Vega (2020) proposed a modified K-12 CoI through an additional presence termed as collegial presence. This presence referred to supervising adults, support staff or tutors considered as colleagues who assist students in their learning. Through collegial presence, the other presences within the CoI are better facilitated by individuals and teams providing support to the students. These learning interactions are likened to student engagements with their personal and course community described within the Academic Communities of Engagement proposed by Borup et al. (2020). It was observed that there were collaborative practices primarily utilized by colleagues as part of their responsibilities to provide resources, guidance and support for students. In other words, the collegial presence highlighted the collaboration students engage in to attain their learning goals. Finding from the study of Sanders and Lokey-Vega (2020) however, were only limited to teacher perspectives. Perspectives of students as members of K-12 learning communities are important to validate outcomes of blended teaching practices across the three presences of the CoI. Therefore, studies are needed to further establish the CoI as applicable within the K-12 context (Borup et al., 2020; Harrell & Wendt, 2019) to include its possibilities to inform and guide the professional development of teachers for blended learning.

In summary, measures to validate the CoI, its elements and indicators have succeeded in proving its relationship with student satisfaction, performance, motivation and learning outcomes, particularly for higher education learners but not in other settings such as K-12 schools. Attempts have been made to reconceptualize the CoI, to include studies which treat its elements in isolation or even create models or frameworks to suit specific contexts and needs. The CoI has yet to be widely applied in the K-12 setting, where there

are learners who may later choose to become students of open universities. This research seeks to widen the application of the framework at the secondary level. Thus, the development of learning communities may be reexamined in other cultures and contexts and may very well explore the application of the CoI such as blended learning programs considered as alternative forms of delivery for Filipino learners.

2.5 Blended Learning

This section presents definitions and models of blended learning programs based on studies from countries which dominate the literature. Studies on blended learning in Asia and the K-12 setting are also discussed. Gaps and recommended areas for research are identified to justify this study's pursuit to apply the CoI in the Philippine setting.

2.5.1 Definitions and Models

A variety of definitions and models of blended learning exist in literature to capture growing practices and acceptability at the higher education and K-12 levels in developed and industrialized countries. Blended learning is defined as "thoughtful integration of classroom face-to-face learning experiences with online learning experiences" (Garrison & Kanuka, 2004, p. 96). Often considered to be synonymous with hybrid learning, blended learning employs any combination of delivery methods such as face-to-face instruction with synchronous or asynchronous modes through the integration of technology tools for learning (Collis & Moonen, 2002; Picciano, Dziuban, & Graham, 2013). From the perspective of K-12 blended learning researchers and practitioners, Christensen et al. (2013) summed up blended learning as:

> a formal education program in which a student learns at least in part through online learning with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home. The modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience. (p.9)

Key to the definition of blended learning is the extent of learner control and personalization of learning it affords students which sets it apart from technology-rich learning environments (Staker & Horn, 2014). Blended learning at the K-12 setting is seen as “enabling teachers and learners alike to personalize their experiences to match the right student, with the right content at the right time" (Powell, Rabbitt, & Kennedy, 2014, p. 6). This takes place through individual tutoring, small group sessions and projects, and other means to complete classroom work offline and online.

Principles of practice for the blended learning were discussed lengthily by Vaughan et al. (2013) to ensure that teaching and assessment goes beyond merely combining online and face-to-face activities. The principles emphasized the role of teaching presence to ensure socially shared learning experiences so that learners increasingly assume accountability for their learning (Vaughan et al., 2013). These principles also assert that key to the success of blended learning is the development of collaborative community of inquiry. In doing so, the phases of integration and resolution as part of cognitive presence are achieved. The principles were largely applied to blended learning practice in higher education. This necessitates further study of blended learning practices at the K-12.

To further illustrate blended learning, Kumi-Yeboah (2014) indicated that at the high school level, these can involve either structured or unstructured learning. In the structured delivery, content is much more organized to encourage active engagement among students while allowing for student tracking of activities and completion of assessments. In the unstructured delivery mode, opportunities exist for student interaction and collaboration to take place with less instructor intervention. Hence, since its beginnings, studies have referred to blended learning from the best of both worlds to mean all the benefits of online learning are maximized in combination with traditional classroom instruction (Christensen et al., 2013; M. E. Ward, Peters, & Shelley, 2010; G. Young, 2002). This study intends to uncover possible meanings of best of both worlds among a select population of teachers and students studying through blended learning in the Philippines.

Understanding this along with other meanings they attach to their blended learning interactions serves to affirm these lived experiences in the context of an emerging blended learning practice in developing countries.

Models of K-12 blended learning programs in the United States and Canada grew over time with the advancement of technology and web 2.0 tools for learning (Picciano et al., 2013). Research by Staker and Horn (2014) has consolidated and captured these models of blended learning as seen in Figure 2.2.

These models represent the extent to which personalization of learning is afforded by the curriculum and the ways teachers tailor their teaching to increase academic engagement. With these models, schools are able to determine ways to streamline blended learning offerings to accommodate college or career goals of students, to include credit recovery and advanced placement (Barbour et al., 2011).

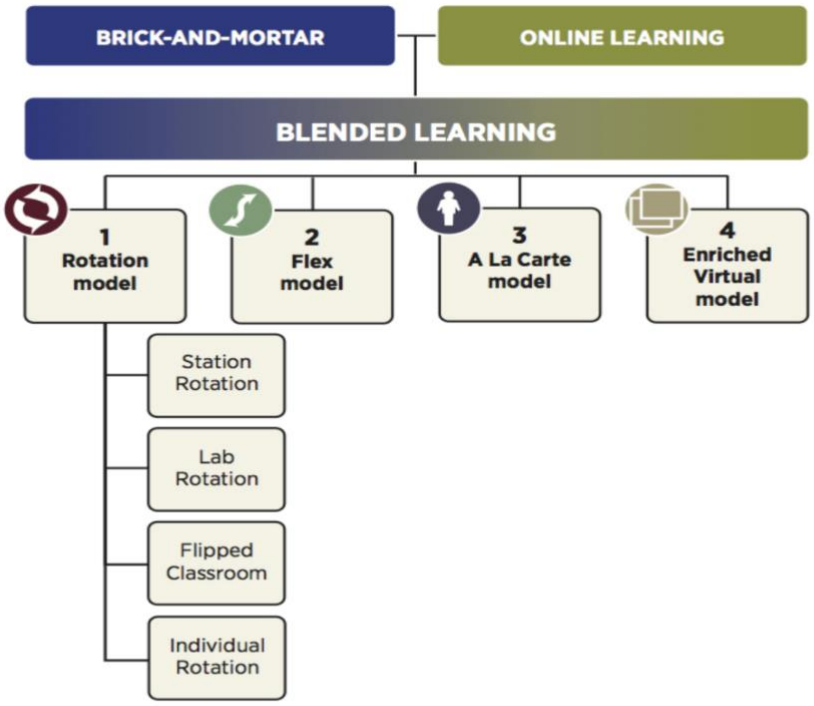


Figure 2. 2 Models of Blended Learning by Staker and Horn (2012, 2014).
Reprinted with permission from Clayton Christensen Institute (2020).

Among all the models, Staker and Horn (2012) indicated that the Rotation model has the potential to bring improvements to the classroom teaching model. The subtypes under the Rotation model signify how teachers and students move along the learning modalities, either given a prescribed schedule or as allowed by the teacher (Halverson et al., 2017). The other models are considered as more transformative of teaching and learning practices as these utilize learner-centered pedagogies.

An earlier work of Graham (2009) allocated blended learning into categories of blends in Figure 2.3 based on a variety of examples observed. These program models and categories serve to characterize blended learning in terms of the degree of blendedness, delivery modes, and use of technology and other resources. Likewise, the current state of research on these models demonstrates sustained interest in the implementation of blended learning programs at the K-12 setting. However, these have been largely reported in developed countries namely, Australia, Canada, the United Kingdom and the United States (Halverson et al., 2012).

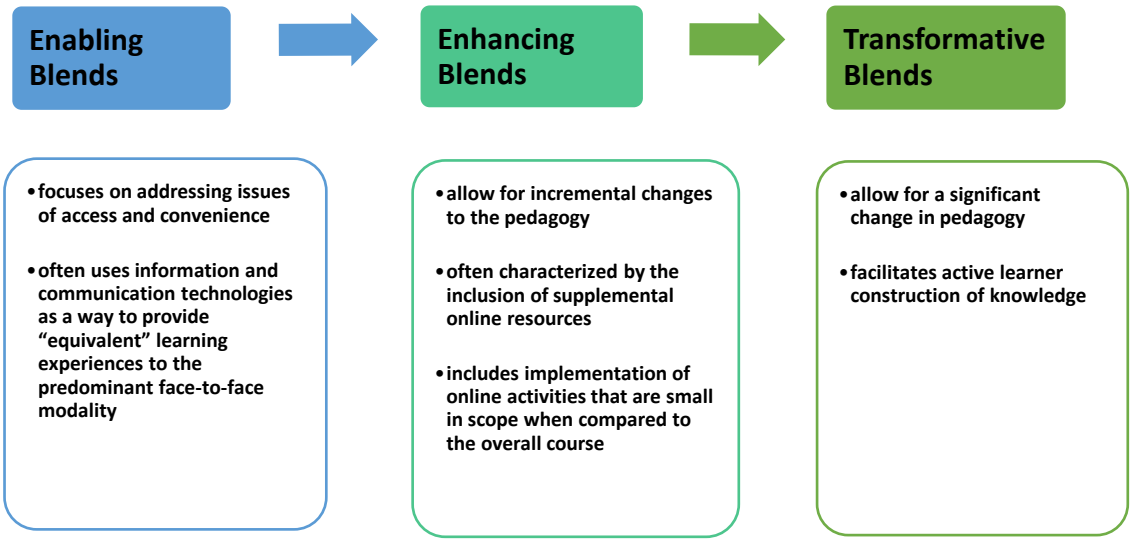


Figure 2. 3 Categories of Blends, adapted from "Blended Learning Models" by C.R. Graham, 2009, in M. Khosrow-Pour (Ed), Encyclopedia of Information and Science Technology *(p. 376), Hershey, PA: IGI Global. Copyright 2009 by IGI Global.*

Despite these, Barbour et al. (2013) noted the significant growth of blended learning at the K-12 and the need for evidence-based research on blended learning. Research into blended learning at the K-12 is a relatively young field, with selected Western countries dominating the literature, hence research in other contexts was greatly encouraged (Hu et al., 2019). Beyond studies which serve to advocate for the successful implementation of blended learning programs, is the challenge of bridging the divide among varied settings – contexts already supportive of blended learning and contexts where blended learning is still emerging. Therefore, continued research is needed for theory and frameworks to holistically understand and investigate blended learning. This study intends to examine the nature of blended learning not just as a means to an end, rather as revealed by teachers and students in settings where their experiences remain hidden.

2.5.2 A Mix of Promise and Contradiction

With these barriers and challenges, come findings of blended learning which report on experiences and outcomes as either promising or contradictory, examples of which are to be discussed in this section. Areas these studies have surveyed relate blended learning to learning outcomes, student satisfaction and motivation, as well as teacher and student experiences. The following section outlines findings drawn from both higher education and K-12 blended learning research.

2.5.2.1 Learning outcomes

While some findings in research conveyed that students in K-12 blended learning classes are able to outperform their peers who are in the traditional delivery mode (Barbour et al., 2011), some studies have also found that there are no significant differences to student academic performance and learning outcomes (Olitsky & Cosgrove, 2014; Tallent-Runnels et al., 2006). For example, Olitsky and Cosgrove (2014) examined the effects of blended learning on student outcomes from introductory economics courses, comparing results from students studying online versus those with blended learning formats. In a few classes, it was reported that the negative effect of blended learning was due to minimal exposure to materials for assignments

for blended learning students. Students from face-to-face classes were given some additional materials and more examples of content were provided during extra class periods. The study was clear that there was no loss to student learning since face-to-face sessions were maximized to ensure learning despite lack of materials or resources. Thus, learning outcomes have been perceived as positive.

Nellman (2008) ascertained whether blended learning would significantly increase content understanding and problem solving. The study involved 67 high school biology students most of whom were economically disadvantaged and came from minority groups, with a significant portion speaking English as a second language. The blended learning involved face-to-face lectures while other lesson presentations were implemented online from school or from home. Student learning was measured through questionnaires. Teachers took note of improvements in student behavior and performance when using blended learning. Though there was an increase in learning as evidenced by assessments, the study could not attribute the gains solely to blended learning.

In another study by Arano-Ocuaman (2010), undergraduate students in face-to-face or traditional delivery scored higher in post-tests compared to those enrolled in blended learning. The face-to-face delivery used a teacher-centered approach while the blended class used a student-centered approach. These suggested that differences in teaching strategies and use of technology did not result in any major improvement in test grades and course grades. Students undertaking blended learning however, demonstrated a higher level of responsibility which was evident because some were able to function with minimal supervision and these students by adapting to the self-paced study.

Findings in all the above studies, whether reporting on positive gains or no difference, attributed learning outcomes not solely to blended learning but also as brought about by teacher action and their classroom practices. This study intends to examine further these teacher roles and behaviors within K-12 blended learning interactions through the construct of teaching presence.

More so, it aims to analyze whether its manifestations related to learning community building among K-12 teachers and students.

2.5.2.2 Teaching and learning experiences

Prior studies on teaching and learning experiences in blended learning research have usually compared face-to-face traditional learning delivery and blended learning (Halverson et al., 2012). Sample studies which have looked into student engagement, achievement and performance and interactions are discussed in this section.

Schmidt (2007), in a mixed method study, examined how students in a community college perceived their blended learning experiences as well as the faculty's perspectives on the changes in course delivery. Overall, the study sought to document ways in which blended learning changed the community college learning experience. In the study, learning experiences were taken holistically and encompassed engagement and motivation, student satisfaction, course completion, course delivery methods and student support. The majority of the students would take another blended class due to positive learning experiences. Generally, teachers were satisfied with teaching through blended learning as they were able to find new ways to teach based on the experience. However, teachers also expressed frustration when unable to fully integrate face-to-face and online activities, because it entailed more planning time and work.

Hathaway and Mehdi (2020) undertook a phenomenological research to gain K-12 teacher perspectives on what entails as quality blended and online learning. Teachers' narratives were gathered from 42 K-12 teachers which included their views on quality teaching in blended and online learning. A sub-theme on teacher presence and teacher-learner interactions were revealed. Findings indicated that teachers valued relationship building with students through establishing trust and respect. In return they expected students to be mindful, diligent and self-directed. For teachers, the importance of excellent communication skills and being open-minded and reflective to build relationships with learners. Teachers have

also emphasized the need for professional development to improve their practice given the view that in blended and online teaching, they must be able "to adopt to a range of roles and skills" (Hathaway & Mehdi, 2020, p. 681). The study recommended the professional development of teachers for quality design and facilitation of blended learning. Aligned with this are recent recommendations by Tovine et al. (2019) in the area of teacher preparation for effective instruction in K-12 blended learning communities.

The need for professional development of teachers for blended learning was also highlighted in a qualitative study by Archambault and Dalal (2020). The study involved international educators undergoing a semester's course on technology integration for blended learning. A cohort of six teachers was recruited and interviewed to examine their perceptions and readiness for blended learning in secondary schools. Findings revealed how teachers found value in using blended learning approaches despite identified barriers, namely access to quality internet connection, resistance from other teachers, and trouble with timing/scheduling. The teachers were also aware of challenges in technology integration in their classrooms stating the "overwhelming expectations on teachers" (Archambault & Dalal, 2020, p. 667). The study also highlighted the need for teachers and teacher leaders especially in developing nations who can be capacitated to effectively teach blended learning and with the use of technology tools. Thus, professional development for exemplary teachers and teacher leaders was emphasized and topics on blended learning models and competencies were suggested. Investing in teacher education programs for these international educators in developing countries will potentially improve their capacity to train and assist teachers in their home countries (Archambault & Dalal, 2020).

In other research using a phenomenological approach, Deutsch (2010) investigated instructor experiences in their blended learning classes for a range of campus-based higher education institutes worldwide. Instructor and student experiences in blended learning signified that they were both rewarding and frustrating. Instructors reported how major investments of time and effort were needed to engage students in both face-to-face and

online components of blended learning. The greater number of positive responses to technology seem to demonstrate significant amounts of involvement in technology rather than blended learning. The study concluded that instructors may be more enthused with the use of technology as a tool to facilitate active learning, rather than blended learning. Both these studies recommended professional development in the art of using blended learning, as well as the use of technology to ensure faculty success.
A quasi-experimental study by Arano-Ocuaman (2010) examined traditional and blended courses in an elementary statistics course which compared student performance. These students were adult learners considered as school leavers and returnees of post-secondary levels who had been away from schooling and wished to complete their degrees. It was noted however that students in the blended learning course had more positive perceptions of their overall learning experiences than those in the face-to-face delivery. The positive perceptions of their learning experiences were attributed to access to course materials and electronic tools for collaboration and communication (Arano-Ocuaman, 2010). Research by Johnson, Danhausen, and Perry (2017) sought to understand blended learning in a secondary school through a mixed method study, gathering data from faculty members, students and administrators alike with a purposive sampling method. A little more than half of the student study population were economically disadvantaged while a small portion were English Language Learners. Overall perceptions of blended learning were positive as it provided support for students in terms of ready access to online materials and assessment as well as having clear goals and expectations.

Findings from both studies concurred that a combination of factors contributed to student engagement, not just blended learning. Students found the value of teacher expertise as well as teacher-student relationships as being responsible for meaningful learning experiences. Instructor role, emotional support and expertise have been reported as factors leading to student satisfaction and positive perceptions of blended learning in higher education (J. Ma, Han, Yang, & Cheng, 2015; Richardson et al., 2015). This study will investigate teacher actions embedded in teacher-student

interactions and whole class interactions which sustain learning and relate to learning community building. It is also interested in student perceptions and responses to these blended learning interactions at the K-12 level in order to elicit suggestions to improve over-all blended learning experiences.

2.5.2.3 The role of technology

Success stories of blended learning at the K-12 level are largely due to the communication and interactivity afforded by face-to-face learning and the use of the internet. For example, in a mixed methods study which gathered data from student usage and interaction in an online learning environment, Yerasimou (2010) explored underlying interactivity among students for a teacher education blended learning course. Students have expressed satisfaction with using various communication tools to interact with instructors and peers. Some students reported the importance of instructor response in the form of instant communication and assistance. The study identified tools which students found most important and least preferred. Students favored instructor-student chat tools and online collaborative tools as these fulfilled the need for feedback and answers to their questions. Students appreciated being able to use tools to sustain multi-modal communication.

However, Sharpe, Benfield, Roberts, and Francis (2006) reported on studies which pointed to student difficulties in maximizing the use of both synchronous and asynchronous modes of blended learning. Students were indicated as unable to engage in a higher level of dialogue when they were expected to give critical feedback to peers or when discussing or commenting on critical issues to promote reflective learning (Clouder & Deepwell, 2004). Some even preferred the use of email rather than using the discussion forums (Schmidt, 2007).

Whether concurring or contradicting, the above findings on blended learning suggested that it is generally viewed positively and has gained acceptability (Bonk & Graham, 2012). Researchers have attributed these outcomes to teacher expertise and access to technology, therefore not solely due to

blended learning. These nuances may be due to the diverse context in which blended learning is experienced. Therefore, studies which shed light on the actual experiences and perspectives of teachers and students in K-12 blended learning environments are recommended.

Clearly, when looking at blended learning experiences and the use of technology, other factors come into play, working on the premise that these will lead to student success. Studies show that even among adult learners engaged in blended learning, motivation and skills in technology use, as well as time management, are among the most important aspects in need of support while engaged in blended learning (McDonald, 2014). Among high school students, Halverson et al. (2012) stated that "Adolescent learners have needs, abilities and limitations that are very different from those of higher education students, where most of the research has occurred" (p. 9). Alongside the role of technology, studies have also considered student motivation, collaborative learning, self-regulation and metacognition (Matuga, 2009; Schunk & Zimmerman, 2012). This research focused on finding out the types of technologies K-12 teachers and students choose to use to maintain their interactions. Examining these areas is predicted to inform proper and effective use of technologies so that adolescent learners optimize learning experiences while acquiring the necessary skills and behavior to succeed.

2.5.3 A Combination of Benefits and Barriers from Varied Contexts

Research in K-12 blended learning mostly pointed to its positive perception of teaching and learning among teachers and students, respectively. According to Kumi-Yeboah (2014), through blended learning teachers are positioned to plan and demonstrate their best teaching strategies and ideas to ensure student success, especially in meeting the needs of students in difficult circumstances. These vulnerable students either have special requirements or are marginalized by a lack of access or opportunity. Blended learning allows for tracking of student progress through the online tools that are made

available. Students are easily contacted by teachers when clarification or assistance is required.

Students are likewise positioned to demonstrate their learning in different ways, with options to make creative use of technologies to interact, collaborate and share their learning. Technology use in these instances was believed to provide a heightened experience of learning, especially when simulations and visualizations are used for students to confront unfamiliar concepts or abstract ideas (Eastman & Swift, 2002). Students appreciate the accessibility of student support systems which accompany the implementation of blended learning. A study by Owston, York, and Murtha (2013) described the flexibility in learner experiences afforded by blended learning, which is attuned to their style of learning, especially among high achievers who prefer blended learning as it harnesses conceptual learning and student engagement. Hence, blended learning that caters to a range of student abilities and situations.

The benefits of blended learning in both higher education and K-12 have been reported in areas where there has been steady growth and support for this type of learning. This study is interested in determining whether the same benefits are experienced by teachers and students in other settings where ICT integration remains a challenge. This study hopes to make known how teachers and learners sustain interactions and sense of community while working within given limitations. In doing so, schools may be able to capitalize on their strengths while taking note of strategies and recommendations to further justify blended learning where conditions allow it to succeed.

Within the context of studies on blended learning in industrialized and developed countries such as Canada, the United Kingdom, and the United States, program implementation is not without its obstacles. At the K-12 levels, Powell et al. (2014) reported on barriers that surfaced in the case of schools using blended learning. Some are related to access to quality content and software programs which are attuned to the school's LMS. More

importantly, as far as pedagogy is concerned, it was mentioned that "both teachers and students alike need to learn how to develop new habits of mind, a growth mindset, and to understand what it takes to be successful in a student-centered, personalized learning environment in which their roles are evolving" (Powell et al., 2014, p. 16). These ideas echo the transformative quality of blended learning compared to the usual way of teaching and learning as emphasized in earlier studies of blended learning in higher education.

The same can be said of selected countries in Asia. Among few studies reported, Tham and Tham (2011) stated that in China and Korea there is a general acceptance of blended learning as seen through positive responses from students. However, administrators and staff have limited understanding of knowledge in course development, hence the potential benefits of BL have yet to be realized. Underlying these practices are heavy course workloads and traditional teaching methods which are highly teacher dependent (Tham & Tham, 2011). These undermine opportunities for self-autonomy in navigating blended learning environments.

Cultural barriers and issues relating to quality access and infrastructure for blended learning and ICT integration at the K-12 level also hold true in the Philippines (Aguinaldo, 2013; Tomaro & Mutiarin, 2018). Blended learning is situated within the practice of the ODeL in open universities (Centeno & Sompong, 2012; F. Librero, 2004) and the basic education ADM (B. G. Flor & Yabut, 2014; Seameo-Innotech, 2015). For example, the OHSP currently provides access and flexibility to the current basic education offerings for a select population of recent school leavers and working students. However, there exists a wide gap in the full adoption of ICT among rural and urban school settings (Kubota et al., 2018). In marginalized areas, schools are still confronted with the lack of quality alternative learning programs, classrooms, and appropriate resources (Seameo-Innotech, 2007) and the lack of computer facilities, access to internet, ICT curriculum standards and teacher training programs despite positive initiatives from school teachers (Bonifacio, 2013; Cajilig, 2009).

Therefore, if K-12 blended learning in developing countries is to overcome these barriers, there needs to be a foundation based on research, practices and frameworks in the field of ODeL. Given that in these settings, blended learning is still emerging as a workable practice in some locations, understanding real-life experiences of teachers and students may serve to inform stakeholders. This study seeks to capture actual experiences and outcomes of blended learning which may aid in decision-making among stakeholders in terms of policies and guidelines. This study foresees potential understanding and support for blended learning programs which provide access to education among marginalized student populations.

2.6 Chapter Summary

Blended learning, with its combined usage of learning technologies and face-to-face classes, is described as "third generation" distance education (Phipps & Merisotis, 1999), emerging recently when more web-based tools were being utilized to facilitate interaction and collaborative learning. These put the learner at the center of the teaching and learning equation as more access, control and direction are afforded by these tools. Blended learning is reported to influence instructors into shifting the focus on the learner when they are rethinking their course design and teaching strategies (Rovai & Jordan, 2004). Instructors also made effort to build their teaching presence to bring about more connectedness with their students (Shea, 2006). Advocates of blended learning see it not only as an outcome of technology integration but as a paradigm shift (Christensen et al., 2013). Therefore, blended learning is foreseen to signify a cultural shift in teaching and learning as it offers a great possibility to reexamine ways stakeholders effect classroom reforms by maximizing student productivity (Powell et al., 2014).

Thus, blended learning environments continue to be relevant and robust spaces to investigate learning communities. Learning communities have been defined by their common characteristics, aspects, and themes in literature which mostly cover higher education for blended and online learning environments. For learning communities grounded in the social constructivist learning theory and guided by practical inquiry, the CoI has

been espoused and validated in higher education online learning environments. Given the gaps in research in K-12 settings, this study pursues furthering the investigation of blended learning experiences through the CoI. This study posits that applying the CoI to understand blended learning experiences and learning community building in other contexts serves to inform current pedagogy and practice as well as to contribute to the ongoing conversations in relation to the framework.

The chapter that follows presents the methodology of the thesis. It justifies the exploratory case study design for this research. In keeping with this study's qualitative methodology, the subsequent parts contain four chapters, each having a presentation of findings and discussion along the lines of: the nature of blended learning interactions, manifestations of teaching presence, social presence and cognitive presence, respectively. The final chapter concludes the thesis with the response to the central research question, contributions and implications for future research.

Chapter 3 – Methodology

3.1 Overview

This research aimed to understand the development of learning communities among K-12 teachers and learners undertaking blended learning through elements of the CoI. This study examined the presences and its intersections within K-12 blended learning interactions and the ways that these have led to the development of learning communities. From the literature review, it can be gleaned that gaps exist in the CoI framework in the areas where the presences overlap. The CoI framework has been largely applied through empirical studies for higher education blended and online learning in Western countries. However, the growing population of K-12 blended learning contexts in the Philippines is in need of research-based frameworks to guide their current practices. This study applied the CoI framework in selected blended learning classes under the ADM of the Department of Education in the Philippines. These classes were considered as atypical cases and yet may have emerging learning communities worth investigating through the CoI. The study sought to build on the possibility of the CoI framework as a sound theory to guide blended learning practice towards the development of learning communities in the K-12 setting.

Given the aims and research questions of this study, this research employed a qualitative methodology grounded on an interpretivist paradigm through an exploratory case study design. This chapter provides a justification for the choice of research design and methodology through which this study was carried out. The chapter discusses the participants and their setting, data collection and analysis. It includes a discussion on credibility, consistency and reflexivity, and ethical considerations.

3.2 Research Design and Methodology

This section provides a background of the researcher's stance grounded on the practice and experience of utilizing the interpretivist paradigm as a researcher in the K-12 and higher education settings. It explains the use of a qualitative methodology and case study approach in pursuit of the research aims and questions.

3.2.1 The Researcher's Interpretivist Stance

Researchers draw from a paradigm depending on their view of knowledge, its nature and the process by which these are established. Paradigms may be defined as systems of beliefs or worldviews (Willis & Jost, 2007) which "influence how researchers select both the questions they study and methods that they use to study them" (Morgan, 2007, p. 49). Paradigms serve different purposes. A paradigm has the capability to guide research by providing the researcher with the opportunity to indicate their epistemological stance in the pursuit of knowledge or truth (Feilzer, 2010). However, Kuhn (1962) suggested that paradigms can become an obstacle to creativity or prevent researchers from getting deeper into social phenomena and new phenomena which may arise from the study. While Shannon-Baker (2016) mentioned that researchers make intelligent use of a paradigm as a dynamic construct to frame one's research process, it should not be viewed as rigid. To avoid the issue mentioned by Kuhn (1962), the researcher considered that the choice of research design and methodology took precedence in decision-making related to the research process. In this study, the researcher found value in drawing from the use of a research paradigm as a mental model (Greene & Hall, 2010) or a think-through tool (Biesta, 2010) to guide the study.

Throughout the years of being an experienced educator, a novice research practitioner and community development worker, the researcher has kept a steady preference for interpretivism to make known educational experiences through the eyes of an insider, bystander or participant immersed in the teaching and learning context. Interpretivism puts value on subjective meanings of the experience, grounded on the view that humans are largely

influenced by their environment and the local setting (Willis & Jost, 2007). The researcher has been immersed in the K-12 school practice and leadership for 27 years, in both formal and community-based settings, while also engaged in higher education teacher education programs midway in her career. The researcher has spent twelve years immersed in the use of technologies for blended and online learning, which includes virtual community building. What has emerged is an ongoing sensemaking of face-to-face and online experiences in teaching and learning. While being an active participant in community-building in both face-to-face and virtual settings, the researcher has gained perspective on the value of rapport-building and forging connectedness whether with students, parents, people's organizations at the grassroots level as well as with key officers in both government and non-government agencies. To the researcher, the process of making meaning out of these subjective experiences has been largely an isolated act. This study becomes a concrete step for the researcher to understand shared meanings based on common experiences of learning community and blended learning in alternative learning programs which this study seeks to make explicit or construct.

Through this study, the researcher has embarked on a systematic research process aligned with an interpretivist research paradigm which afforded the use of subjective realities to build knowledge. Interpretivist research is "assumes that reality is socially constructed, that is, there is no single observable reality, rather there are multiple realities, or interpretations of a single event" (Merriam, 2009, p. 8). To interpretivists, "what the world means to the person or group being studied is critically important" (Willis & Jost, 2007, p. 6). In this kind of paradigm, researchers actively seek a greater understanding of a phenomenon in its natural setting (Denzin & Lincoln, 2005). Aligned with an interpretivist paradigm, the phenomena of learning communities shall be investigated through the interaction of the researcher with research participants engaged in real-life teaching and learning within their actual K-12 blended learning classes. In this study, the researcher examined and interpreted shared meanings embedded in the varied levels of

interactions among Filipino teachers and learners through a qualitative methodology.

3.2.2 Qualitative Methodology

Since the task of the researcher with an interpretivist stance is to work with subjective meanings from shared experiences and utilize these to construct knowledge (Goldkuhl, 2012), this study capitalized on a methodology which allowed for the use of multiple sources to reveal multiple perspectives. A qualitative methodology involves an intelligent use of empirical sources so that even the commonplace and the problematic maybe adequately examined or critically studied in an in-depth manner (Schoepp, 2003). In the field of education, researchers draw largely from a qualitative methodology in its efforts to search for meaning and understanding of individuals, communities and contexts and for different reasons (Hamilton & Corbett-Whittier, 2013; Leech & Onwuegbuzie, 2008). Educators and research practitioners embark into qualitative studies namely to develop working models or theories within a specific context or real-life experience. Qualitative studies allow researchers to pay close attention to factors that improve, or limit, programs and interventions, as well as its outcomes (Nastasi & Schensul, 2005). Process oriented questions and documentation of improvements or modifications from a specific intervention are likewise accommodated in this type of methodology (Leech & Onwuegbuzie, 2008).

This study is based on a qualitative research which allowed for a specific phenomenon to be investigated through multiple lenses so that different dimensions of the phenomenon could be made known and understood (Baxter & Jack, 2008; Merriam, 1998). Qualitative research is "a multi-method in focus, involving interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 2004, p. 2). This study arrived at an in depth understanding of the development of learning communities afforded by a qualitative research methodology. This study applied the CoI as a theoretical frame for the researcher to interpret and

make explicit knowledge on the development of blended learning communities in the Philippines. This study sought to generate thick descriptions, foreseeing the end product to be highly descriptive of the phenomenon. As Merriam (2009) stated, "thick description is a term from anthropology and means the complete, literal description of the incident or entity being investigated" (p.43). This study examined blended learning interactions, manifestations of teaching presence, cognitive presence and social presence, and most importantly, experiences leading to the development of learning communities. Since the phenomena under study are bounded in a specific context, that is within selected classes doing blended learning within the Philippines' school system, then this qualitative research is in the form of a case study.

3.2.3 Case Study Approach

A case study approach may be selected when research questions revolve around how or why, so that the researcher may be able to closely examine contexts and conditions deemed relevant to the phenomenon under investigation (Yin, 2009, 2018). Like all other designs in a qualitative methodology, a case study shall allow for a closer look in order to illuminate a phenomenon (Merriam, 2009). A case study however may be set apart from other qualitative research designs, such as ethnography, phenomenology and action research, due to the ways that dimensions of a phenomenon are examined or understood. For one, actions or behavior are viewed as naturally occurring within the setting to allow for meaningful inquiry (Baxter & Jack, 2008; Yin, 2009). Across disciplines, a case study design is used to generate or test theory and provide description. However, the knowledge it seeks to generate can be largely concrete, and therefore may lead to generalizations but only in reference to the specified population. Still, in research literature, ambiguities and views on case studies abound (Verschuren, 2003), for example, whether a case study is considered as a mere method of reporting versus being an approach, research design or genre (G. Thomas, 2011). What unites these differing views is the commitment of case studies to deal with complexities in real-life contexts (Simons, 2009).

In education research, a case study lends a voice or a tool for educators and teacher-researchers who most often find themselves immersed in the phenomenon under study, with teachers and learners as research participants. This study agreed with the position of Creswell (2007) Creswell (2012) who stated a case study as a "qualitative approach in which the investigator explores a bounded system or multiple bounded systems through detailed in-depth data collection involving multiple sources of information and reports a case description and case-based themes" (p. 73). To provide justification for the use of a case study approach, the researcher draws from the work of G. Thomas (2011) who outlined a typology of a case study through the object and subject under study. He indicated putting value on the interaction of the subject and object which affords this kind of research design. By doing so, a case study must take some form or structure in order to proceed in the direction it distinctly does. A summary with references to the specifics of this research is indicated at Table 3.1.

Table 3. 1

Summary of Justification for a Case Study Approach

Thomas (2011) on the subject and object under study	Specific to this study
1. The subject or the phenomenon • chosen for its familiarity to the researcher (local knowledge) providing ample opportunity for identification and discussion	➢ Under the Department of Education are typical K-12 programs: the eLearning program and OHSP as part of the ADM. The researcher is familiar with these programs and has been in communication with selected schools/centers through her network, being involved in university work and her own limited practice of the profession.
• it is unusual, interesting, or a revealing example of the object under study; chosen as a key case or it being different or as an 'outlier' status therefore chosen because the subject illuminates a phenomenon	➢ Blended learning in K-12 classes is still an emerging mode of learning, hence may exemplify the phenomenon in the Philippine setting. The development of learning communities in this context qualifies the subject as both interesting and unusual. ➢ The setting and participants are situated in blended learning classes which are self-initiated by teachers and/or the school with support from school and district-level leadership.

2. The object • an analytical or theoretical frame to view the subject under study or of which the subject exemplifies a dynamic 'thinking tool' or temporary construct which shall take shape	➢ This study shall use the CoI as a theoretical framework ➢ A few studies have drawn from the CoI, but not yet in terms of the phenomenon or subject under study – K-12 learning communities in the Philippine setting and through the presences and intersections of the CoI framework

Note. Adapted from A Typology for the Case Study in Social Science Following a Review of Definition, Discourse, and Structure by G. Thomas (2011)

This study was characterized as an exploratory case study with three blended learning classes which comprised a single, unique case with embedded units of analysis. An exploratory case study allowed for the exploration of a phenomenon as the major area of interest (Zainal, 2007) or an intervention which has no clear set of outcomes (Yin, 2009). The embedded areas for investigation in this case study are: the blended learning interactions, the manifestations of presences or elements of the CoI, and the outcomes of their experiences as it relates to the development of learning communities.

3.3 Setting and Participants

In the Philippine setting, the learning communities at the K-12 levels were examined within ODeL programs, particularly those having blended learning interactions. Through the researcher's network and based on very few research studies on ODeL in the Philippines, selected school programs have been described and referred to as having ICT integration, 'eLearning', 'ubiquitous learning', 'blended' or 'internet-based teaching'. These programs are implemented and supervised by the City Schools Division Office of the Department of Education (DepEd). Particular to this study, participants come from different locations and belong to three separate classes/groups, two coming from the eLearning programs and one from the OHSP. A brief profile of the classes is indicated in Table 3.2 below:

Table 3. 2

Summary of Case Profile: Blended Learning Classes

Blended Learning Classes*	DepEd Program	Grade level and Total No. of students	Blended Learning Class Population	Number of Student Participants
One Class from School A	OHSP in a public high school	Grade 10 = 800 students (18 classes)	36 students	N ≤ 7
One Class from School B	eLearning Program in a public high school	Grade 7 = 144 students (4 classes)	36 students	N ≤ 18
One Class from School C	eLearning Program in a public science high school	Grade 10 = 210 students (5 classes)	29 students	N ≤ 15

*Note.** Details of class/student profile are found in Chapter 4

All the classes are treated as one single case which still allowed for the exploratory nature of the case study to capture nuances and uniqueness of each class. As such, the findings uncovered facets of the blended learning programs in the Philippines and the varied conditions in which K-12 blended learning communities exist.

3.4 Sampling

A defining characteristic of a case study is in its potential of delimiting the object of the case (Merriam, 2009). In delimiting comes the greater opportunity to study a case for its depth and complexity, which when situated in the field of education, can either be an institution, a system, a project or program (Simons, 2009). Sampling in this kind of qualitative research is largely achieved purposively (Coyne, 1997; Freebody, 2003; Patton, 2002). In identifying the blended learning classes under the Department of Education as the setting for this study, purposive sampling was utilized and achieved in two ways. Firstly, network sampling, a common form of purposeful sampling was carried out by identifying selected participants or schools who can easily refer other schools or programs (Merriam & Tisdell, 2015). The researcher completed courtesy calls and informal school visits through individuals within her network of educators

and through her current university extension work, two prospective school sites were identified by the Division of City Schools. These were verified by selected teachers through informal talks during site visits.

For the case study to materialize, convenience sampling was utilized. Though Merriam and Tisdell (2015) suggested that convenience sampling may lead to information-poor data sources, in this study, however, it has proven to be advantageous. For one, other prospective case sites were conveniently located in two cities within the researcher's work locality. The prospective case sites were also conveniently referred by teachers. The final case sites were verified based on the following characteristics or conditions described by principals, teachers and staff during informal visits:

1. a class subject or teacher-driven group on a social media platform or an LMS with a corresponding site activity, such as online interaction with content and/or interaction with peers, and with teachers;
2. access to the internet and laptops, computers or mobile phones whether in school, at home or both;
3. allowable usage of an LMS/CMS, Facebook, or any other social media site, email accounts, and that include features for chat or online forum discussion for a class/course of study; and
4. a willingness to engage in the research project by the blended learning class for a minimum of six weeks, or approximately up to two quarters of the school year.

Specifically, the above conditions have been satisfied by prospective case sites with corresponding approvals from the City Schools Division Office of the Department of Education. A brief review of programs under the Department of Education in the Philippines showed that selected classes under the ADMs can be found within Metro Manila and other city schools located in other regions. However, initial site visits and informal talks were carried out to ascertain and identify prospective case sites which fit the above criteria. This was completed to augment the consolidated, general information provided by the Department of Education Central Office. The case sites were further

delimited to a specific year level or cohort of learners from which course content or topics are familiar and understandable to the researcher who is the primary instrument of data gathering in a qualitative research design (Merriam, 2009; Stake, 1995). Data gathered on the blended learning interactions were from the last two quarters of the school year.

3.5 The Role of the Researcher

For the exploration and resulting understanding to take place, a qualitative study needs to rely on research participants (Creswell, 1998; Merriam, 2009) and the researcher as the main instrument in data gathering (Merriam, 2009). The researcher's familiarity with the context in which the classes were situated allowed the study to be verifiable, a characteristic of a case study identified by Stenhouse (1980). A case study rightfully lends voice to the practitioner-researcher who largely selects a case he or she is foremost familiar with. Like the research participants, the researcher is currently involved in the K-12 school practice as a teacher and curriculum developer. Hence, the researcher was in an opportune space to relate to the research participants' experiences of teaching and learning. The researcher was also in a strategic position to partake in the process of meaning-making to make explicit understandings of blended learning and learning communities.

In the process of data-gathering, the researcher was able to share her own experiences and questions as starting points, adding context to the interviews and focus group discussion (FGD) to engage research participant responses. Likewise, the researcher played a key role in making the data summaries available for teachers and students to review and verify their own manifestations of the presences and perceptions of their experiences. Thus, the researcher's role is in keeping with the interpretivist stance this study was able to maintain throughout the data-gathering process.

3.6 Dealing with Researcher Bias

The insights into and understanding of learning communities, combined with blended learning experiences gained by the researcher through prior qualitative studies, proved to lend both objectivity and subjectivity to this

case study. For one, the researcher is familiar with the CoI, the theoretical framework applied in this study given her background and previous research (Villanueva, 2013) while undertaking online teaching and virtual community building in her higher education practice (Villanueva & Librero, 2010) and ICT integration in her K-12 practice (Villanueva, 2014).

Subjectivity in a case study is welcomed as an essential means of understanding (Stake, 1995). The subjectivity brought to light understandings which have been uncovered, or perhaps even constructed based on the researcher's interpretation of data gathered from varied sources in this study. These were the researcher's questioning attitude which was maintained by engaging research participants as sounding boards and prospective collaborators in data interpretation. Through techniques in immersion and rapport building, the researcher encouraged exchange of ideas and disclosure while engaged in one-on-one interviews and small group discussions. These actions during the preliminary phase of the case study were meant to predispose teachers to be critically constructive while bearing in mind the intangible benefits of research drawing from their lived experiences of doing blended learning.

Objectivity was achieved by applying the a priori codes of the CoI framework and themes on blended learning identified in the literature. Data collected throughout was based on the CoI categories, indicators and samples of all the presences that were codified by the researcher based on these a priori codes and themes. These were utilized for the first time in the Philippine K-12 system to interpret blended learning teacher and student responses documented through the surveys, open-ended questionnaire, interviews and focus group discussions.

3.7 Data Collection

Being concerned with the search for meaning through multiple views, a qualitative study relies on multiple data sources (Creswell, 2012). Likewise, this study proceeded with data collection from varied sources, indicating a mixed-method in data collection. These sources were as follows:

1. Two student surveys: adapted versions of the CoI Likert-type survey (Arbaugh, Cleveland-Innes, Diaz, Garrison, Ice, Richardson, Swan, et al., 2008) and the "Blended Learning Toolkit" (n.d.)
2. FGD with students;
3. CoI Survey Part 2 with open-ended questions;
4. Semi-structured interview of teachers;
5. One questionnaire with open-ended questions for teachers;
6. Face-to-face class observations of blended learning classes using a class observation template;
7. Field notes based on the class observations; and
8. Stored data of online classes from subject/class LMS and group FB Messenger.

The above list also pertained to the sequence of data collection undertaken in a span of six months across schools, to include recruitment phase, but at a time convenient to the participants. After one kind of data collection activity was undertaken among student participants across three sites, the researcher spent protected time to review their responses before proceeding to the next data collection phase among teacher participants. The last phase involved class observations to gather data on their class interactions. The researcher also worked around the realities of data collection in the natural setting of the participants given their class schedules, deadlines and major school activities. Details pertaining to qualitative data collection techniques this study considered are discussed in the next sections.

3.7.1 Surveys for Students

Surveys become an effective means to gather data in order to learn or evaluate individual experiences, perceptions or beliefs of individuals as it relates to the phenomenon under study (Creswell, 1998). Surveys are also good opportunities to identify practices, needs or areas for improvements. The use of surveys becomes an advantage to researchers especially since responses can be easily but carefully elicited through their administration in groups without individuals having to declare their identities (Creswell, 2012). In this exploratory case study, the researcher found value in using surveys as

valid measures of the manifestations of presences, blended learning satisfaction as well as types of technology used while learning.

Upon ethical approval and submission of consent forms, data from students were collected through an online survey in dual-language, with a paper-based version which was also made available. Most importantly, the surveys included were aligned with the research questions which sought to investigate teacher and student experiences of blended learning and learning community building.

Two surveys were administered in this study. The first survey is the CoI survey instrument with a five-point Likert-type scale (see Appendix A and B), validated through an empirical study at the higher education by Arbaugh, Cleveland-Innes, Diaz, Garrison, Ice, Richardson, and Swan (2008). The CoI Survey instrument was used in this study to capture student perceptions of their blended learning experiences through the presences, namely TP, SP and CP. A version was adapted from the original open-source CoI instrument to ensure proper use among Filipino secondary level students. This formed the CoI Survey Part 1 of this study which was a bilingual version of the survey with minor changes for certain words, for example instead of the word 'course', the term 'subject' was used, and in place of 'instructor', the term 'teacher' was used (see Appendix C). The researcher also noted that though TP in prior research referred to both teacher and student members of a class or course, the TP items of the CoI instrument referred to the role of the teacher. Even though the researcher intended to examine TP as both student and teacher oriented, the survey was kept as is, with the minor changes in the use of terms. The survey was being trialed in a different context for a different cohort, that is among K-12 students in the Philippines. The survey also included a second part to qualify further the students' interactions and experiences. Open-ended questions were included in this survey, as CoI Survey Part 2 with selected items similar to the interview questions for teachers found in Table 3.3. Data collected from this survey were used in consonance with the thick descriptions of the nature of blended learning interactions and manifestations of the presences gathered through the

student focus group discussions (FGDs) and the class observations. This data triangulation assured that the presences be examined and analyzed as enacted by members of the class, to include the teacher.

The other survey in this case study was adapted from the "Blended Learning Toolkit Survey Instrument" (n.d.), an open-source survey (see Appendix D). This quick survey primarily measured overall student satisfaction and perceptions of blended learning experiences. An adapted version used in this study contained Filipino translations and with emojis included in the rating scale. The emojis had corresponding descriptors. A set of multiple-choice questions were also added to gather data about access to the internet, digital devices, and the ways that blended learning was undertaken through varied technologies. This quick survey was given right before the start of the FGD in order to set the tone of the small group discussion and to provide students and the researcher with points of reference. The data generated from this survey were used in conjunction with thick descriptions of blended learning interactions, use of technology, and manifestations of the presences.

3.7.2 Focus Group Discussions with Students

FGD are useful especially when there is limited time for data collection and research participants will be able to offer valuable information, are cooperative and possess open-mindedness with fellow participants (Creswell, 2012). In this study, the FGD entailed semi-structured interview questions, carried out for 20-40 minutes per group of three to five students in all (refer to Table 4.2). These discussions were for the purpose of gathering additional information and to assist the researcher in interpreting class observations. They also served as opportunities to do member checks in order to gain feedback on descriptions of blended learning interactions, manifestations and perceptions of the presences midway through the data collection. The questions were similar to the interview questions provided to the teachers, as listed in Table 3.3.

The data were collected by organizing small groups of students who provided assent to participate. Ethical protocols were followed in terms of gaining

consent from parents of students who were minors. Assent by students was also obtained after which the scheduled interviews were undertaken and with the knowledge of the teacher and his/her direct supervisor.

In all these data-gathering activities, the researcher maintained a constructionist stance. Ample time for rapport building with prospective participants was undertaken by the researcher through the initial site/class visits and data collection through the survey. The researcher reviewed results of the CoI Survey Part 1 to inform the data collection through the student FGDs. The researcher intentionally facilitated an interactive discussion with the research participants and provided. Participants were assured that the sharing of their views and responses and listening to their peers were well within a climate of respect and trust. The researcher anticipated that setting this climate would lead to participants providing important data, to include insights and suggestions for improvement on their blended learning experiences. All these were observed by the researcher, especially in cases when participants needed to rethink and clarify their views while engaged in conversation with others (Hennink, 2014).

3.7.3 Interviews with Teachers

Interviews are valuable sources of information in qualitative research, especially when direct observation is not always possible (Creswell, 1998). Merriam and Tisdell (2015) considered interviews as systematic activities which both have structure and purpose. When completed in case study research, interview data become sources of descriptions and interpretations with multiple viewpoints (Stake, 1995). The flow of questioning in case studies can be flexible rather than highly structured (Yin, 2009). Due consideration to both the researcher's intent and direction and the participant's views are accommodated. Open-ended questions are therefore advisable so that the participant will be able to provide answers based on his/her preferred response. This way, the researcher is still able to guide the participant to elicit information through more specific types of questions (Creswell, 2012).

While the researcher was aware of the above-mentioned advantages of interviews, the disadvantages were considered in the light of data collection. One is that the information provided by participants may be filtered depending on the perspective of the interviewee. Since the types of responses vary from person to person, information gathered may not always be delivered clearly nor accurately (Creswell, 2012). Another disadvantage is that the interviewee may misinterpret or misunderstand the questions or terms used during the conversation. Thus, the use of semi-structured interviews afforded the collection of information while further clarifying meanings held by teacher participants. The study included five teacher participants, with one interview session per teacher yielding a total of five interviews in all. To capitalize on the advantages of carrying out semi-structured interviews in this study, the teachers were given printed copies of the questions at the start of the scheduled interview session. This would be useful in situations where clarification was needed. During the interview sessions, teachers were encouraged to share anecdotes, narrate experiences or explain further through rephrasing the given questions or through follow up questions which were open-ended in nature. In this study, the researcher anticipated possible issues or challenges which may accompany the process of gathering data through interviews during the study. A foreseen incident would be participants being either cautious about giving critical responses or due to adolescent participants' tendency to please an adult researcher. Thus, this study was guided by suggestions from Merriam and Tisdell (2015) to provide different types of questions as first outlined by Patton (2002), such as experience and behavior questions, feeling questions or opinion and values questions.

During school site visits and exploratory talks with potential teacher participants, open-ended questions, as seen in Table 3.3, were used by the researcher to ensure rapport building with the teachers. They were asked to briefly describe the blended learning program and their impressions of it. One-on-one, semi-structured interviews were scheduled primarily to gather in-depth data on the blended learning class interactions and experiences. A list of questions included in these semi-structured interviews are shown in

Table 3.3. These questions pertained to the blended learning experiences and outcomes.

Table 3. 3

Examples of Interview Questions for Teacher Participants

Open-ended Questions Part 1 (during informal talks/rapport building with teachers)
1. Tell me about the blended learning program in your school. 2. What are your thoughts on blended learning? How do you find it? 3. Would it be possible to observe interactions in your classes and hold formal interviews with the teachers of blended learning?
Semi-structured Interview Questions Part 2 (during scheduled formal interview session): On blended learning interactions, experiences and outcomes
1. How would you describe the class interactions while doing blended learning? 2. Which learning activities would you say encouraged your students to interact and learn more during their face to face learning? 3. Which learning activities would you say encouraged your student to interact and learn more during their online learning? 4. How does having online work (discussions, activities and interactions in your FB page/chat/LMS) enhance the face to face/in-class experiences among your students? 5. How does the face to face/in-class work enhance the online experiences of your students? 6. Would you say that having blended learning results to unique outcomes on the overall class learning and experiences? Tell us more about the outcomes and explain further.

3.7.4 Class Observations

In qualitative research, observations allow the researcher to draw out meanings directly experienced by the research participants and the researcher (Stake, 1995). The case study researcher must therefore maintain systematic procedures and reliable documentation of events to come up with accurate descriptions and trustworthy outcomes (Merriam & Tisdell, 2015; Stake, 1995). In this study, data were gathered through face-to-face class observations. These were seen as ways to triangulate teacher and student responses gathered through the initial exploratory talks, the FGD and interviews. Most importantly, the class observations provided concrete opportunities for the researcher to witness and eventually interpret varied levels of interactions, which later aided in examining patterns and nuances in the data.

During class observations, the researcher may take on different observational roles while engaged in-class observations. These roles may possibly change while immersed in the study, depending on the researcher's intent to conduct the observations (Merriam, 2009). An outsider role is meant to purposively notice aspects which are commonplace to the research participants. Preliminary data gathered in this kind of role may lead to a better understanding of the setting (Merriam & Tisdell, 2015). Within the three blended learning classes in this study, the researcher executed an outsider's role during the initial school visits, and this included brief classroom visits to build rapport with the students. The prior data collection which was undertaken allowed for the participants to be comfortable with the presence of the researcher. After frequent, weekly class visits to attend the FGD, face-to-face class observations were scheduled and completed. These observations permitted the researcher to take on a "peripheral membership role" to mean the researcher was given access to a sufficient range of information and people (Merriam, 2009). The researcher was able to interact closely with the members without necessarily participating while the observation was taking place (Adler & Adler, 1998). While this had been a feature in the study, it likewise provided sufficient background and context to the stored data of the virtual classes included in the data collection of this study.

Regardless of roles which the researcher may choose to partake, observations followed a plan and process as outlined by Creswell (2012). The researcher observed the guidelines and protocols provided by the City School Division Office of the Department of Education (see Appendix E) during the three class observations which transpired. The following were purposely followed:

1) Identification of class/group sessions to be observed and observation schedule options;
2) Information dissemination to participants regarding the research project, to include the purpose and a confidentiality clause with due respect to minors given consent to be observed; and, the frequency and length of class observation time as part of permission which approval was sought by the researcher;

3) Finalizing schedules and furnishing the Principals' Office with schedules; and,
4) Courtesy calls to the Supervisors' office to inform that the class observations have been completed.

During the class observations, the researcher used a class observation template (see Appendix F) to gain a narrow, focused perspective of interactions and arising incidents. The template used was based on Moore's (1989) levels of interaction which Swan (2002) connected with each of the CoI presences. The coding protocols were based on the CoI survey by Garrison et al. (2001). The researcher noted samples of the intersections of the presences across the levels of interaction as they were observed. Other areas were also noted, as suggested by Merriam and Tisdell (2015), physical setting, participants, class interactions, learning activities, conversations and other engagements.

Merriam and Tisdell (2015) mentioned that researchers in a qualitative study often take on mixed roles so that reliable information may be gathered within the setting. While immersed in the setting, the roles will most likely change. This varying insider-outsider status, while doing class observations, posed some challenges to the researcher. However, as the interpretivist stance has been made clear at the onset of this study, subjectivities were an accepted part of the research process in this case study. The researcher instinctively and systematically worked with this challenge through a set of descriptive and reflective field notes which were taken throughout the data collection and analysis. The notes and journal entries were guided by suggestions from Merriam and Tisdell (2015) namely including descriptions of people, activities, and learning environment, direct quotations to support some instances or moments, and other observers' comments. These provided support and insight to the review and eventual coding as part of the data analysis. In addition, they also facilitated the identification of themes based on the audio transcripts of FGD and class observations.

3.7.5 Stored Data from Virtual/Online Classes

Other forms of course documentation were accorded to the researcher which were relevant to the research questions. Examples were online class interactions in their class/group FB Messenger and subject/class LMS. A group of students also volunteered to share chat exchanges from their afterschool club activities. Clubs are considered as extra-curricular and interlevel student interactions based on common student interests. These served to triangulate data gathered on the blended learning experiences and manifestations of the presences as described by students through the FGD and surveys. This also supported the data gathered from as well as that of the teachers through the interviews and questionnaires. Through the stored data, this study was able to generate concrete examples of the presences.

3.7.6 Field notes based on class observations

Before and after the class observations, the researcher documented descriptions of key individuals and the setting, as well as reflections on the interactions and observations through her field notes. The initial field notes served to provide a brief background of the blended learning programs and classes included in this study. These were kept in notebooks that were transferred to Evernote and NVivo.

Field notes are not only expected to be highly descriptive but also serve as reflective commentaries which go beyond the factual descriptions (Merriam & Tisdell, 2015). In this study, the field notes aided the process of creating analytical memos as data was analyzed by making constant comparison, which is discussed in the next sections.

3.8 Data Analysis and Reduction

Being concerned with the search for meaning through multiple views, a qualitative study relies on multiple data sources (Creswell, Hanson, Clark Plano, & Morales, 2007). A qualitative methodology allows for data to be gathered through varied means and for analysis to take place in varied ways. A compendium of techniques was used by the researcher in keeping with the exploratory and constructivist nature of a qualitative methodology (Leech &

Onwuegbuzie, 2008). This study utilized types of data analysis from specific data sources, as aligned to research questions indicated in Table 3.4.

Table 3. 4

Summary of Links: Research Questions with Data Collection and Analysis

Central Question: In what ways do interactions and experiences of teachers and students signify learning communities as outcomes of K-12 blended learning classes?		
Research sub-questions	**Data Sources and Collection**	**Data Analysis**
1) What is the nature of interaction in K-12 blended learning classes? Within this question, the researcher is searching for evidence which surface about the nature of interaction in varied levels of the face-to-face classes and online classes through the intersection of the elements/ presences of the CoI framework: setting the climate, selecting content & supporting discourse	~ **class observations** of face to face class interactions with audio recording: 1-3 face-to-face class interactions per case ~ audio transcripts of class interactions ~ **observation notes** during actual class observation ~ **stored data of online class** interactions ~ **field notes/reflective journals** during actual and post-observation session ~ **semi-structured interviews and questionnaires** with teachers ~ **FGD** with students ~ **student survey** from the adapted version of the Blended Learning Toolkit	~ content analysis and generation of themes pertaining to areas of interaction by Moore (1989) which Swan (2003) included within the CoI: interaction with content; student-to-student interactions; teacher-student interactions; ~ descriptive statistics using Lime Survey
2) How is TP manifested in the blended learning classes? Within this question, the researcher examined the evidence of TP in the context of K-12 teachers and students. Samples of effective TP were uncovered and qualified.	~ **class observations** of face to face class interactions with audio recording: 1-3 face-to-face class interactions per case ~ audio transcripts of class interactions ~ **observation notes** during actual class observation ~ **stored data of online class** interactions ~ **field notes/reflective journals** during actual and post-observation session ~ **semi-structured interviews and questionnaires** with teachers ~ **FGD** with students	~ content analysis, coding and matching of interactions and responses against CoI categories and indicators of TP ~ thick descriptions of teacher and student manifestations of TP were reported ~ member checks verified data and meanings drawn from the content analysis and thick descriptions

	~ **student survey: the CoI survey** Parts 1 and 2, adapted from the CoI instrument of Arbaugh et al. (2008)	~ descriptive statistics using SPSS
3) How is SP manifested in the blended learning classes? Within this question, the researcher examined the evidence of SP, in the context of K-12 teachers and students. Samples of effective SP were uncovered and qualified.	~ **class observations** of face to face class interactions with audio recording: 1-3 face-to-face class interactions per case ~ audio transcripts of class interactions ~ **observation notes** during actual class observation ~ **stored data of online class** interactions ~ **field notes/reflective journals** during actual and post-observation session ~ **semi-structured interviews and questionnaires** with teachers ~ **FGD** with students ~ **student survey: the CoI survey** Parts 1 and 2, adapted from the CoI instrument of Arbaugh et al. (2008)	~ content analysis, coding and matching of interactions and responses against CoI categories and indicators of SP ~ thick descriptions of teacher and student manifestations of SP were reported ~ member checks verified data and meanings drawn from the content analysis and thick descriptions ~ descriptive statistics using SPSS
4) How is CP manifested in the blended learning classes? Within this question, the researcher examined the evidence of CP, in the context of K-12 teachers and students. Samples of effective CP were uncovered and qualified.	~ **class observations** of face to face class interactions with audio recording: 1-3 face-to-face class interactions per case ~ audio transcripts of class interactions ~ **observation notes** during actual class observation ~ **stored data of online class** interactions ~ **field notes/reflective journals** during actual and post-observation session ~ **semi-structured interviews and questionnaires** with teachers ~ **FGDs** with students ~ **student survey: the CoI survey** Parts 1 and 2, adapted from the CoI instrument of Arbaugh et al. (2008)	~ content analysis, coding and matching of interactions and responses against CoI categories and indicators of CP ~ thick descriptions of teacher and student manifestations of CP were reported ~ member checks verified data and meanings drawn from the content analysis and thick descriptions ~ descriptive statistics using SPSS

3.8.1 Constant Comparison Analysis

Constant comparison analysis was initially used by Glaser and Strauss (1967) in grounded theory research, the goal of which is to generate a set of themes or generate theory based on a textual data and narrative (Leech & Onwuegbuzie, 2008). While themes are generated, relationships among portions of the data are identified (Merriam, 1998; Strauss & Corbin, 1998) and some researchers refer to this process as coding (Miles & Huberman, 1994).

Specific to this case study, constant comparison analysis was utilized as a systematic process to examine layers of meanings which correspond to the areas being investigated based on the research questions, as seen in Figure 3.1. The process of data analysis entailed three phases: open coding, axial coding and selective coding. Open coding was manually executed as recommended by Saldaña (2016) for small-scale studies which allowed for more ownership of the work. Later on, these were transferred to the NVivo software for electronic coding which facilitated the axial and selective coding.

The data analysis went beyond the descriptive coding to proceed to axial coding, as meanings were interpreted (Merriam, 2009; Strauss & Corbin, 1998). The axial coding entailed writing analytical memos to reflect on the codes generated, their patterns and connections, and to the process of coding itself (Saldaña, 2016). These were initially undertaken for the student responses to FGD and open-ended questions included in the surveys. For data gathered from teacher interviews and or responses to questionnaires, the researcher utilized the same data analysis process.

For the classroom observations and stored data, the coding utilized the a priori codes based on the works of Garrison et al. (2001), specifically for the categories and indicators of the presences. These were necessary to similarly arrive at axial and selective coding to correspond with initial data analysis of FGD, questionnaires and interviews.

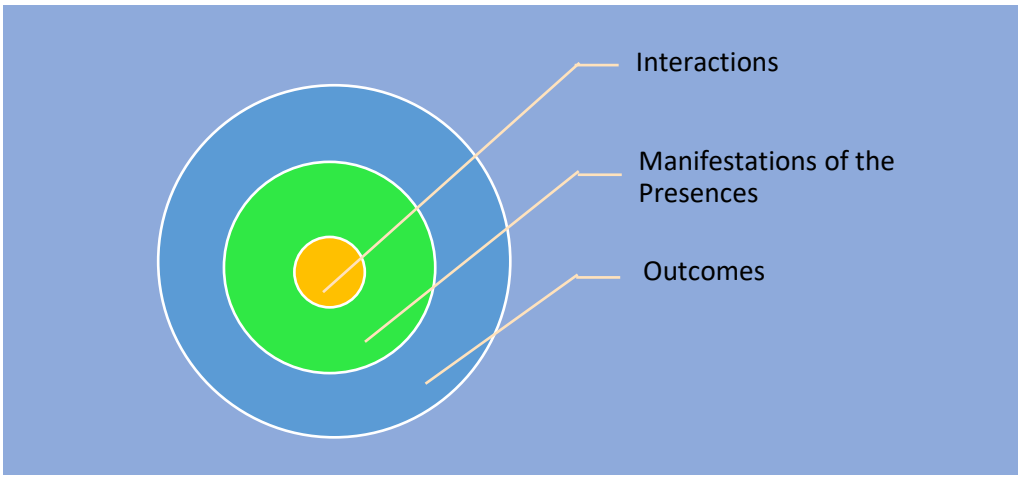


Figure 3. 1 Areas of investigation in this single and exploratory case study

A valuable part of this constant content analysis was the selection of segments which revealed unique samples of the presences in the context of the K-12 Filipino teachers and learners. The process of selective coding examined further the blended learning interactions and experiences through the categories and/or indicators as these arose from the data. Below is Table 3.5 showing a set of codes representing teaching presence, one of the presences within the CoI. Coding protocols for the other presences are found in Appendix G.

Table 3. 5

Coding Protocol of 19 Indicators of Teaching Presence

CATEGORY	INDICATORS	CODE
Instructional Design and Organization	6 Indicators	
	• Setting curriculum	TP-IDO 1
	• Designing methods	TP-IDO 2
	• Establishing time parameters	TP-IDO 3
	• Utilizing medium effectively	TP-IDO 4
	• Establishing netiquette	TP-IDO5
	• Making macro-level comments about course content	TP-IDO 6
Facilitating Discourse	6 Indicators	
	• Identifying area of agreement/disagreement	TP-FD 1
	• Seeking to reach consensus/understanding	TP-FD 2
	• Encouraging, acknowledging or reinforcing student contributions	TP-FD 3
	• Setting climate for learning	TP FD 4
	• Drawing in participants, prompting discussion	TP FD 5
	• Assessing the efficacy of the process	TP FD 6

Direct Instruction	7 Indicators	
	• Present content/ questions	TP DI 1
	• Focus the discussion on specific issues	TP DI 2
	• Summarize the discussion	TP DI 3
	• Confirm the understanding through assessment and explanatory feedback	TP DI 4
	• Diagnose misconception	TP DI 5
	• Inject knowledge from diverse sources	TP DI 6
	• Responding to technical concerns	TP DI 7

In this study, the researcher was the sole coder who undertook needed actions to achieve intra-coder reliability. To maintain consistency in the coding of transcripts, the researcher employed an initial manual coding for the FGD transcripts during the data collection phase. Summative notes were formulated based on these initial codes. The transcripts were returned to the participants for proper member checks. Thus, an intra-coder reliability was attained through participant validation described as a proper alternative to inter-coder reliability (Castleberry & Nolen, 2018; Morse, 1997). In one case site for example, the researcher asked student volunteers from each FGD student group to review the transcript. Open-ended questions were also provided which relate to their BL experiences documented in their group transcript. The discussions centered on student interactions, collaboration, student life and suggestions for improvement of BL in their school. This member check ensured that the participants' experiences have been captured accordingly (Saldana, 2016) alongside the summative notes and highlighted portions of the transcripts.

As the researcher moved on to the data analysis phase, another round of coding was undertaken through NVivo based on the same transcripts. A long list of codes was generated. This provided the basis for writing initial drafts of data analysis. After two months, a final round of coding was undertaken to regroup the codes to come up with a reasonable and sound list of categories and while accommodating the use of a priori codes. The coding protocol of the categories and indicators of the CoI validated in higher education research found served as a priori codes.

The analysis reported was based on the researcher's consistent use of the coding protocol while engaged in content analysis of varied data sources: student and teacher responses FGD and interviews, face-to-face class observations, and online class stored data. The coding was completed at the CoI category level and indicator level. For the very few outlier responses which could not be accounted for within the coding protocol, these were labelled accordingly but included in the coding of the nature of blended learning interactions. However, there were valuable responses which fall in either of the two presences or elements within the CoI. To examine and analyze these further, the responses were mapped out within the intersections of the presences then coded at the category level and indicator level. These guided the data analysis of the intersections of the presences to reveal its confluences.

This exploratory case study performed levels of analysis which transpired in ways suggested by Miles and Huberman (1994). Strategies to implement data reduction facilitated the process of forming inferences through coding and writing summaries, writing out and teasing out themes, and creating memos (Merriam, 2009; Miles & Huberman, 1994). This is a process commonly used for single case studies and collective case studies. Data displays in the form of mind maps to indicate relationships of themes were also produced by the researcher. Hence, in this type of qualitative research, the researcher was prepared to take precautions to manage and organize the expected case study database (Vaughan, 2010). These were executed through organized documentation which included transcriptions, field notes and other documentation maintained in notebooks, actual files and soft copy versions with duplicates. The researcher ensured that safeguards for trustworthiness and integrity were well in place throughout the study. The next section will discuss aspects of credibility and trustworthiness for a qualitative study.

3.8.2 Descriptive Statistics

Prior measures of teacher and learner perceptions of the presences were examined and analyzed based on an adaptation of the CoI Survey by Garrison

et al. (2001), as seen in Appendix B and C, and with the help of descriptive statistics based on the survey responses. A mixed-method data collection afforded the statistical data to be analyzed through descriptive statistics generated by the SPSS software and the Lime Survey program. Statistics were in the form of mean, median and standard deviation. These served to summarize results from the two surveys administered. Most importantly, these supported qualitative findings in the form of thick descriptions of the blended learning experiences.

3.9 Credibility, Consistency and Reflexivity

Qualitative studies aim to produce knowledge and interpretations deemed as trustworthy while emphasizing the uniqueness of settings and contexts (Wahyuni, 2012) but takes on a different form through characteristics of credibility, consistency and reflexivity (Krefting, 1991). "Subjective meanings and perceptions of the subject are critical in qualitative research and it is the researcher's responsibility to access these" (Krefting, 1991, p. 214). Credibility in this study was achieved through the researcher ensuring thick and accurate descriptions of human experience (Krefting, 1991; Merriam, 2009; Stake, 1995). To further increase the credibility of the findings, triangulation was applied through the use of multiple data sources and the analysis was itemized in Table 3.4. Teacher participants were engaged in recognizing the descriptions of the blended learning programs. The experiences provided by the students and other co-teachers were shared during informal discussions. Information shared informally was included in the field notes as case site descriptions.

Consistency in qualitative methodology puts emphasis on capturing the range of interactions so that even descriptions of unusual situations are included in the findings of a case study (Krefting, 1991). Prolonged engagements with research participants, while immersed in data collection (Lincoln & Guba, 1985) for each group and case, were observed. It is important to note that data coming from one group or person was considered valuable (Krefting, 1991). Data collection from student participants were initially undertaken. As mentioned, the surveys were administered before the FGDs while the CoI

survey Part 2 containing open-ended questions were given after the FGD. Questions were reframed to elicit more responses on the manifestations of the presences, as well as overall perceptions and suggestions for improvement on their blended learning experiences. Data collection from the teachers were implemented afterwards. These reflected the varied perspectives of blended learning interactions.

Data from class observations were gathered at a timely point post-data collection from the student group and the teacher group. Member checks happened after all the data collection to provide time for sufficient review of data documentation and summaries. This was used to systematically rule out misinterpretations and the researcher's bias (Maxwell, 2005). Data analysis techniques utilized in the study also ensured that similarities, differences and patterns were examined, and this included data which may support alternate interpretations (Merriam, 1998; Patton, 2002).

Qualitative research is considered as messy and recursive (Willis & Jost, 2007) because the researcher is immersed in the context and experience. The researcher's voice is likewise recognized as part of the text (Eisner, 1997). To achieve reflexivity, Lincoln and Guba (1985) acknowledged that recording personal thoughts and ideas were useful devices that enabled a researcher to be cognizant of their own biases and prior conceptions. Field notes and reflective journals were reviewed during the selective coding phase performed by the researcher in order to add perspective to data analysis. These in turn strengthened the credibility of the research findings (Krefting, 1991).

3.10 Ethical Considerations

This study involved data collection and analysis of face-to-face class observations and FGD involving adolescent students. Thus, the research needed to abide by important research protocols of data collection among most student participants who were minors. First, formal protocols and information dissemination regarding the research were secured from the

Department of Education Schools Division Superintendent of the Division of City Schools (see Appendix J). The next level of conditional approvals was assured by the School Principals, the Department Supervisors and/or eLearning Coordinators.

The study ensured compliance of research ethics principles, policies and guidelines stipulated by USQ. Before securing the consent of the parents and the assent of students, a short orientation was held for students to be properly informed the data collection entailed in the study. The orientation highlighted the data collection activities, data confidentiality and anonymity. It also emphasized that their participation or non-participation as students or members of their blended learning classes will have no impact on their grades nor their relationships with their teachers whom may decide to take part in the study. The contents of the participant information sheet, parent consent and student assent forms were also discussed. After ethics approval, permissions and the consent of parents, teachers and students were sought by the researcher through the required forms made available in either English or Filipino language. Formal letters and USQ Ethics forms (see Appendix H) were issued to the students, in the language of their choice, and with the assistance of their homeroom advisers and subject teachers. The said communications were distributed upon the final approval of the School Principal (refer to Appendix I and J of letters received/approved). Only students aged 18 years old and below with consent from their parents were included in the study, and only upon their assent, as well as those above 18 years old who were able to give consent on their own.

3.11 Chapter Summary

This chapter discussed the nature of the qualitative study and the procedures which were followed and guided by an interpretivist paradigm. The exploratory case study design was justified by a description of data collection instruments. The data collection included surveys, FGD, interviews, class observations, stored data and field notes. The data analysis techniques were outlined and described in detail and the research questions and the overall intent of the study were presented. The chapter also explained the

researcher's stance and how the study was able to recognize bias, given that a qualitative methodology allowed for both objectivity and subjectivity in the data interpretation. Ethical procedures were observed accordingly in this study and supported by the evidence of the consent forms received, protocols followed and approvals gained from key offices.

The next chapters will present the findings and discussion in response to the research sub-questions. Chapter 4 starts with descriptions of the blended learning programs which is followed by the findings and discussion on the nature of blended learning interactions. The findings and discussions on the manifestations of the presences are likewise presented through Chapters 5, 6 and 7.

Chapter 4 - The Nature of Interaction in K-12 Blended Learning Classes

4.1 Overview

Blended learning is an emerging practice in the Philippines as evidenced by recent research on integrating technology and elearning in schools and universities in the Philippines (Aguinaldo, 2013; Centeno & Sompong, 2012; Ebardo & Valderama, 2009; B. G. Flor & Flor, 2017; F. Librero, 2004; Robles, 2012). This study seeks to understand blended learning experiences in the context of selected K-12 blended learning classes situated in different school programs within the Philippines. This research intends to uncover the varied interactions that teachers and students engage in while undertaking blended learning. By examining these interactions, this study intends to present outcomes which will bear implications on future research related to ICT integration and the implementation of blended learning in selected schools within the Philippine public-school system.

This chapter will describe in detail the context where the blended learning classes are situated. The first sections will provide an overview of the schools and the blended learning programs that were presented in this study. The section includes the profile for the teacher and student participants of the three blended learning classes.

This study aims to present the experiences and outcomes of blended learning interactions in K-12 settings. The process of uncovering the nature of the interactions entailed qualitative research techniques while the researcher was immersed with selected teachers, students and classes in these schools. The immersion was essential to capture these interactions as they occurred naturally in these settings. This chapter is structured to present the findings through thick descriptions of blended learning interactions and experiences. Major themes of blended learning were found which align with studies for higher education but hold unique meanings to the K-12 teachers and students in this study. The analysis and interpretation of the findings will explore

these themes which have been indicated in prior studies related to the participants' experiences. The analysis in this chapter justifies the outcomes of blended learning and can be further understood through the CoI. The chapter concludes by responding to the research sub-question: What is the nature of interaction in the K-12 blended learning classes?

This study aims to investigate learning communities as outcomes of blended learning. As teacher and student experiences in this chapter unfold, links between interaction and learning community building are revealed. Therefore, this chapter will weave layers throughout the subsequent chapters which re-examine these interactions. The elements of the CoI framework are used to the ways that blended learning interactions lead to learning communities. Only in appreciating the 'what is' can this study move forward into finding out 'in what ways.'

4.2 Context

The research was carried out in selected schools within one district supervised by the Department of Education City Schools. These schools are known in the district to be implementing an eLearning program with the exception of one school where blended learning is teacher-initiated. The study utilized pseudonyms to anonymize the teachers, students and schools included in the study. The schools were designated letter codes as A, B and C, as seen in Table 4.1. The teachers and students were also assigned names. Job titles and subjects were however retained, for example eLearning Coordinator, subject teacher, or homeroom adviser.

This section is structured to introduce the schools and research participants included in the study. The first section reveals the kind of blended learning programs in the study. The next section focuses on the research participants who took part in the study.

4.2.1 The Selected Schools with Blended Learning Classes

The blended learning classes included in this study are situated in different school contexts within the public-school system of the Philippines. The K-12

system comprises Kindergarten to Grade 6 as the elementary level, Grades 7 to 10 as the junior high school level and Grades 11-12 senior high school levels. Table 4.1 below provides details in terms of class characteristics and composition of the selected blended learning classes included in this study.

Table 4. 1

Characteristics of Blended Learning Programs in Selected Schools

Public High Schools	**Characteristics**	**Types of Blended Learning Programs in Research**	**Blended Learning Class Composition**
School A one blended learning class	• single class subject with blended learning • teacher-subject driven blended learning • teacher managed FB Messenger group only, no LMS • 1x a week face-to-face class session • largely half-day schedule	➢ closely similar to features of the Flipped Classroom Model (Staker & Horn, 2012) ➢ likened to Activity Level Blended Learning (Graham, 2009)	- Gr. 10 high school (HS) students under the Open HS (graduating batch) - combination of at level and over-aged students or working students
School B All grade levels with blended learning classes Grades 7-12	• school-wide - all class sections with blended learning • school managed LMS and student and/ or teacher managed FB Messenger group • 2x a week face-to-face class session • mostly half-day* schedule	➢ closely similar to features of Enriched Virtual Model in that it started as a brick and mortar school (Staker & Horn, 2012) ➢ likened to Program Level Blended Learning (Graham, 2009)	- Grade 7 HS students - mostly at level students - a few students with special learning needs
School C 1 section per grade level doing blended learning Grades 7-10	• school-wide - block class section • school managed LMS and student and/ or teacher managed FB Messenger group • 3x a week face-to-face class session • full-day schedule* • subjects with higher level STEM offering	➢ closely similar to features of Flipped classroom and Flex Model (Staker & Horn, 2012) ➢ likened to Course level and Program level Blended Learning (Graham, 2009)	- Grade 10 HS students - at level students (completing at Grade 12) - Science and Math above average students

*Note**. Full-day schedule is 6-8 school hours a day, half-day schedule is at least 4 -5 school hours a day

The types of blended learning in the Philippine public-school system hold similar features to blended learning programs documented in research from other countries. Among the classes above, Schools B and C particularly use the model of a school-wide eLearning program, hence with a school-administered LMS as the major platform for the online mode. These schools have well-established schedules for face-to-face day class sessions and online day schedules for the week. On the other hand, School A has blended learning in one class under one subject teacher. Hence it is best described as largely teacher-driven with a definite once-a-week face-to-face class session and with daily online interaction and occasional online learning activities. The next section describes these schools and programs in detail.

School A: Open High School program

Among the three schools in this study, School A has the biggest population of high school students which are housed in two school buildings and an annex. Each class has a homeroom adviser and a classroom for most of their academic subjects. Students move to the annex, the gym and other fully functioning classrooms for their co- and extra-curricular subjects. The classes follow a half-day schedule which runs for approximately four to five school hours. This translates to students attending approximately a one-hour face-to-face class session per subject, once per week.

School A is one of the very few schools offering an OHSP in the district. The OHSP is implemented at the Grades 7-10 levels, one class each level, alongside a regular school program of Grades 7-12 students. The OHSP classes meet once a week on a regular basis, with additional meetings before and during exam weeks. Students bring home schoolwork and assignments to do while teachers or students selectively keep in touch through FB Messenger.

The researcher was referred by a former OHSP coordinator to Mr. Wilfred, an English subject teacher with a regular class and OHSP class teaching load. He is directly under the supervision of a supportive English Department Head and School Principal, with years of experience in school leadership and

management in the district. Among the OHSP teachers, Mr. Wilfred was perceived to be using "GC", a term used by teachers and students to mean group chats.

According to the current OHSP Supervisor of School A, group chats were initially introduced by earlier open high school teachers, mainly for announcements and content sharing among teachers. This proved to be convenient and practical since the OHSP teachers were given access to modules created and made accessible by the Department of Education for distribution to teachers and students. However, with the shift from a K-10 to a K-12 basic education program (12 years), the updating and development of K-12 ready modules specifically for the students of the OHSP have not yet materialized. Alternatively, teachers have resorted to printed textbooks and materials, and otherwise managed to source other supplementary materials which are suited for the grade-level content and expectations. These resources were mainly used to bridge teaching and learning of content within the landscape of changes to curriculum guides, expected outcomes and grade-level expectations.

With the shift to the K-12 program, Mr. Wilfred, having four years of teaching experience, found himself faced with the challenge of teaching English to a class of Grade 10 OHSP students. He has been using FB Messenger for three years to facilitate online learning and communication with this class. Hence, it can be said that blended learning in School A is largely by the choice of this teacher who firmly believes in the value of sustaining communications with his students. The class comprises 36 students, 18 female students and 18 male students. Most students have Filipino or their family's vernacular as their first language. Under Mr. Wilfred, the students are learning academic use of English as their second or third language. Like most Filipino students in the public-school system, OHS students rely on the media, their English teachers and other subjects to acquire functional and academic use of English. In addition, English is an official language of communication used in Philippine schools, universities and workplaces. Hence, most high school

students aiming for university education are generally accepting of opportunities to learn and gain fluency in English.

According to the homeroom adviser, the Grade 10 class under the OHSP is a combination of overaged school returnees and age-level students. Some have full-time day jobs or have more household responsibilities, while a few students are teenagers with children of their own. Therefore, the OHSP has become an alternative pathway to earn a secondary level education. Perhaps to some, completion of Grade 10 is a way to get into tertiary level education should they qualify for admission tests and requirements. To some, the OHSP may lead them to Senior High School program (Grades 11-12) in order to prepare for a tertiary level education. To a few, the OHSP could be the last level of formal education they can access should tertiary level education be unaffordable. With the shift to a K-12 program, open high school students and other high school graduates are foreseen to be employable and worthy contributors to the country's workforce.

School B: School-wide eLearning Learning Program

School B is the "Centre for eLearning" in the school district. The school, along with School C, proclaims itself as having a school-wide eLearning program. Apparently, the learning program started out as a project supported by the local government and initially, with the help of an Australian educator. This co-developed virtual classroom is supported by a group of teachers trained in the use of an LMS. The program has been sustained since 2013 through the strong advocacy of the School Principal, his team of teachers and the support of the Department of Education City Schools Division Office and City Government. At School B, the program grew over the years to accommodate all high school classes using an LMS platform they built themselves. The set of learning modules was co-created by teachers who became eWriters and eDesigners through a series of professional development and training activities. The LMS is administered by the school's information technology team working with the eLearning Coordinator, both under the direct supervision of the School Principal. The

eLearning Coordinator has a homeroom advising load in addition to a subject teaching load.

Conceptually, the School Principal likens their program to ubiquitous learning, the idea that students learn anytime, anywhere. He completed his own study of the eLearning program which he has managed from its inception year. The Assistant School Principal believed that their version of eLearning is actually blended learning. He explained that students meet face-to-face twice or thrice a week. Online class participation and activities through the LMS platform happens from wherever students are located.

For this study, one Grade 7 class teacher and corresponding class of students volunteered. This class is under the homeroom class advisory of Ms. Jessie, the Science subject teacher and the School's eLearning Coordinator, with six years of teaching experience. The class has 36 students in all, with 15 female students and 21 male students, mostly at the same age-level unlike the class composition of OHSP students at School A. According to Ms. Jessie, though most students have adjusted well to the online work, there are a few students who may have special learning needs, due to difficulties with reading and comprehension. The nature of class composition is therefore representative of the level or any other class in the public-school system where there is a combination of students who are mostly at-level and a few slightly below year level expectations.

This class of Grade 7 students is quite similar to the profile of a class of students in School C which is comprised of age-level students. The Grade 7 level is considered as the schools' first uptake year into blended learning. This class, like all other Grade 7s, had begun to attend a two-month-long regular face-to-face class schedule. In this span of time, students became fully oriented and acclimatized to the LMS platform features. By the third month of classes, the blended learning schedule had begun, and students completed their schoolwork from home three times a week.

School C: Science High School - eLearning Block Section

School C is likewise identified through the eLearning program websites of the City Schools Division of the Department of Education Office. School C's website shows the eLearning Program as one of its projects under the supervision of the School Principal and the eLearning Coordinator. Unlike other public schools, School C is the premier Science High School of the district. This is a selective school for students admitted based on a competitive entrance test and they are required to maintain a higher-grade weighted average. At the onset, students in consultation with their parents are required to choose between either enrolling in the regular class offering or the eLearning class. A few students mentioned opting for the blended learning program out of sheer 'adventure' or simply to try it out.

An informal meeting was arranged by the School Principal with Mr. Earl, the eLearning Coordinator and ICT teacher, with 18 years of teaching experience. He readily shared a set of slides introducing their eLearning program as a form of blended learning. Though their program is quite similar to School B because they use similar platforms and materials, the blended class offering in School C occurs through separate block sections with one class section per level from Grades 7-10 only. Upon completion, students proceed to the Senior High School Program in the same school or move on to a different school to attain their secondary school diploma.

The blended class offering runs alongside the regular class offerings. Most subject content and lessons given to the regular classes are likewise delivered to the blended learning block section. Particularly in the Grade 10 blended learning class where this study is situated, students have three face-to-face class sessions across all subjects which run on a full day, therefore having more in-school face-to-face class hours compared to those in School B. Online work takes place at least twice to thrice a week for most subjects.

The class of Grade 10 students was chosen by the eLearning Coordinator given these students had three to four school years of immersion in the blended learning program. The class is comprised of 30 students in all, most

of whom are at the age-level. The class started out as 32 students initially, but as the semester progressed, a few students have dropped out due to an inability to cope with the requirements expected of a Science high school student. In addition to the school managed LMS, students have their own FB Messenger group chats, some of which were student-created, and others were teacher-managed.

4.2.2 Participants

Students engaged in FGD to share their blended learning experiences. The profile of student groups is seen in Table 4.2, with the number of student participants and the corresponding number of small groups where the FGD were carried out. Table 4.2 shows the amount of data generated from less than half of the total student population per class.

Table 4. 2

Student Participants of Three Schools Included in the study

School	Class Level	Total No. of Student Participants M= Male F=Female (for FGD)	Percentage from Total Class Population	No. of Student FGD groups
A OHSP of a public high school	Grade 10	4 (out of 36) M=1, F=3	11.11%	1
B School-wide eLearning program in a public high school	Grade 7	11 (out of 36) M=4, F=7	30.56%	3
C Block Section eLearning Program in Science public high school	Grade 10	14 (out of 30) M=3, F=11	46.67%	4
Total		29 students (out of 102)	28.43%	8 groups

Note. Collated by the researcher

The number of student participants was smallest at School A where blended learning was not a school-wide program. The blended learning interactions

occurred in one class subject and with one teacher among all classes in the OHSP.

The purpose of the FGD was to elicit descriptions of interactions within the blended learning classes. The questions raised were also meant to elicit perceptions of blended learning experiences. As the initial FGD sessions progressed, students were also given questions to reflect on the outcomes of blended learning.

Selected teachers were also interviewed for the same purposes. These teachers taught subjects in blended learning classes where the student participants were situated. Below are the demographics based on data provided by the teachers.

Table 4. 3

Teacher Participant Profile

School and Grade Level	Total No. of teachers per class	Names of Teacher (as Pseudonyms)	Subject Handled	Years of Teaching Experience as of 2018	Years of Teaching Blended Learning as of 2018
School A Grade 10	1	Mr. Wilfred	English	4	3
School B Grade 7	2	Ms. Jessie*+	Science	6	2
		Mr. Bobby	Filipino	5	1
School C Grade 10	2	Mr. Earl*+	ICT	18	4
		Ms. Lota	Filipino	5	3

Note. *teacher with eLearning Coordinator role; +teacher also as Homeroom Class Adviser

Across schools, most teachers are considered to be experienced teachers given the number of years in the teaching service and similarly having less than five years of teaching through blended learning. Three out of the five teachers have started blended learning in its inception year in their schools. Mr. Earl, the School C eLearning Coordinator and ICT subject teacher, has

the most number of years in service and in implementing blended learning compared to other teacher participants.

Both teachers and students were provided with open-ended questions through the surveys, interviews and focused group discussions. Questions that were raised focused on their blended learning interactions, and perceptions thereof, to understand their experiences and its outcomes. Analysis of the data gathered from research participants generated three themes which fall under the major themes from the research, namely: blended learning as 'best of both worlds', 'learning anytime, anywhere', and 'learning technology'. This section shall present and discuss these themes in detail.

4.3 Findings on the Nature of Blended Learning Interactions

Findings in this section are thick descriptions of blended learning interactions based on thematic analysis of qualitative data collected. Arising themes from the teacher and student descriptions of blended learning interactions and experiences were interpreted as subsumed under three major themes: Specifically, these are: 1) blended learning as best of both worlds; 2) learning anytime, anywhere; and, 3) learning with technology. The following sections are structured to elaborate on each theme. These themes are likewise revisited in the next chapters as these relate to the manifestations of the presences within the CoI framework.

Selected participant quotes from the data are enclosed in quotation marks. These are data which have been translated to English based on Filipino and a mix of Filipino and English. Students were given the leeway to express themselves in whichever language they were most comfortable with and in keeping with a qualitative methodology (Merriam, 1998; Yin, 2009).

4.3.1 Blended learning as the best of both worlds

Blended learning as the best of both worlds held closely similar meanings among the students. For one, it provides opportunities for students to learn

independently and likewise engage in cooperative or collaborative work. A big part of students' "learning on my own" or "learning by myself" is spent through interaction with content when online. For example, students described their experiences as being able "to do self-study," "to really learn out of my own initiative" and that "most of the time we would need to study by ourselves." Cooperative learning and collaborative work were both happening when online and when meeting face-to-face. Cooperative learning for the students meant engaging in small-group work while at school. When online, and working together on projects, they collaborated by relying on each other's strengths to complete what was required. The same can be said of interactions for social purposes.

4.3.1.1 When online

Students across class groups generally described that being online and studying by themselves was "easier," "fun" or "challenging." For a few, going online became opportunities to socialize. They described the interaction as beneficial, both socially and academically. Data from teacher interviews and questionnaire supported these student views on their blended learning experiences.

Interaction with content. In two schools, lectures in PowerPoint formats were seen as interactive content for students to engage with whilst doing assignments, online games and quizzes posted by their teachers. In one Science class, Grade 7 students identified the usual content which was posted as slides. It contained a set of terminologies and lessons that had been tackled in class which they could review on their own. Students were able to choose which portions to click first or to view as guides.

Teachers mentioned posting links in their LMS or through FB groups which students described as "more information" which they appreciated and found it useful. Ms. Lota, the Grade 10 Filipino subject teacher stated that when posting online, she ensured that her instructions and activities were posted accordingly. Another Grade 7 Filipino subject teacher, Mr. Bobby, posted additional activities using Google Classroom and in "every mode made

possible" to get the information directly to his students. Ms. Jessie, the Grade 7 Science subject teacher, made sure to post additional reminders to guide first year blended learning students. Hence, blended learning experiences across the classes were perceived by students to be as "learning more" or "having more."

However, one student mentioned that "not everything was really provided in the platforms" and that "online discussions in the school's LMS" rarely happened with their teachers. Therefore, there was the challenge of exploring the web or engaging with classmates when online. Most students perceived going online as a way to do "research." They liked the idea of doing their own search for additional content related to current lessons and even topics they "don't understand." To them, this can be undertaken quite conveniently as one student said, "in a single search you will be able to find what you need". This aligned with the responses of all five teachers in the study. This indicated that through blended learning, students were able to explore and discover knowledge, and were therefore expected to demonstrate independent learning skills.

Two students described opening three to four tabs at a time while studying online. Alternatively, some students preferred to search for instructional videos, pictures and assessments, which were additional to the links provided by their teachers in the platform. A few students compared their online search for content as more satisfying than looking at textbooks where images might be unclear, or the information was "limited" or not suited to their needs. Among the Grade 10 students, the selection and comparison of videos had become part of their self-study routine. They have come to discern online lectures from YouTube. According to them, these YouTube clips provided more explanations to their lessons or to the topics, when compared to their textbooks which have limited examples.

Among students of the Science high school, a more pertinent reason was uncovered to explain why independent learning was successful. Sheila and Aimee described learning on their own as writing pointers in their notebook.

They found online assessments which become their "source of knowledge" and a way to challenge themselves "without being taught exactly about it." Aimee explained:

> sometimes I prefer that I study on my own because I feel I can understand more. That is why sometimes when the teacher is the one teaching me, I wonder or ask how it is that way. It seems like her/his way of teaching is different. She/he has her/his own different ways, while mine is also different.

Students also indicated that through self-study they get to practice more, gain mastery and therefore a greater opportunity for achieving higher grades. When accomplishing schoolwork online, Teresa and Diane of School C felt that they were better prepared to come to class. They took pride in understanding a lesson which others were still grappling. To put it succinctly, a Grade 10 student said that through blended learning:

> I was taught that you must not just rely on others or rely on what is given to you, you must also give yourself the chance to explore every field by yourself and improve the passion you have.

Interaction with peers. Teachers concurred that students get to do activities at their own pace while also having the opportunity to study and interact with their fellow classmates. Online interactions were mostly driven in School B and School C by the students themselves, and with their preference for using FB Messenger. Data from student FGD of School C highlighted evidence of engaging in online group work and collaboration as part of their interaction with peers.

School A students of the OHSP greatly depended on the use of FB Messenger as initiated by their English teacher. Engaging in what they termed as GC or online group chats was seen as a venue to learn from their peers' responses and to demonstrate their skills in second language expression. An overaged high school student described herself as an active learner when online, perhaps being part of a cohort of students reporting for school only once a week for all their subjects. The rest of the days were spent studying on their

own away from school. Students generally felt that going to their class FB Messenger was a way to continue learning as there are announcements, modules, and tasks to work on. More importantly, as topics were posted they continued the discussions with each other. Diego said,

> we also learn how to write, learn to speak English even if our grammar is incorrect, our grammar gets corrected. We learn from the corrections and we learn from it for our own sake, even if it's hard.

To guide student discussion when online, the English teacher posted polls and questions on controversial issues or current events. Students appreciated being given the time to compose their thoughts before sharing and to take note of others' posts before responding.

For this group of OHSP students, online collaborating however was rare. Mia said, "I think it's messier when we have groupings." Students stated that some were busy with household duties, and domestic work, or caring for their family members. Therefore, the difficulty was to find a common time to collaborate online. This was not however, considered by students as a barrier to their learning. A male student recounted working individually to mean "being comfortable by myself because I am able to focus." Doing individual work did not prevent them from asking help from each other. They attested to continue communicating with their peers about their lessons either by "PM" (private message), texting or sending an email.

Interactions with teachers. Teachers attested to being available online for students' concerns and questions through LMS messaging or FB Messenger. Students indicated that they usually contacted their teachers to clarify schedules and/or other announcements.

Mr. Earl, eLearning Coordinator of School C conveyed that he was mostly available by FB Messenger for student concerns regarding the LMS access and usage. In this way, he was able to detect problems and solve these issues to ensure optimal use of the LMS platform. Students mentioned that

sometimes the LMS was inaccessible or some modules were hidden. In such cases, they brought these matters up with Mr. Earl.
Among all teachers, Mr. Wilfred attested to making use of FB Messenger not just for announcements or reminders but to facilitate discussions. Students described ways they use FB to communicate regarding issues as part of their reading and writing lessons in his subject.

All teachers viewed the online work as opportunities for students to do work on their own or with their classmates without much intervention nor directed discussions. Students noticed these, saying that "we know they are online but usually they just let us do the work."

4.3.1.2 When face-to-face

Both teachers and students alike mentioned class discussions, lectures, exams and group work activities as the highlight of their learning when face-to-face. Students also looked forward to working on their projects, using the computer labs and engaging in afterschool club activities.

Interaction with content. In face-to-face lessons, interaction with content was observed during classroom observations. Varied content as accessible either through consulting notes, textbooks, handouts or reading materials and by learning from modules when in the computer lab. Students also interacted with content that was provided by the teacher during lectures, discussions through the blackboard, or whiteboard, an LCD projector, or television and through other audio-visual aids. Phone and tablet use during face-to-face class periods were also witnessed to be occasionally allowed by the teachers specifically for class-related work.

Interaction with peers. Students and teachers concurred that peer interaction when face-to-face is encouraged through cooperative and collaborative work. The students used the terms "group work" or "projects" or that they "collaborate" while referring to these types of learning activities which require them to interact. Mostly, teachers let their students choose

their own groupmates, however sometimes, pre-arranged groupings were executed by the teacher.

Teachers intentionally planned for group work activities since students do not regularly see each other face-to-face. Ms. Lota of School C felt that face-to-face class time was a way for students to broaden what they have learned on their own. She continued with group work when in class. She indicated,

> face-to-face is much better to do cooperative learning since the students are already here so they get a chance to know themselves and also their classmates. It is more difficult to do group work when online and they can only talk online.

However, data from student FGDs indicated otherwise. Students from School C have attested to working collaboratively when online and have described ways they participate through the aid of technology. Examples of group work activities were witnessed during class observation of School B. Students were aware of their groupings beforehand. In small groups, the teacher facilitated a game to encourage cooperation when the students were reviewing concepts and topics. After the lesson proper, the students worked in their small groups for their different outputs and presentations.

Interaction with teachers. Teachers mentioned face-to-face sessions as the opportune time to give general feedback to students about their work. Class time was devoted to lectures for students to "know even more" or to further understand content and ask questions to clarify. Students expressed appreciation for the learning activities, additional examples and immediate responses given by teachers in class.

Across class groups, students saw the face-to-face sessions as a useful opportunity to listen to their teacher. Perhaps since the listening activities do not take place on a daily basis, this form of engagement was much anticipated. Teachers expressed that when face-to-face, "we really see students recite and participate." Sienna of School C noticed that sometimes, self-study was not enough. She stated that "the face-to-face sessions help us

understand more. It's more okay when you really see the teacher in front of you giving the homework we need."

Class times were also ways to complete administrative tasks, according to two teachers. Ms. Lota saw this as the time to receive submissions, provide books and to assess or evaluate. Mr. Earl, also from the same school observed that teachers had the chance to check student work and provide feedback with the class.

Data from two homeroom advisers showed settling conflicts or resolving issues as more appropriately negotiated when face-to-face with their students. Students felt the same way about speaking frankly with each other "in person" because they can "see each other." The face-to-face allowed for non-verbal communication and was more conducive to understanding their interpersonal issues and concerns.

In class and in school interaction with technology or with human resources. According to the Grade 7 eLearning coordinator, "In class, they get amazed with the videos which the teacher let them see because they really enjoy the lesson visually instead of me just having to talk and talk." She also observed that blended learning allowed students to maximize "being in school. Being in school was an opportunity to access equipment and school computers for the "videos, simulations and illustrations they use." She explained,

> because not all of them have computers at home. Some are not even able to go to the computer shop or they don't have funds for it. In the school environment itself of the elearning schools, they have access to the computers which the school provides whenever they need to use it, even after school. Most of our students come from the public elementary schools so they see the facilities for elearning. They get somewhat amazed with the use of tablets during exams. They don't use paper and pencil anymore.

Students also mentioned being able to seek the assistance of their School Librarian and the Prefect of Discipline, likened to a Guidance Counsellor,

when at school for face-to-face classes. As for the block section of Grade 10 students, being present at school made them feel part of the bigger school community where their "small class" ran alongside classes of "regular students." In school, they get a chance to join competitions. This was a way to make themselves known and be active in school clubs as part of their student life.

4.3.1.3 Enhancing both worlds

Blended learning as doing work "in advance" was observed by teachers and students across class groups. Teachers also noticed that posting completed lessons and activities in advance had many advantages, especially when managing their academic load of teaching and delivering face-to-face classes. When teachers accidentally overlooked giving instructions face-to-face due to a busy schedule, they easily added announcements in their LMS or post the message to their FB Messenger group.

Students generally felt that doing advanced work as something they liked. They felt that they were able to come to class "more prepared to participate." Teachers across schools concurred. Mr. Wilfred, the Grade 10 English subject teacher, mentioned that through face-to-face lessons presented in class, students gained ideas to write their essays in English as part of their assignment. He believed that going online was important because "the online activities help them to become comfortable with the learning activity which they need to accomplish for that particular day." Mr. Bobby, the Grade 7 Filipino subject teacher stated that "they get an idea about the face-to-face activity. Come class time, you do reinforcement and you really get to see whether they learned it or not." Ms. Jessie, a co-teacher of Mr. Bobby, mentioned that "When they come to school, they are active during class discussion. You can see them recite to give additional information." Being a homeroom adviser and Science teacher herself, she noticed that, "one thing I see, during face-to-face, they work more collaboratively, so when they work online, interacting with their classmates would be much easier for them and they would be more confident also while doing self-regulated tasks". The confidence level of students borne out of participation in both worlds was

likewise observed by Mr. Bobby of School B. At the same time, the online environment was a chance for students to do make up work for their absences. By the time they returned to class after absence, they were able to keep up with the work. One Grade 7 student mentioned being more motivated to come to school because they had engaged in online interaction the day before.

With the combination of online and face-to-face learning experiences, and each enhancing each other, students therefore viewed their overall blended learning experiences as largely positive. With the best of both worlds, however, came a disclaimer expressed by a few students from School C. To them, online work can become "too much" as the act of using the keyboard can be deemed as "tiring" or "boring" at times. They felt that because teachers assumed that they had more time, they were assigned more work compared to other students in the regular sections. Therefore, they looked forward to their face-to-face sessions.

4.3.1.4 Preferences of 'one' world over the other and comparisons

Though there was a common pattern among teacher and student responses regarding both worlds in blended learning, data also showed a preference for one world over the other, based on subject choices. This section will delve on these preferences and comparisons through examples sourced from teacher and student responses.

Student preferences and comparisons. Grade 10 students from the Science high school preferred being in class for a higher Math subject particularly Analytical Geometry. Some preferred MAPEH (as Music, Arts, Physical Education and Health) and one Science subject to be purely implemented face-to-face. They felt comfortable with having the language subjects in both worlds.

Among the Grade 7 students, a group of females preferred to see each other in class every day while the males found the schedule suitable to their needs

and personal preference for working online every day. A male student whom a teacher identified as having special learning needs preferred daily face-to-face sessions saying that he "liked to see and learn with my classmates every day."

While students described their preferences, their discourse naturally led to comparisons:

> Before, when we did not have elearning yet, we came to school every day. If you are absent and ask your classmates about the work, they find it hard to respond. Now with elearning, you can just open your cellphone, laptop or any gadget and you can just check the platform. You can read and then get the answers to your questions. (Elsa, Grade 7 student)

> In blended learning, I get to practice more. Unlike probably when you're, uh, every day going to school and you only have Saturdays and Sundays. You have to do family activities and all that, so you don't have time to practice on your own aside from doing all the work every night and you'll be tired by then. (Micah, Grade 10 student)

Teacher preferences and comparisons. While most of the questions in the teacher interview data were focused on blended learning interactions and experiences, the discourse showed teacher comparisons between regular or traditional classroom versus blended learning. Mr. Bobby explained,

> in a regular class, it seems like you are the one doing all the thinking. You become more focused with the structured lesson or set of activities, unlike in blended learning, you learn to enhance your ICT skills. Secondly, you get to think of other strategies. Usually, I try to change it and make it different from the regular class teaching.

Mr. Earl observed that "Sometimes the downfall of the online is when it comes to the MAPEH subject. It still is better when face-to-face, especially the physical activities". But in some subjects, he believed that it was better to go paperless and maximize the time to do follow-up discussions instead.

Despite these comparisons, Mr. Earl and Mr. Wilfred believed that the end output was similar because all learning objectives have been met. For Mr. Earl, this was mostly due to similar activities which attained the same core competencies required of the blended learning block section and the regular, non-elearning classes.

4.3.2 Learning anytime, anywhere

After the FGD, students were provided with the CoI Survey Part 2 containing open-ended questions. These were meant to probe deeply into their blended learning experiences and the students' use of technology. An example of a question item is provided in Figure 4.1 below:

1. Which emoticons and descriptive words best describe your overall experiences of doing blended learning with your classmates and teachers? Choose the top three (3). In the space, comment or describe further. Note: Choose 'other' in case you want to add other symbols and/ or words as a response.

- ☐ satisfied or fulfilled with my learning _____
- ☐ challenging, so bring it on! _____
- ☐ confused _____
- ☐ shy to engage _____
- ☐ curious & keeps me thinking _____
- ☐ uneasy _____
- ☐ interested to socialize while working with peers _____
- ☐ bored...let's get this over & done with _____
- ☐ frustrating _____
- ☐ Other _____

Figure 4. 1 Image from CoI Survey Part 2

A common pattern of responses surfaced from the initial coding. These were sourced from student comments on the questions above and data from the FGD. The findings are encapsulated under the theme of blended learning as anytime, anywhere, which is described further in this section.

4.3.2.1 Flexibility and managing one's time

For students, blended learning largely meant easy access to the information that they needed from wherever they are. They went as far as saying that studying can happen while "in the toilet," "at a relative's house," "by the river or amidst nature" and "while on family vacation without having to bring books."

Teachers likewise saw the flexibility that blended learning afforded the students because "they can work and fit their schedule around their learning more easily." This was especially true for some students who had domestic responsibilities at home or day jobs to keep. Flexibility for students also meant that they can manage their own time for studying and for recreational activities, such as "hanging out with classmates during weekdays". Teresa of School C relayed, "You don't always get pressured because your time is yours. You decide how to schedule your time."

4.3.2.2 Easy access and staying connected

Both students and teachers agreed that blended learning enabled them to connect with each other, anytime. This meant that while students were learning online, teachers were open to receiving messages and questions from students. Students mentioned that keeping connected was particularly beneficial for times when they needed to be absent from the scheduled face-to-face sessions.

Mr. Bobby and Ms. Jessie who are both homeroom advisers, maintained that an open line of communication was valuable for varied reasons. Mr. Bobby said, "I cannot just abandon them to do things on their own. It's hard for me to only see them face-to-face. I need to have a connection with them always, anytime from wherever they are." Ms. Jessie remarked, "I also contact parents because they have a major responsibility for their children. Parents help the teachers remind their children to do the assessments. I also contact the guardians if parents are not available". For Mr. Earl, an eLearning Coordinator, staying connected is a means to monitor technical glitches. This

was to ensure issues could be resolved immediately to make learning occur more smoothly.

Even an intermittent internet connection did not pose so much of a problem for students to be able to maintain connectedness: "We have classmates located in mountainous areas. Sometimes they do not have internet access. While at school we tell them in advance that if they can go online at a certain time, we will just give the detailed points." Students relied consistently on their mobile phones for texting and calling each other. Similarly, using FB Messenger through free data usage, which is offered by Facebook: "I often use FB because this is where I am able to talk to whomever I need to talk to even if let's say they are in another country or another place."

4.3.2.3 Continuous time to learn versus limited time to learn

The view of learning anytime, anywhere implied different notions of time and space, to learn or do work, for teachers and students. From the discourse, four out of the five teachers most often referred to the online learning in detail and with great advocacy. Teachers hold the notion of time as being "more" when applied to students doing blended learning versus those who were regular students or in traditional classrooms. Mr. Wilfred described the online learning as having "no limitations", or that there is "an extension of learning not limited to the four corners of the classroom." Ms. Jessie felt blended learning was beneficial for her students with learning needs, saying that "the class is 24 hours open, so most of the time I do not give deadlines to them." Mr. Bobby indicated:

> there is continuity or the learning process is continuous. It's not as if they are starting from scratch so when we meet up, they go to their groupings right away and that's better. By the time they see each other you have added activities.

Some students, however, told a different opinion. Students from Class C indicated that teachers assumed that they had more time and so they ended up being given more academic work. This made them feel that they had limited time to comply with the academic requirements, a common reason to describe blended learning as "challenging."

For some students of Class B, blended learning can be "confusing." A few expressed wanting more clarity on the "time to be online" and "time to be in school or class." This was despite schedules being posted on their website and teachers attesting to sending out reminders and announcements.

4.3.3 Learning with technology

This section will present findings based on the third theme which revealed the students' descriptions of their technology use and their skills improvement as a result of their blended learning experiences. The eLearning Coordinators also reported that technology requirements have been part of the parent and student orientation sessions for the school's eLearning program. Two schools in this case study also had school environments that were observed to be supportive of internet and technology, such as designated spaces, equipment, and human resource for the schools' eLearning programs. The researcher collected survey data with open-ended questions which related to internet access and the use of technology. These items were meant to probe into the ways that students relate technology to their interactions and overall experiences of blended learning.

This study collected data on student technology use through the Blended Learning Toolkit survey and open-ended questions included in the CoI Survey Part 2. Through the Blended Learning Toolkit survey, most students who joined the FGD reported on their overall satisfaction, ways to access laptops/gadgets and the internet, the types of learning activities they engage in and the frequency of the types of technology they used to complete their online work. Results based on N=21 responses across three schools are depicted at Figure 4.2. These provided an overall picture of student experiences of BL alongside the use of ICT which the CoI instrument did not necessarily include in detail, such as how students access the internet and make use of different types of ICT for interaction and learning. Results showed that most students have their own mobile phones, laptops or computers in order to engage in blended learning. Computer labs that were

located in their schools became another way to interact and complete their work, especially after class hours.

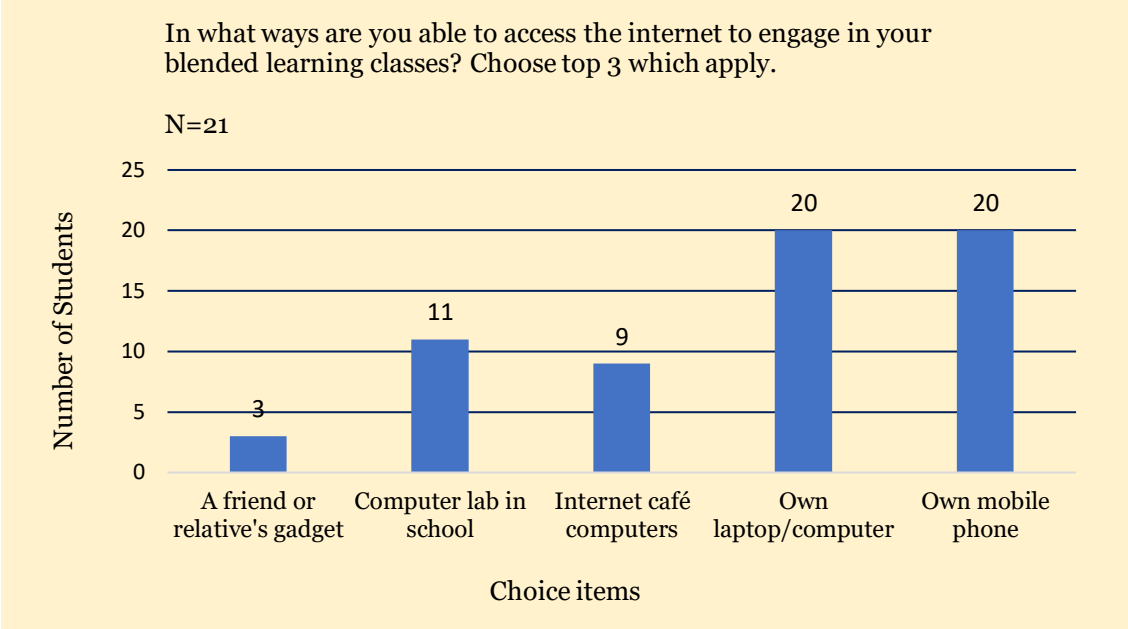


Figure 4.2 Results from Blended Learning Survey: Internet Access

An item in the CoI Survey Part 2 included rating scale items to determine the frequency of use of selected ICTs and applications while engaged in blended learning as seen in Figure 4.3.

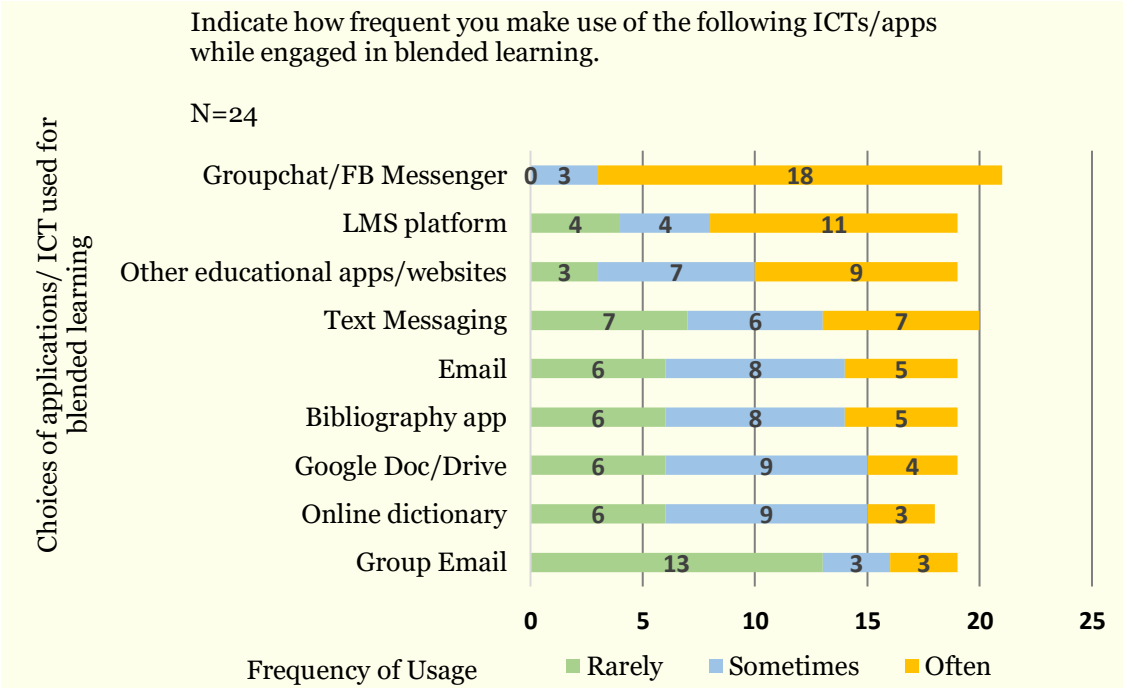


Figure 4. 3 Results from CoI Survey Part 2: Frequency of ICT use

The use of the LMS and group chats at FB Messenger became the primary means to accomplish their online work. Text messaging was sometimes used while group emails were used least. The results indicated that students have top three preferences for group chats and the LMS platform, since these are officially sanctioned by the school, and the use of other ICT applications. Students indicated that they engaged in the use of other educational websites and applications. Some students also mentioned making use of programs they have learned through their ICT subjects such as Github, Circuito and Photoshop. Some mentioned other sites that they accessed at their preference or depending on the content that was covered in class. Examples are Wikipedia, Khan Academy, YouTube and Google Scholar.

Students participated in a Blended Learning Survey with questions related to blended learning satisfaction, interaction and use of technology. One item considered the extent to which technology affected their interactions with their classmates and teachers, which is shown in Figure 4.4.

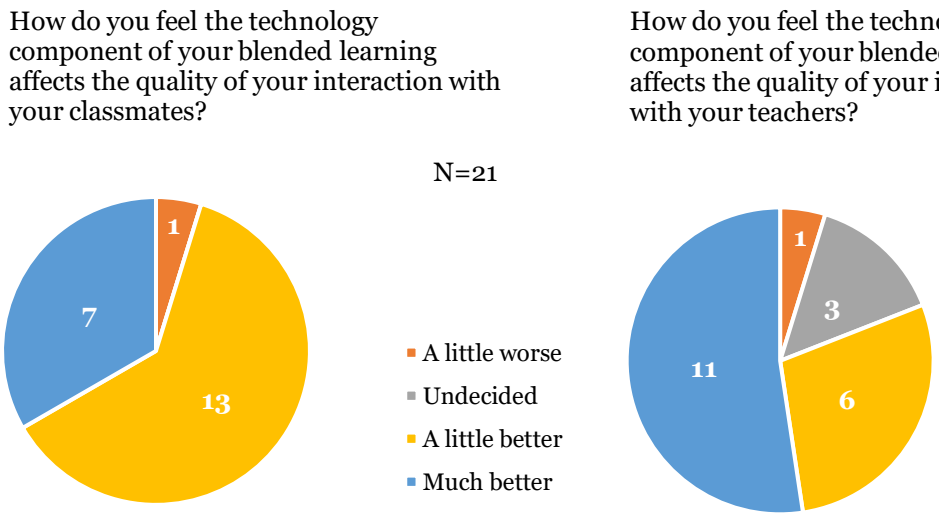


Figure 4. 4 Results from Blended Learning Survey on Technology and Blended Learning

In Figure 4.4, the majority of the responses showed that students recognized the effect of technology on their interactions with teachers and their classmates. Most students responded that technology produces *a little better* to *much better* effect on their blended learning interactions with teachers and

classmates. These results are interpreted as positively affecting the students' blended learning interactions.

The results which pertain to student satisfaction and preference for blended learning are depicted in Figure 4.5. Most students were satisfied with their blended learning classes and would want to continue with blended learning compared to having regular daily class sessions.

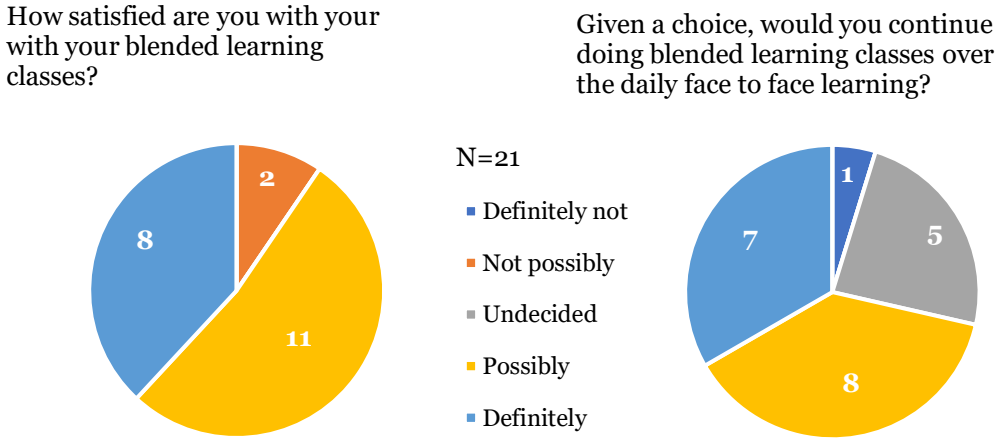


Figure 4. 5 Items from the Blended Learning Survey with student participants

Results above on the level of student satisfaction with blended learning support the findings on technology use from the Blended Learning Toolkit survey and results of the CoI Survey Part 2, where students elaborated on their blended learning experiences. The survey included open-ended questions and choice questions wherein students were asked to choose from a list of the top three descriptive words or phrases to represent their blended learning experiences. Top choices were "interested to socialize with classmates while learning" and "satisfied" or "fulfilled with my learning."

In summary, the above findings indicated the learning with technology was an established part of their blended learning experiences. These results show that most students generally perceive technology as a positive contribution to their blended learning interactions with teachers and their peers. These findings elucidate the role of technology in their day to day lives as students and as adolescent learners participating in blended learning. The next

section will explore the meaning behind learning with technology. This will further qualify the student and teacher views on teaching and learning within their blended learning classes.

4.3.3.1 Blended learning is challenging, emerging, innovative or a new adventure

Teachers and students alike perceived blended learning as either "different", "emerging," "innovative" or a "new adventure." Teachers' explanations were related to the use of technology. Mr. Wilfred believed that implementing blended learning helped him "to keep abreast with the 21st century trends" and "devise different teaching approaches." Mr. Earl who had been using blended learning for four years found the experience interesting, saying that it is "by far, the most challenging way of teaching." As an ICT subject teacher and the eLearning Coordinator of School C, he felt that the biggest challenge was "to gain the commitment of the teachers to grasp and embrace the program."

Some students expressed, "I like the online study" and this was mainly due to the use of other technologies. Students enjoyed the challenge of using applications such as video editing and photo editing. Bayan of School C further described his blended learning experience as "a new adventure, new challenge. It's like motivation to study every day. Computer technology is awesome." Another student felt fortunate, stating that it is a way "to encounter a new method of learning which is a great way to test my mind."

In contrast to these positive experiences of blended learning related to technology, one subject teacher held a view that "There is also the problem of internet connection. It has to be very good." This meant that technology use was dependent on internet access

4.3.3.2 Improving ICT skills

Blended learning was described as an opportunity for teachers and students to improve their skills for using technology. Teachers felt that they were able to enhance their ICT skills and think of other strategies to teach. Mr. Bobby

said, “There is so much more to learn and discover. It helps teachers innovate teaching strategies and techniques.” A student expressed an appreciation for honing her skills through blended learning saying that, “I can use my training g on self-studying for future use and the talent I acquired from using applications, especially in college.” As students explored the use of technologies while learning, they felt that blended learning was an opportunity to improve their skills for their current lives as students and in the future. One student said, “I feel I can really use all these once we have jobs, because I think it’s really a sector in the industry, more on technology [use].” Another student mentioned, “I think we will be able to keep up even as early as now when it comes to technology… in the future, the world will be entirely technology-based. There will no longer be traditional classes like for example now.” Students also recalled:

> Before, I did not know how to edit videos…what was it called then, oh the Windows Movie Maker was all I knew. Then because we had to do work one after the other, I thought, maybe it’s about time I upgrade. It’s like I thought maybe I should enhance my skills. So, I explored. That was it. Now, I can edit using Sony Vegas 4.

Thus, engaging in blended learning was perceived as an opportunity to enhance their skills in the use of programs and applications. The use of technology in blended learning classes motivated students to take part in their classes. Beyond learning of ICT skills, a few students stated that blended learning was a means of improving their leadership skills, group work skills, socialization and behavior.

Teachers on the other hand noticed the improvement in the students’ ICT skills over time. One teacher observed that earlier in the school year, students were not keen to follow instructions. After a few months, she noticed a change when students started to follow a thrice-a-week online work through the school’s LMS and a twice-a-week face-to-face session. Students were noted as being more able to efficiently carry out instructions and keep up with the classwork.

4.3.4 Summary of Findings on the Nature of Blended Learning Interactions

The nature of blended learning interactions was described according to the arising themes from the data. The themes captured blended learning interactions as: best of both worlds, learning anytime, anywhere and technology use. Blended learning interactions were found to enhance online and face-to-face interactions across the three schools. Interaction with content, teacher-student interactions and interaction with peers were evidently described to work successfully for both teachers and students. These interactions allowed for independent learning and learning with others, hence experienced as best of both worlds. The blended learning experiences have been largely positive and preferred by both students and teachers. Students mainly described blended learning as anytime, anywhere. This means that blended learning allows for flexibility and control over time and space.

While describing their blended learning experiences, students often mentioned the use of technology for communicating and learning. Teachers likewise concurred that embracing technology was a means to improve the teaching and to engage students in their classes. The findings revealed the ways students that interact using the LMS, FB Messenger and other ICT tools. Thus, findings clearly revealed the role of technology that support blended learning anytime, anywhere. Findings also made apparent that there are shifting views of both teachers and students on teaching and learning. These views were related to teachers' and learners' roles and their expectations of themselves and of each other, within their blended learning classes.

4.4 Discussion on the Nature of Blended Learning Interactions

Research sub-question 1: What is the nature of interaction in the blended learning classes?

Results from this section of the study uncovered evidence of blended learning programs among K-12 teachers and learners in the Philippines as seen through varied levels of interactions. The interactions were examined based on the levels of interactions proposed in ODeL research at the higher education levels by Moore (1989) and Swan (2003). Rich descriptions captured a variety of teaching and learning experiences. Interactions with content, interactions with teachers and interactions among students were found in this study that are indicative of members fulfilling their roles and having shared goals. The varied interactions that were found were due in part to their choice of media and the role of technology. Findings also affirmed outcomes of blended learning that have been reported in higher education, namely positive learning experiences and student satisfaction. Further discussions are found in the next sections to ascertain learning community as outcomes in blended learning at the K-12 because this is the gap in research this study seeks to resolve.

4.4.1 Blended Learning Programs in the Philippine K-12 context

Blended learning capitalized on the affordances of face-to-face and online learning, hence best of both worlds as often mentioned in higher education research (M. E. Ward et al., 2010; G. Young, 2002). This study found that the same is valid within the context of schools in the Philippines which have blended learning programs that are aligned with other models of blended learning from abroad.

Graham (2009) discussed the categories and levels of blendedness in K-12 programs in Western countries as it relates to interaction and technology use and access. The levels of blendedness in this study are also demonstrated through interactions that take place at the activity or course (subject) level, and school level. The interactions were also akin to the categories of enabling blends and enhancing blends which were described by Graham (2009).

Enabling blends were described as focusing on access and convenience issues to make sure both modes deliver 'equivalent' learning experiences. Enhancing blends gave way to positive changes to pedagogy through the additional resources. This study found meaning in these categories to understand and appreciate blended learning in its emergent stages and as a developmental process within the K-12 setting in the Philippines.
Thus far, the blended learning programs found in the Philippines are consistent with blended learning models in K-12 and the blended learning research from abroad. The interactions captured in this study serve as evidence for the potential of blended learning to evolve within a system. This is particularly relevant in contexts where instructivist and traditional didactic teaching and learning approaches are predominantly practiced (Centeno & Sompong, 2012; Gutierez, 2015). These blended learning programs have thrived within these conditions which allowed teachers and students to gain positive teaching and learning experiences. In the case of the Philippine K-12 system, blended learning programs were initiated at the classroom and school district levels and its main drivers are students, teachers and school leaders. When provided with more supportive mechanisms and enabling conditions to succeed, blended learning may prove to be beneficial to other teachers and students. This could become more widespread in the Philippines in the pursuit of better ways to teach and learn. Studies leading to measurable outcomes may then be pursued.

This study therefore justifies blended learning as an innovation that is deserving of support within the Philippine educational system. This could apply to maintaining current classroom pedagogies or gradually infusing constructivist teaching approaches in schools that cater to regular students or to more selective Science high schools which have stringent academic standards. More importantly, these blended learning programs are evidence that they are a viable means to provide access to quality education for students who choose to do more independent, self-paced or flexible learning and most importantly to students in unusual circumstances under the ADM.

In addition, this study also established the importance of using other measures of blended learning to complement the CoI instrument in contexts where BL is still developing as a viable option within the K-12 system. The use of the open-source Blended Learning Toolkit Survey and the CoI instrument adapted for Filipino K-12 teachers and students which included open-ended questions revealed aspects of BL programs in the Philippines. The results indicated the role of technology and the stakeholders support of it as enabling conditions within the school system to ensure teacher and student participation in BL programs.

4.4.2 Blended Learning Interactions

In this study, students perceived their learning as generally positive, in both face-to-face and online modes for their blended learning interactions. This favorable opinion was evident through interaction with the content, their teachers, learning on their own and learning with others. This aligns with prior studies at the higher education linking blended and online learning interactions to perceived learning and student satisfaction (Arano-Ocuaman, 2010; Huang, 2016; Johnson et al., 2017) and sense of community (Shea, 2006).

The positive views on their learning in this study were attributed to how students see themselves while actively engaged in their own learning through interaction with content and with others. Active and meaningful learning has been documented in blended learning interactions in higher education research as well as K-12 blended learning in industrialized and developed countries. Prior research demonstrated that active learning interactions happen through access to content and materials, and engagement with instructors and peers. These interactions contributed to positive learning perceptions and student satisfaction (Arano-Ocuaman, 2010; Johnson et al., 2017). Evidence in this study affirmed these previous findings based on the interactions found to be driven by both K-12 students and teachers in this study. The interaction with content happened through explicit use of learning modules, activities and assessments as designed and made accessible by the teachers. Students actively took part in the search and

selection of content that they found useful, suited to their ways of learning, level of their understanding and that of others. For example, students of Schools A and C used and shared information such as online videos, quizzes and self-assessments to help themselves and each other, to understand their lessons. Students of School B went to their websites while engaged in research work on their own.

Access to instructors and their guidance and expertise were documented as predictive of student satisfaction in blended learning (Joo et al., 2011; Martínez-Caro & Campuzano-Bolarín, 2011). This study indicated that high school students valued the teacher's role to ensure timely delivery, discussion and clarification of content in both face-to-face and online modes. Findings from class observations demonstrated evidence of teacher-student interactions which affirmed the value of the face-to-face work that students and teachers do in blended learning. Along with interaction with content and being able to learn independently, students valued instructor presence as part of their overall satisfaction with their experiences (Bleffert-Schmidt, 2011; Johnson et al., 2017; Nellman, 2008). Thus far, results in this study affirmed blended learning as the best of both worlds at the K-12. This was demonstrated by students engaged in active learning through interactions which allowed for teacher-directedness and student self-direction. Evidence of self-direction and its importance has been previously explored in computer-mediated, blended and online higher education (Conradie, 2014; Garrison, 1997; Pilling-Cormick & Garrison, 2007; Sukseemuang, 2009) and among K-12 online and virtual high school students (Nota, Soresi, & Zimmerman, 2004; Rice & Carter Jr, 2016). These have been reported as related to enhanced learning (Poon, 2013), student success (Schunk & Zimmerman, 2012), and positive student learning experiences (Greener, 2008).

With self-direction comes self-management of learning, which is expressed as learning anytime, anywhere by students and teachers in this study. Students were able to control and manage their time and resources to learn. This was an aspect that both students and teachers alike, felt as working to their

advantage. This aligns with the findings on blended learning as being transformative, and the evidence was based on improved student performance and increased student satisfaction (Lim, Morris, & Kupritz, 2007; Martínez-Caro & Campuzano-Bolarín, 2011). When students direct and manage their own learning, they draw more ownership of their outcomes and their achievements. Students in this study generally felt proud of their accomplishments as adolescent learners because they were able to navigate their learning independently and through the aid of technology.

This study also indicated forms of interaction in the context of K-12 learners which make for a sense of community, a construct examined in higher education research by McMillan and Chavis (1986) and Rovai (2002). This study showed how teachers make use of offline and online activities to keep connected. Teachers did so consciously, while students seemed to do these intuitively and incidentally. For homeroom teachers in this study, social interactions provided opportunities to build rapport and relationships, while also keeping connected. These important processes of community building were observed by Hope and Timmel (1984) and Peck (2010) in face-to-face adult communities or organizations and by E. Murphy and Rodríguez-Manzanares (2012) in higher education virtual communities. This study affirmed as likewise observable in the context of the Philippine K-12 system.

Interactions were also seen as a means for students to socialize in this study, thus creating the feeling of connectedness for students. A sense of community has been observed among adult members of virtual and fully online learning communities, as well as in blended and fully online courses (Liu et al., 2007; Shea, 2006). These studies, however, were mostly undertaken in higher education settings. This study revealed that blended learning results in a sense of community among K-12 students. These are due to varied interactions which are perceived to be important to matter to high school students and teachers.

Thus far, the discussions have established that student satisfaction, perceived learning or sense of community are outcomes of K-12 blended learning

interactions in this study. Contrastingly, other studies revealed that these outcomes are not solely attributed to blended learning, rather they are influenced by the role of technology (Deutsch, 2010; Lomicka & Lord, 2007; Velasquez et al., 2013) and the choice of media (Deng & Tavares, 2013; Milošević et al., 2015). These aspects are further analysed in the next sections.

4.4.3 The Use of Social Media

Being transparent with their social media profiles and comments with students was an accepted practice among teachers and students in the study. Interactions through the use of FB Messenger group chat were able to sustain communication and learning between teachers and students. These findings reinforced prior findings in support of social media as a powerful tool for interaction, learning and keeping connected, though mostly undertaken among adults (Bowers-Campbell, 2008; Milošević et al., 2015; Waiyahong, 2014). The use of Facebook is an inexpensive and practical means to stay connected in the Philippines, therefore teachers and students in this study choose to maximize its use. When chatting over social media, social interactions are generally accepted as part of their learning because adolescent learners seem to do naturally through exposure to Facebook on their mobile phones.

This study provided evidence of effective use of Facebook for learning through mobile phones at a time when government officials in the Philippines question its use in class-related work and in classrooms (Hernando-Malipot, 2019). This study reinforced current actions being taken by these schools to set guidelines to monitor proper use in contrast to a blanket policy of non-usage, given the positive experiences that blended learning established in this study.

4.4.4 The Role of Technology

Similar to studies of blended and fully online learning in higher education, this study found the role of technology to provide motivation and as a vehicle towards the attainment of shared goals. These echoed existing K-12 research

on blended learning found in Western countries as reported by Staker and Horn (2012). In the Philippine setting, the added motivation among high school students can be attributed to the sheer satisfaction of searching online, learning ICT skills and being able to experience these on their own. The study found that the opportunity to use computers, digital devices and programs made available in their school environment also attracted students to blended learning programs while allowing for flexibility and autonomy in learning. The overall positive perception for the use of technology and the experience of blended learning was reported in this study. These also resulted in shared views on the role of technology in the students' current and future careers.

Blended learning interactions also presented opportunities for students in this study to maximize the classroom and school environments in order to experience an enriched student life, which is valued by adolescents. The nature of blended learning interactions related to the best of both worlds may hold more important meanings to Filipino adolescent students in the public-school system. In this study, interactions within the school environment as part of blended learning results in access to technology and elearning resource rooms as well as human resources and student organizations. These align with prior studies wherein students and teachers were motivated to engage in blended learning due to the use of ICT as part of their blended and online learning experiences (Deutsch, 2010). ICT provided different ways to sustain communication and present a variety of content (Yerasimou, 2010).

In recent research, access to the internet and computers were reported as major barriers to blended and online learning in the Philippines and overall ICT integration in classrooms (Aguinaldo, 2013; Barbour et al., 2011; Tomaro & Mutiarin, 2018). However, teachers have a generally positive attitude towards technology (Cajilig, 2009) which was also observed for the teacher and student participants in this study. More importantly, this study revealed opportunities for technology integration and blended learning which was evidenced by different blended learning programs that were implemented at three public schools of varied types in the Philippines. Specifically, this study

uncovered the nature of blended learning interactions in: a) a regular school with an OHSP; b) a premier Science High School; and c) a regular school, with the last two schools having eLearning Programs supported by the city local government and city Schools Division Office. Conditions in these schools are representative of schools usually found in the city or municipal school districts under the Department of Education in the Philippines. This study provided evidence of effective practice with the use of technology as enabling the blended learning programs to sustain and enhance learning experiences among K-12 teachers and students. The effective use of LMS platforms and FB Messenger alongside student's choice of ICT applications and online sources demonstrated the enabling role of technology in BL interactions while students were learning on their own and with others.

4.4.5 Role Expectations within Blended Learning Interactions

In the Philippine K-12 setting, classroom teaching is generally observed as content-driven or traditional and described as 'teaching to the test' (de Mesa & de Guzman, 2006; Espiritu & Budhrani, 2019; Gutierez, 2015). In marginalized areas, classes are largely dependent on their teachers, even if some are ill-prepared to teach and the schools have limited resources and facilities for learning (Legaspi & Aguiling-Dalisay, 2001; Santillan, 2011). However, the scenario of schools where blended learning programs have been implemented in this study indicated sufficient access to technology and facilities. Even more, importantly, the students were found to be relying on these resources as well as their teachers. In these settings, however, the teachers included in the study observed that students were being more in control of their learning because the materials and lessons were already uploaded and made accessible through their virtual classrooms. As such, teachers expected timely and improved participation whether online or face-to-face. Most students attested to being able to do most of their work in the allotted time, hence fulfilling the expectations of the teachers.

Teacher-student interactions, the role of instructors and expertise in teaching within blended learning are aspects which students find important to their experiences (Arano-Ocuaman, 2010; Johnson et al., 2017; Nellman, 2008;

Schmidt, 2007). Filipino students in this study generally valued listening to and being guided by their teachers and welcomed these activities as part of their blended learning interactions in the classroom. Students in the junior high school levels looked to their teachers to settle peer issues and also for advice and support. Students of the OHSP looked to their English teacher as a model of English language use and correct grammar. Students in the Science high school valued their teachers as instructors, and the experts who explained the content that they found in online videos. Hence at the K-12, students still expected their teachers to be responsible for instructing, clarifying content or procedures and managing behavior.

In contrast, teacher-student interactions may hold different meanings to teachers given that they see students as motivated with the use of technology. Findings indicated that teachers saw their role as facilitators who would rather let the students drive their learning independently and cooperatively. Teachers viewed these as opportunities for students to acquire time management skills and a sense of responsibility. Hence, teachers perceived their main role in terms of making sure online lessons and resources were accessible so that interaction with content could occur while cooperative learning activities took place during face-to-face sessions. However, teachers still maintained the importance of student support and addressing student concerns and issues within their role as homeroom teachers or academic advisers. These pastoral care activities sustained harmonious interactions among students, whether online or face-to-face. These findings call to mind Garrison (2017) mention of teacher roles within a learning community as neither transfixed on being "sage on the stage", nor "guide on the side" (King, 1993, p. 30). Hence, further research was recommended to understand teaching presence in varied contexts.

This study revealed that students expected more of their teachers, beyond their roles as subject area experts or as providers of student support and advice. Students in this study also expected teachers to be experts in the use of technology. Findings indicated that this expectation is grounded in shared

views among students and teachers about technology and its role in their learning.

Beyond role expectations, learning communities also capitalized on the fulfilment of shared roles. This study provided evidence of K-12 teachers setting expectations, online protocols and rules for interaction and participation, these are aspects of a learning community described in research by Palloff and Pratt (2007) and Vesely et al. (2007). Teachers also relied on students to assert these rules and guidelines while engaged in student-student interaction. These reinforced the role of teachers and students in the process of community building as recommended by Brown (2001) and Drysdale, Graham, & Borup (2016).

Thus far, blended learning provided the space for both teachers and students to fulfil shared roles, a characteristic of learning communities. In the context of this study, technology within blended learning is not perceived to replace teachers. In fact, the opposite was observed. BL among K-12 teachers and students capitalized on interaction with content through technology use. Students sense their teacher's role in the selection and design of varied modules, activities and assessments. These are considered as content prepared or shared by teachers through their virtual classrooms alongside interactions facilitated during face-to-face classes. Thus, in a setting such as the Philippines where there are limited resources and barriers to holistic classroom experience, the value of the teacher within blended learning experiences is not diminished, but rather redefined. This study presents a challenge for future demands on teachers should blended learning programs continue to grow in the Philippines and could benefit from the advocacy of these teachers. This study therefore provided evidence of the varied roles that teachers perform to ensure positive blended learning experiences, as well as a sense of community and connectedness, among students.

4.4.6 Shared Goals in Blended Learning Interactions

Unlike most studies in blended learning which focused on either face-to-face and online work or comparisons between these modes of delivery (Drysdale,

Graham, Spring, & Halverson, 2013; Halverson, Graham, Spring, Drysdale, & Henrie, 2014), this study examined interactions more integratively, that is whether interactions were enhanced in both ways. This study was not investigating the content learned or skills acquired but rather how learning is experienced. In doing so, this research revealed that students and teachers viewed their face-to-face and online experiences as enhancing each other. They sensed continuity in their activities, lessons and communications. These positive learning experiences resulted in teachers and students being aware of their shared goals and prompted advocacy for blended learning. The attainment of common goals and shared values were documented in research as related to a sense of community and which partly set apart learning communities from usual group forums or virtual sites (Jones, 1997; Porter, 2017).

In this study, the members purposely engaged in varied and supportive interactions to attain shared goals or purposes, a common element in learning communities as discussed by Brown (2001). Among Filipino K-12 teachers and students in this study, the shared goal was to complete the class requirements, and gain opportunities for academic success. Among Filipino overaged learners in the OHSP, the clear goal was to complete secondary schooling to qualify for a tertiary level education, with English as the official language of instruction. Class interactions over FB Messenger was perceived to be a way to learn better English and to demonstrate their language learning. Hence, to some older high school learners, self-improvement had become a shared goal. Another shared purpose revealed through this study was the advocacy for blended learning which surfaced in the Philippine K-12 setting. This is largely attributed to the teachers' and learners' positive experiences of blended learning and online learning research. Added to this is a shared belief of the positive role of technology in their future.

Therefore, this study provided evidence of the links between blended learning interaction and a sense of community at the K-12 level. The interactions were sustained by students and teachers alike with a sense of community grounded

on shared experiences and advocacy. The study therefore supported blended learning interactions as most likely to flourish in settings where there are student and teacher advocates for this kind of innovation to thrive despite reports of barriers to ICT integration and access to education.

Given this interaction, findings are linked with prior research related to a sense of community and learning community building, though mostly executed in higher education settings. Interaction in learning communities, however, was said to be not enough by Garrison (2017). Dialogue and discourse (Reilly, 2014), problem solving (Tu & Corry, 2003), attainment of goals and learning outcomes and values of mutual trust and respect are features that differentiate a learning community from other virtual communities (Brook & Oliver, 2003; L. Zhao et al., 2012). Discussions on these areas are continued throughout the succeeding chapters.

4.5 Chapter Summary

This chapter sought to reveal the nature of blended learning interactions among K-12 teachers and learners. The findings established examples of blended learning programs emerging in the Philippines which align with blended learning programs and levels of blendedness in K-12 settings abroad. Rich descriptions of blended learning interactions uncovered themes of blended learning, namely as best of both worlds, learning anytime, anywhere and the role of technology. The study indicated that K-12 teachers and learners interacted at varied levels when online and face-to-face. The interactions enhanced both modes of learning. These findings aligned with recent research on blended learning both at the higher education and K-12 settings abroad.

This study established that sense of community was felt mostly by high school students brought about by online and offline interactions which are social in nature. The choice of media contributed to the social interactions and sense of community as an outcome of blended learning in this study. More importantly this study uniquely established that K-12 teachers and students have a shared experience of advocating for blended learning and the

use of technology in order to achieve their shared goals of learning on their own and learning with others. The evidence presented in the study would therefore inform current policies and guidelines for ICT integration as well as access to alternative learning programs given the real-life experiences of blended learning interactions captured in this study.

The study highlighted the Filipino teachers' new-found role and perspective on blended teaching and learning, setting it apart from their traditional teaching experiences. Teachers viewed teaching with technology as a form of innovation and a means for students to gain 21st century skills in keeping with today's society and the future. Students also saw that taking part in the blended learning program placed their school at an advantage over other schools in the Philippines where blended learning has yet to be initiated.

Evidence of social interaction, learning interactions as well as positive experiences have been reported in this chapter in support of recurring themes in blended learning research. Nuances to what interactions occurred among Filipino teachers and learners at the K-12 setting have been revealed. However, certain qualities of learning communities have yet to be examined. In what ways trust, mutual respect and deeper learning are achieved through dialogue and critical discourse have yet to be ascertained. To what extent collaboration takes place and contributes to deeper learning and shared values have yet to be supported, and other aspects which define learning communities need to be examined further. Doing so will ascertain whether knowledge construction indicative of communities of inquiry have been achieved or otherwise.

This chapter however argued that current findings must be supported by more evidence of the quality of collaborative learning experiences, distinct teacher and student roles and behaviors to forge connectedness among themselves as members of learning communities. Other elements of critical discourse, trust and mutual respect must be made explicit to further establish learning communities as outcomes of blended learning experiences.

The next chapter will present the findings and discussion on the manifestations of teaching presence within the blended learning classes. These are likewise based on data collected from the students and teachers across the three schools with blended learning programs.

Chapter 5 - Manifestations of Teaching Presence in K-12 Blended Learning Classes

5.1 Overview

The previous chapter described the nature of blended learning and varied levels of interaction within the face-to-face and online learning classes. Themes of blended learning experiences were examined based on findings of interaction with content, interaction with peers and student-teacher interactions. This chapter examines, interprets and further qualifies the blended learning experiences of students and teachers through the manifestations of TP, an element of the Community of Inquiry framework (CoI).

This research posited that investigating blended learning experiences through the elements of the CoI framework would increase the understanding of learning communities among K-12 teachers and students. Among the elements within the CoI framework, TP was found to play a critical role in achieving learning outcomes in blended and online learning communities (Garrison & Anderson, 2003; Garrison & Cleveland-Innes, 2005). This chapter seeks to examine the ways TP was manifested by teachers and students in K-12 blended learning classes. It presents the ways students perceive and experience TP through the categories of design and organization, facilitating discourse and direct instruction. This chapter interprets the roles, actions and behaviors fulfilled by both teachers and students within their blended learning classes and analyzes in what ways these manifestations of TP indicate learning community in the K-12 context. It discusses the K-12 findings considering the literature.

The study involved a close examination of participant experiences through the categories and indicators of TP. The objective for the data collection was to look deeply into the blended learning experiences to reveal the manifestations of TP of teachers and students. A qualitative methodology allowed for a deeper analysis of data gathered through surveys, interviews,

and FGD from teachers and students. The categories and indicators of TP by Anderson et al. (2001) in prior research guided the collection, analysis and interpretation of classroom observations, stored data from virtual classrooms and field notes. The post-class observation field notes included insights and reflections to elicit deeper meanings nested in the class interactions. The thematic analysis of blended learning experiences in Chapter 4 provided a layer through which TP will be further discussed and analyzed in this chapter.

This chapter presents both the findings and discussion of the manifestations of TP. The first section focuses on qualitative findings which include descriptive statistics, content analysis and descriptions based on data gathered from a sample size ranging from 24 to 40 students and three blended learning classes, as seen in Table 5.1.

Table 5. 1

Sample Size and Number of Participants Across Data Collection Methods

Schools and No. of Classes and Grade Level	Brief Description	CoI Survey Part 1 - No. of students N=40	CoI Survey Part 2 No. of students N= 24	Student FGD No. of student groups N=8 groups (29 students)	Teacher interviews No. of teachers per school N=5	Class observations No. of observations per school
School A One Class Grade 10	OHSP	7	4	1 (4 students)	1	1
School B One Class Grade 7	school-wide eLearning program	18	13	5 (11 students)	2	1
School C One Class Grade 10	block section in a Science high school eLearning program	15	7	4 (14 students)	2	1

The second section of the chapter is a discussion of the findings on TP as it relates to the literature on blended learning, the role of technology and learning community. The discussion is in response to the research sub-

question: How is teaching presence manifested by teachers and students within the blended learning classes?

5.2 Teaching Presence Findings

In keeping with TP as enacted by both teachers and students, this section initially collates qualitative and quantitative data findings from both student and teacher participant responses to CoI Survey Parts 1 and 2, student FGD, teacher interviews and questionnaire. The next portion of the findings presents data from classroom observations, stored data from virtual classrooms and field notes.

5.2.1 Findings from Student and Teacher Participants

Students across class groups have generally positive responses about the TP in their blended learning classes. This may be largely attributed to students experiencing their teachers as instructors responsible for subject content and learning activities. Students believed that all teachers included in the study are supportive through the lessons which were evident by the provision of detailed learning activities and online time management. The timelines were perceived to provide structure and focus for the work that students would complete either individually or in groups. Students also felt that they can approach their teachers anytime for questions or clarifications. To illustrate this further, samples of TP across three categories are presented in Table 5.2.

Table 5. 2

Responses on Teaching Presence from Student and Teacher Participants

Teaching Presence Categories	Teaching Presence: Student Responses	Teacher Presence: Teacher Responses
Design & Organisation	When there is a deadline given, we learn to make sure that all lessons asked of us get done. (Bayan_B) They would give us the pointers to study. (Shiela_C) The teacher ensures that we get to do the assigned reading through class recitations. (Joey_C)	I post questions and encourage them to discuss with their classmates. (Mr. Bobby_C) I regularly check the online students including their online outputs and assessments. (Mr. Bobby_C) In the platform, all the announcements are there... I am able to really give details of activities and a timeline for the deadline. (Ms. Lota_C)
Facilitating Discourse	They would elaborate face-to-face. (Shiela_C)	I scaffold my students' progress by letting them work on their own as I guide them. (Mr. Wilfred_A)
Direct Instruction	When one sees a classmate not being able to understand, another classmate will teach. (Rosa_A)* We have an open forum during homeroom time if there are conflicts which need to be fixed immediately. (Student C) The teachers themselves answer and provide us with the information we need. (Student C) When there are conflicts (online) and there are rebuttals even if the teacher is around, it's the class president who reprimands them. (Student B)*	I demonstrate to them how to do things. I let them compare and discover their own knowledge based on the presented examples. (Mr. Wilfred_A) I post some formative assessment and I tell one student you got a lower score. Then they would say that they will do their best. (Ms. Jessie_B) After assessing the problem or concern, I provide an immediate response, that is if I can resolve it. (Mr. Earl_C)

Note. A, B, C correspond to Schools A, B and C where teachers and students were situated. *Responses coded as student TP. Data collated from student FGD, CoI Survey Part 2, teacher interviews and questionnaires.

Teacher responses related to manifestations of TP across the categories of Design and Organization, Facilitating Discourse and Direct Instruction as seen in Table 5.2. These specifically attested to specific indicators of TP in research, namely: setting curriculum, establishing time parameters, presenting content or questions, prompting discussion, and focusing discussion on specific issues. Student responses concurred with these indicators of TP. Additionally, student responses indicated manifestations of student TP as seen in asterisked items. The responses pertaining to establishing netiquette and seeking to reach understanding under the TP indicators (refer to Appendix G CoI Coding protocol).

Data from the CoI Survey Part 1 lends support to the initial findings on TP based on the FGD. Responses to TP items across classes showed significantly high scores. Mean ratings were generated through SPSS to determine whether CoI survey results supported the findings gathered through student responses to FGD and open-ended questions. Table 5.3 presents mean ratings across all items of TP. All items received a maximum rating of 5 with varied minimum ratings ranging from 1 to 3 (strongly disagree to neutral or no opinion). The standard deviation results indicated that most ratings as skewed left, therefore revealing generally positive ratings across most items on categories and indicators of TP in the survey.

Table 5. 3

Descriptive Statistics of Teaching Presence Items in the CoI Survey Part 1

TP Category	TP Survey Item	N	Min.	Max.	Mean	Std. Deviation
Design and Organization	TP1 clearly communicated important subject topics	40	1	5	4.18	0.931
	TP2 clearly communicated important subject goals	40	1	5	4.18	0.874
	TP3 provided clear instructions	40	2	5	4.15	0.700
	TP4 clearly communicated important due dates	40	1	5	4.25	0.899
Facilitating Discourse	TP5 helpful in identifying areas of disagreement	40	2	5	3.95	0.815

	TP6 guiding the class towards understanding topics	40	2	5	4.30	0.823
	TP7 helped keep the class engaged	40	1	5	4.03	0.800
	TP8 helped keep the class on task	40	2	5	4.10	0.744
	TP9 encouraged the class to explore new ideas	40	2	5	3.85	0.864
	TP10 reinforced the development of a sense of community	40	1	5	4.02	1.025
Direct Instruction	TP11 helped to focus the discussion	40	3	5	4.10	0.672
	TP12 provided feedback that helped understand strengths	40	1	5	3.90	0.955
	TP13 provided feedback in a timely fashion	40	1	5	3.57	0.958

Source: SPSS Data Analysis of TP Items based on Results of the CoI Survey Part 1

Most items in TP have been positively rated, with the category on Design and Organization receiving relatively even scores as seen in Item TP4 of the survey in Figure 5.1 below.

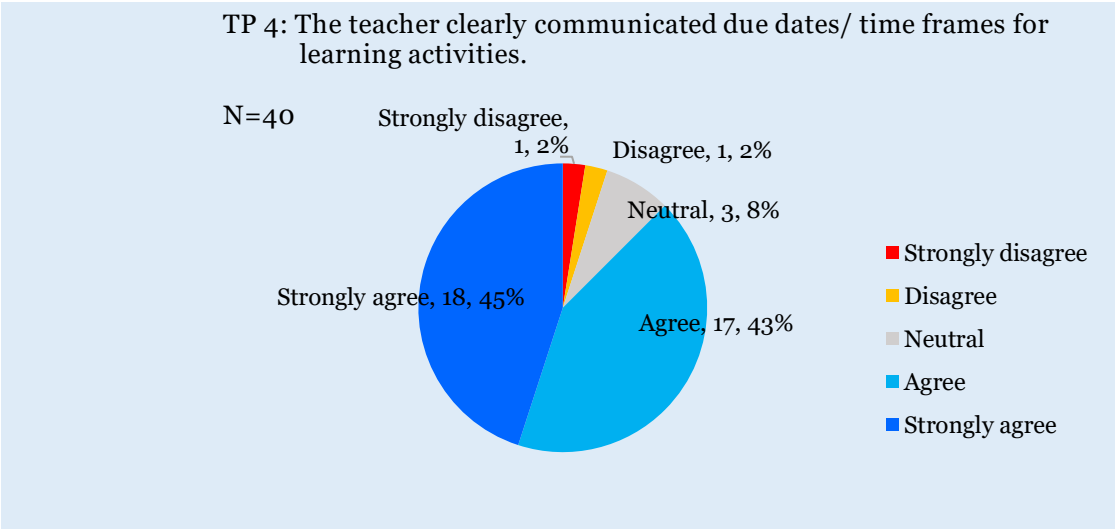


Figure 5. 1 Result of Item TP4 under Teaching Presence of the CoI

Items TP1 and TP2 relate to communication of subject topics and goals. These were the ways the teachers set curriculum while Item TP4 related to communication of time parameters. Item TP4 rated highly at 88% in all

(strongly agree and agree), receiving the highest mean rating among indicators of Design and Organization.

One category of TP is Facilitating Discourse which pertains to shaping constructive exchange. Students mostly mentioned looking forward to engaging in discussions with their teachers and classmates when face-to-face. This aligned with teacher responses describing their face-to-face class sessions. Mr. Wilfred indicated that:

> I give a situational activity, so then, they'll be able to apply their own life experiences...at the same time, they're learning the language and the skill. So, I don't really monopolize the interactions but it's really a total classroom interaction and effort to understand all things which I've been giving them.

This kind of facilitation which encouraged student questions and discussion was revealed during the classroom observation, which was supported by field notes in the next section of findings. Survey results also validated findings on this category of TP. For example, items pertaining to Facilitating Discourse in the CoI Survey Part 1 show positive results, having a mean average of 4.04. Item TP6 in particular describes one-way teachers manifest facilitation based on the survey as seen in Figure 5.2 below. This item was highly rated as 83% in all, (combined strongly agree and agree responses) and received the highest mean rating of 4.30 among all TP items of the CoI Survey as seen in Table 5.3.

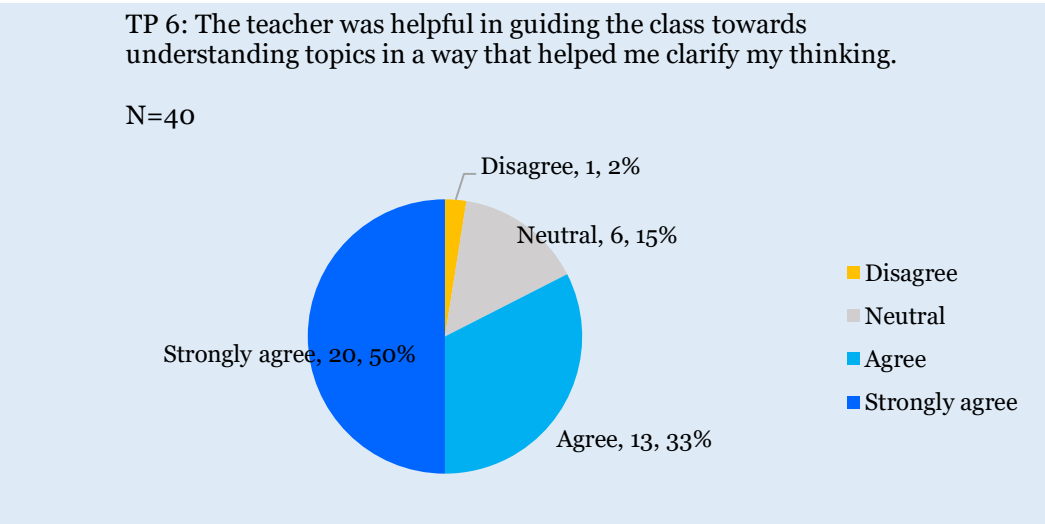


Figure 5. 2 Result of Item TP6 under Teaching Presence of the CoI Survey Part 1

While online, School B students were aware of their homeroom teacher as largely present to observe their online engagements or respond to questions. A few however indicated that they rarely encounter their teachers online. A group of students from School C compared teachers who explicitly and actively facilitate online class discussions as opposed to those who rarely do so online. One student commented that "Some teachers don't know how to use the platform or even use applications that could help them for education purposes." Students remarked that online discussions are mostly carried out by students in their group chats where they help each other to understand lessons. They also mentioned adding or inviting their teachers whenever they were needed. Ms. Lota, the Filipino subject teacher of School C attested to taking part in these online discussions mainly to observe student discourses using Filipino language to communicate.

Item TP9 of Facilitating Discourse gained the second highest percentage of 'Neutral/No Opinion' with a total of 12 student responses as far as TP is concerned as seen in Figure 5.3 below. This item pertained to the exploration of new concepts as part of Facilitating Discourse. Item TP10, 'Teacher actions reinforced the development of a sense of community among students in class' received positive ratings for 30 out of 40 responses (combined agree and strongly disagree) but with eight responses indicated as neutral or no opinion as seen in Figure 5.3. The neutral/no opinion ratings possibly meant students either did not understand the item, had no basis to decide, or may be too polite to give a negative rating. Also, the term 'sense of community' could have been difficult to concretize. However, samples which pertained to this aspect of TP were identified within the intersection of TP and SP as seen in Chapter 6 in the discussion on 'setting the climate for learning'.

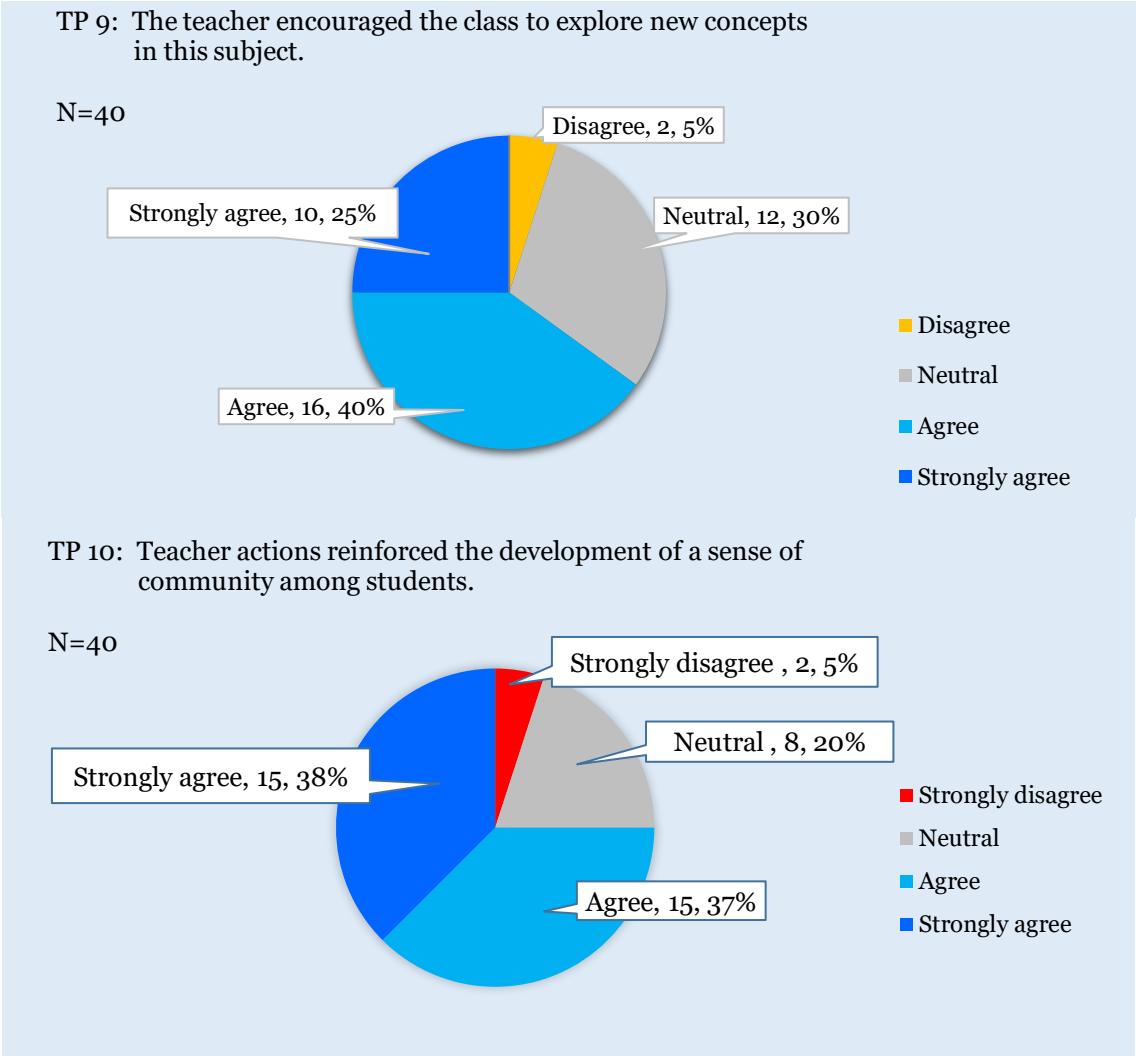


Figure 5. 3 Items TP9 and TP10 of Facilitating Discourse under TP of the CoI Survey

The category of Direct Instruction comes under the umbrella of TP and provides assessment and feedback as one of its indicators. Out of the five teachers interviewed, three teachers were described as supportive of students in terms of actual teaching, general feedback and grading. For example, Ms. Jessie of School B would individually get in touch with students getting low marks or provided accommodations to students with learning difficulties. Interestingly, students however mentioned that they rarely received online feedback as a form of online support they get from their teachers. As far as the quality and timeliness of feedback received by students, see survey results of Items TP12 and TP13 in Figure 5.4. The students gave positive ratings to the quality of feedback on Item TP12 under the category of Direct Instruction.

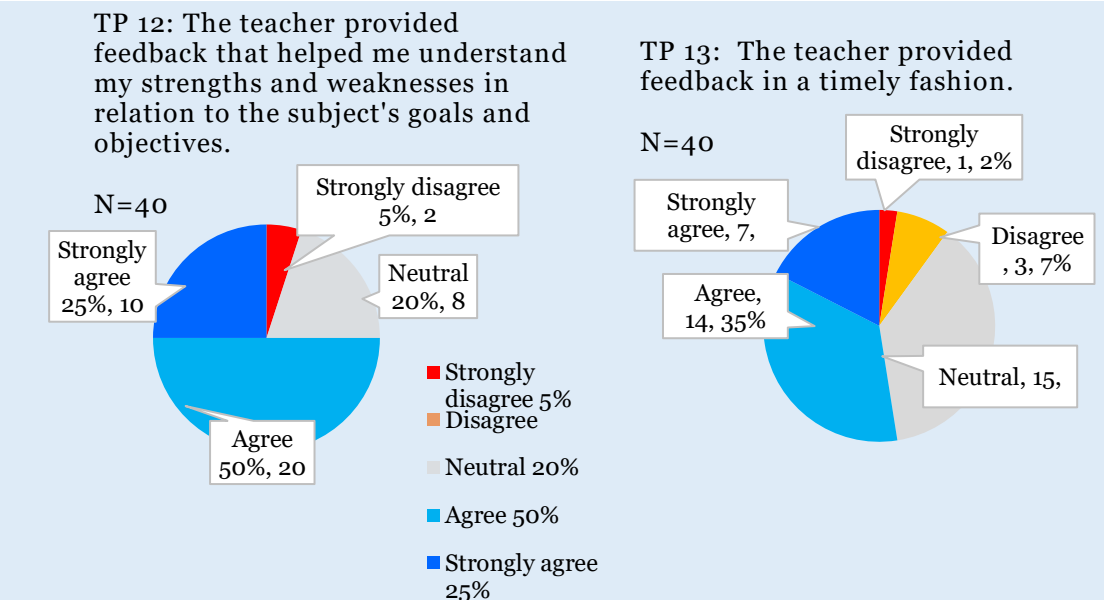


Figure 5. 4 Items TP12 and TP13 of Direct Instruction under TP of the CoI Survey Part 1

Whereas Item TP13 received the lowest mean rating at 3.57 among all the survey items (see Table 5.3). This was because these items garnered the greatest number of 'Neutral/No opinion' responses, 15 out of 40 responses and which is compared to 21 out of 40 responses, for the combined 'Agree and Strongly disagree'. Under the same item, the 'Disagree' rating accounted for three out of 40 responses. Hence, the timeliness of feedback may be an area of concern for some students. Students could have been too polite to express criticism of their teachers and opted to provide a safe response through the neutral/no opinion response option. Non-manifestations of TP may be gleaned from student responses when asked about areas for improvement in their blended learning experiences in general. Students also felt a sense of TP through the teacher's use of technology in relation to their subject-related concerns on communication and time management. Selected student responses revealed common subject-related concerns regarding communication and time management. For example, a few students from School B remarked that at times they felt confused "when there will be classes in school or not" or when there was "lack of information for example, they say there will be some tasks to do online then we check but there is none." A student suggested that "matters be really made clear every time we see each other and that we are given more time so that we can do all the plans we have

for our projects. Another student of School C occasionally sensed the difficulty of dealing when they are "given the task all at once then we have to submit it all at one time". A few students also noticed that "there are some miscommunications with teachers because sometimes, we have a hard time accessing the platform due to bugs and updates". These support prior findings on what students' dislike about their blended learning experiences discussed in Chapter 4 under the theme learning anytime, anywhere.

In School C, Grade 10 students sensed that not all teachers seem to be proficient with technology and thus were perceived as less present when online. Students seemed to equate TP with the skill and timeliness of using technologies for class or subject-related communication and teaching. A few students compared other teachers to the teacher participants included in the study. They mentioned that unlike these two teacher participants, some teachers did not seem to be trained in the use of the LMS or know how to use other applications for education purposes. This finding was supported by data from an interview with Mr. Earl, the eLearning Coordinator who spoke about the major challenge of encouraging more teachers to embrace elearning in their school. However, these were not reflected in the responses to the CoI Survey Part 1 on two SP items pertaining to the use of technology or apps for learning social presence which received positive ratings. These survey responses were limited to students providing ratings only for the teachers included in the study. These two teachers from School C are trained, experienced and considered as advocates of blended learning in the school.

5.2.2 Findings from Face-to-face Class Observations and Virtual Classroom Stored Data

Data were likewise gathered through face-to-face class observations for three subject teachers, one in each school. An observation template (Appendix F) was used to guide the notetaking for each class observation per school. The researcher prepared field notes to input reflections based on the class observations. Sample stored data were also collected from the school-administered LMS and teacher or student managed group chats over at FB

Messenger. These were used to triangulate responses gathered through the instruments identified.

From the detailed teacher-student interactions and peer-to-peer interactions, samples of the manifestations of TP were gathered and analyzed. This was achieved through three phases: open coding, selective coding, and analytical coding. Open coding allowed for the initial grouping of responses into the three presences. Selective coding allowed for further classification into a priori codes, namely categories and indicators of each presence.

The final phase required analytical coding to examine the intersections of TP and SP. This allowed for analysis of class observations and stored data from online classes and involved proper placement of samples under categories of the CoI elements. From there, samples of manifestations surfaced which may fall within the intersections of the presences. These intersections are rarely prioritized in earlier CoI research, which was mainly focused on each presence or a combination of them. Prior studies have delved into the relationships among the presences or the development of presence over time within the learning community (Akyol & Garrison, 2008).

Data from class observations surfaced manifestations of TP which support positive findings reported, thus far. Below, Table 5.4 indicates the coding summary as generated from NVivo for this dataset. Results demonstrated TP coming from students.

Table 5. 4

Coding Summary for Face-to-Face Class Observations and Virtual Classroom Stored Data

Teaching Presence Categories and Indicators	Coding Frequency from Face-to-Face Classes	Coding Frequency from Stored Data: LMS/FB Messenger	Coding Frequency of Student Teaching Presence
TP Design and Organization			
Designing methods	1	2	0
Establishing netiquette	1	0	0

Establishing time parameters	4	3	2
Making macro level comment on course content	0	0	0
Setting Curriculum	4	4	0
Utilizing medium effectively	7	5	2
Total	**17**	**14**	**4**
TP_Direct Instruction			
Confirm understanding through assessment and explanatory feedback	6	2	2
Diagnose misconception	5	0	0
Inject knowledge from diverse sources	2	4	0
Present content questions	3	4	0
Responding to technical concerns	1	0	0
Summarize discussion	1	0	0
Total	**18**	**10**	**2**
TP Facilitating Discourse			
Acknowledge, encourage, reinforce student contributions	10	0	1
Assess the efficacy of the process	1	0	0
Drawing in participants & prompting discussion	11	1	1
Identifying areas of agreement & disagreement	1	0	0
Seeking to reach consensus understanding	5	0	2
Setting climate for learning	7	1	2
Total	**35**	**2**	**5**

Note. Analysis from NVivo files collated by the researcher

The TP manifested by teachers was evident in face-to-face class observations based on the observation instrument and field notes. These reinforced the findings from the descriptive statistics presented early in this section. As seen in Table 5.4 above, facilitating discourse is most frequently demonstrated by teachers during face-to-face sessions. The coding count for facilitating discourse is 35 for face-to-face sessions while that of online

classes is two. The coding frequency revealed indicators of facilitation through which students perceive TP and these are: setting the climate for learning, drawing participants and prompting discussion, acknowledging, encouraging, reinforcing student contributions, and seeking to reach consensus and understanding.

The other categories of TP received less than half the number of frequencies but were spread evenly across direct instruction and design and organization. All indicators of TP across the two categories were found to be present, with two indicators as demonstrated by students. These are: utilizing media effectively (Design and Organization), confirming understanding through assessment and explanatory feedback (Direct Instruction). The researcher noticed that TP which arose from roles or actions coming from students were rarely reflected through the TP items of the CoI survey. Most items under TP were framed from the point of view of the student rating the presence of their teachers and not necessarily themselves as facilitators or as peer-teachers. It was observed that in the CoI Survey instrument, 12 out of 13 items started as "The teacher", which was listed as the most frequent word used in the instrument as seen in Table 5.5. These show TP as roles actively taken by the teacher which are to be rated by students.

Table 5. 5

Word Frequency Results of the CoI Survey Instrument Part 1

Word	Count	Weighted Percentage (%)
teacher	13	4.80
helped	12	4.43
subject	10	3.69
activities	6	2.21
class	6	2.21
classmates	6	2.21
content	6	2.21
felt	6	2.21
comfortable	4	1.48
discussions	4	1.48
learning	4	1.48
sense	4	1.48

Source: NVivo -generated word frequency count accomplished by the researcher

A text search query on the CoI survey instrument was also carried out to reveal how the measurement of TP in the instrument was centered on the teacher. Having seen these, the researcher used content analysis to surface samples of TP drawn from the student FGD data which would possibly show students fulfilling TP. For example, see Student TP items in Table 5.4.

Within the category of Design and Organization and Facilitating Discourse are specific indicators of setting curriculum, methods and shaping constructive exchange. Data from both teachers and students described how this took place in their interactions as discussed in Chapter 4. The ways students searched and selected additional information to help themselves learn have also been described. Moreover, students and teachers mentioned terms such as group work, group chats, "groupings" or "working in their squads" while describing cooperative learning where ongoing discussions happened. These were either planned by teachers when meeting face-to-face or naturally executed by students when online. Thus, they may be surfaced further through the intersection of TP and SP. Findings on the interaction of these presences are further described in the next chapter.

5.2.3 Findings from Field Notes on Classroom Observations

Through field notes, the researcher was able to reflect on aspects of the classroom interaction in the face-to-face delivery of blended learning. The reflections allowed for a more integrated view of TP as it also related to the researcher's subjective experience of classroom teaching. The field notes were able to surface the classroom atmosphere, teacher actions and behaviors as well as student responses to these. Below is an excerpt from School A:

> **Field notes: School A Grade 10 English Class of Mr. Wilfred**
> Occasionally, Mr. Wilfred stood up to draw nearer his students. Approaching the students was his signal to provide more assistance or clarification to specific groups or directed to individual students who may need help. At any time, students were able to approach his table to show their work, and this happened midway in their writing activity and also towards the end of the class. The students seemed to be relaxed with him around and engaged with the task at hand. The

> teacher's demeanor, movements, verbal instructions and expressions I can only interpret as his way of establishing presence in terms of how he wants students to communicate with each other and how he wants them to communicate with him.

Findings here point to how the teacher managed to set a classroom atmosphere to facilitate student interaction and learning while still maintaining their roles as expected by students. For example, students expected their teachers to sustain communication by clarifying instructions, giving examples, or facilitating discussions. This atmosphere was likewise observed in Ms. Jessie's Grade 7 class of School B. These actions validated the positive TP ratings in the CoI Survey. Findings also revealed ways teachers manage the class to allow for open communication, an aspect of SP. These shall be explored further in Chapter 6.

5.2.4 Summary of Findings on Teaching Presence

The findings presented in this section showed evidence of TP as roles and behaviors primarily carried out by the teachers. These actions were perceived positively by the students as seen in student responses to the surveys and FGDs. A few students have recommended that teachers maximize the use of technology in their blended learning classes.

Manifestations of TP were revealed across categories and indicators. These were supported through classroom observation, stored data and field notes. Findings support teacher participant descriptions of their actions to engage learning and participation within their blended learning classes.

Interestingly, findings also surfaced for TP which was driven by students. This was reported to take place during online group work and collaborative learning. Findings thus far point to a possible interaction of TP with the other elements of the CoI at the K-12 setting. The next section of this chapter elaborates on the analysis of these findings.

5.3 Discussion on Teaching Presence

Research sub-question 2: How is teaching presence manifested in the blended learning classes?

Findings in Chapter 4 generated deep descriptions of teacher-student interactions which Swan (2002) considered as a TP in online learning communities. In this chapter, manifestations of TP were found across categories of design and organization, direct instruction and facilitating discourse among K-12 teachers and students alike. These manifestations however were observed to be unevenly distributed across and between face-to-face and online classes. This section responds to the research question through a discussion and analysis of the manifestations of TP categories and indicators.

This study argued that the manifestations of TP highlight the important roles of both teachers and students in their blended learning experiences. Members of learning communities are expected to be more purposeful and collaborative through constant communication afforded by blended and online learning (Garrison, 2013). Teaching presence roles as led by both teachers and students are crucial in ensuring these sustained engagements. The manifestations of these teacher roles have been examined in qualitative studies by Lewis and Abdul-Hamid (2006), Morgan (2007), and Perry and Edwards (2005). The organization and facilitation of learning, and maintenance of communications are roles students expect of their teachers. Other important roles include fostering interaction and providing constructive feedback which are means to establish rapport and mutual respect. These roles are likewise fulfilled by active learners and veteran students who are part of the learning community building process in online higher education (Brown, 2001). In this study among K-12 teachers and students, the fulfillment of these roles have led to the attainment of shared goals of learning, therefore indicative of learning communities as outcomes of K-12 blended learning interactions. The discussion in this section will relate the manifestations of TP in this study which are indicative of learning community as explained in prior research (Brook & Oliver, 2003; Garrison, 2017; Swan & Shea, 2005; Vesely et al., 2007).

This study found that the manifestations of TP have been fulfilled by students when they took an active role in their own learning. Prior studies in higher education indicated that in the absence of formal teaching, students enact self-regulation while learning independently (Garrison & Akyol, 2015). Within a community of inquiry, TP was relevant to the distribution of teaching responsibilities across learning community members, and thus not solely within the instructor (Garrison, 2017). When learning with peers, the TP was demonstrated as peer-facilitation of cognitive presence which according to Chen et al. (2019) includes providing information, asking factual and explanatory questions, giving clarifications and using social cues. In this study, TP was fulfilled by students and this meant working independently, while interacting with content when online. This also meant students engaged in online collaborations to help themselves as they learn on their own and as a way to attain shared goals of learning. These concrete actions indicated as a form of self-direction. Through self-direction, learners demonstrate psychological control of their learning as they exercise their free will to learn (Jézégou, 2012). When placed in a position to navigate their own learning, self-directed students take responsibility for the monitoring and management of learning tasks and processes (Garrison, 1997; Pilling-Cormick & Garrison, 2007). In this study, students managed their tasks and facilitated their own learning in the process of understanding content delivered online.

Prior studies in higher education proposed the addition of autonomy presence (Lam, 2015) or learning presence (Shea et al., 2012; Y. Zhang, 2018) asserting that the current TP construct did not account for student-driven actions (Shea & Bidjerano, 2010; Villanueva, 2013). In this study, TP as an element of the CoI framework, with its categories and indicators was observed to be a valid construct to examine blended learning experiences and learning community building in the K-12 setting. However, this study also found that TP as both fulfilled by teachers and students in the context of the K-12 must become explicit and consistent in the TP items of the CoI Survey instrument. Given this limitation found in the instrument, the study proposed modifications to survey items to suit other contexts. The study also

suggested ways teachers can reflect on and capitalize on their role while they are in partnership with the students for learning community building.

5.3.1 Design and Organization

Setting curriculum, methods and parameters as indicators of Design and Organization, were observed consistently in online and face-to-face sessions. This was mostly manifested by teachers with consistent results across all schools. For students, TP meant that they were able to rely on their teachers to provide structure to their daily lessons, tasks and targets. These aspects were usually demonstrated by teachers through the content that was uploaded in their class LMS, namely lessons and modules with detailed instructions, guide questions, ebooks and by posting announcements and reminders. This kind of TP as part of design of instruction was also observed to be of value among higher education students. This was mainly because it contributed to student satisfaction in blended and online learning environments (Shea et al., 2003; Wise et al., 2004). When online, students felt their teachers' presence through communications sent in the school LMS, class FB Messenger or private messages. These messages were perceived to monitor task compliance and encourage students to seek help whenever needed. Thus far, the study parallels the stance of Stone and Chapman (2006) that TP is largely content-driven. At the K-12 setting, the content provided by the teachers online and face-to-face create the atmosphere for varied interactions within the learning community.

Within the K-12 setting, the responsibility for the design and organization of blended learning is the remit of the teachers. Teachers in the study clearly see this as their role, which students also expect of them. Manifestations of design and organization of instruction in this study are ways that K-12 learning communities set clear expectations and boundaries. These actions were perceived to assure that learning takes place and shared purposes are attained within the learning community.

5.3.2 Facilitating Discourse

Facilitating discourse was found to be a strength of the teacher participants included in the study, most of whom were language teachers with additional responsibilities as homeroom advisers. Facilitation can be seen as an explicit strategy used in offline community building among adult participants (Hope & Timmel, 1984) and in higher education virtual communities with a moderator or instructor taking on this role more explicitly (Villanueva & Librero, 2010).

The findings have similarities to themes of TP observed by Villanueva (2013) among ESL adult learners. Sustaining language learning and interaction happened through the teacher's strategies and the use of virtual classroom tools to facilitate language use. These also align with the study by Feng et al. (2017) on tutors scaffolding discourse and students following their lead. The students add rigor to the discussions when the tutors model and moderate meaningful discourse.

Among K-12 teachers, manifestations of facilitating discourse may be seen as possible attempts to create an environment of trust and equality so that students communicate and engage. Findings showed how the teachers of School A and School C maximized the FB Messenger for language learning. Facilitating discourse was manifested quite consistently whether online or face-to-face. Students believed they acquired and developed English language skills through the teacher's shaping of constructive exchange in their blended learning classes.

TP through facilitating discourse is meant to engage interaction, dialogue and thinking among community members. These are grounded on values of respect, trust and equality (Blanchard & Markus, 2004; Freire, 1970; Liu et al., 2007; Shea et al., 2006; Vesely et al., 2007). This study found that facilitating discourse as manifested at the K-12 level means that teachers explicitly communicate ways to make students comfortable with self-expression. These in turn, foster interaction which demonstrates that their ideas and responses are welcomed by both peers and teachers (Lewis &

Abdul-Hamid, 2006; Villanueva 2013). Teachers and students alike have been found to facilitate discourse by prompting student contributions.

5.3.3 Direct Instruction

In this study, manifestations of direct instruction in online classes were evidenced by teachers providing resources, instruction and assessment, in turn, students expected direct instruction from their teachers. Focusing and resolving issues as an indicator of direct instruction was evident but mostly during face-to-face class sessions. Resolving issues related to conflict and student behavior remain to be delegated to the teacher as relayed by both students and teachers of School A and B. Through homeroom teaching responsibilities, teachers asserted their presence to both parents and students. Teachers attested to contacting parents of selected students for specific academic and student life concerns; also taking time to provide feedback during parent-teacher conferences. Students viewed these as part of the guidance they receive from their teachers. A possible explanation for this is the established role of supervising adults in the K-12 system, more so, in the Philippine public-school setting because Filipino students are expected to respect their elders. Accepting the authority of the teacher and supervising adults to resolve such matters is deemed to be a sign of respect, reciprocity or compliance to rules. These elements characterize learning communities in higher education research (Brown, 2001; Reilly, 2014; Vesely et al., 2007).

In the case of School B, class observations revealed how selected students manifested resolving work or task related issues while engaged in cooperative learning or group work. Issues related to the performance or management of group work and output were settled among peers. The same was indicated by School C students who often engaged in small group collaborative work. Without having the need for the teacher to facilitate nor moderate online communications by FB Messenger, students managed to settle their differences, concerns and other issues in order to get needed work accomplished. Students also adopted strategies to monitor each other's online behavior, but only when these strategies were needed.

Co-regulation is an area of contention in CoI research (Garrison, 2017; Garrison & Akyol, 2013), defined by Hadwin et al. (2011) as "consisting of emergent interactions which temporarily mediate regulatory work (strategies, evaluating, goal setting, evaluation and motivation)" (p.68-69). This study affirmed that co-regulation, as a manifestation of TP, is meant to direct members of the learning community towards attaining learning goals. This was made evident through samples of setting the climate where students made sure groupmates understood instructions and work expectations so that they learn from the group activity. These directions were accompanied by peer reminders to focus or monitor behavior and could also be manifested as SP. Thus far, findings imply many similarities that are present during interactions of TP and SP which have been observed in higher education online learning communities. Studies related immediacy behaviors found in SP which have been observed to be influenced by TP of the CoI (Garrison, Cleveland-Innes, et al., 2010; Shea & Bidjerano, 2008; Szeto, 2015).

It is important to note the interaction of categories and indicators within TP when it comes to supporting students that have learning difficulties. The study highlighted the teaching behaviors of online instructors that contribute positively to the learning environment by being caring and receptive as discussed by J. Ma et al. (2015). In this study, teachers of the OHSP provide support and guidance which was likewise observed by Velasquez et al. (2013). The homeroom teachers in this study were found to manifest TP through immediacy behaviors, especially with the choice of using FB Messenger. However, immediacy behaviors were observed as forms of SP in higher education settings which are aimed at closing the transactional distance among instructors and their students (Arbaugh, 2001; Garrison et al., 1999). Along with these are private messages as evidence of teachers intentionally getting connected with students in need of support, to offer remedial sessions or additional assistance to learn. These are indicative of the interaction of TP and SP or the intersection of these presences, an area this study sought to understand.

Overall, findings on manifestations of TP among K-12 teachers and students aligned with research on TP in higher education. Studies have looked deeply into instructor roles within higher education blended and online learning communities (Sheridan & Kelly, 2010). The caring and support received by students in this study affirmed the student support processes that are provided by tutors in higher education (Feng et al., 2017). This is also consistent with the indicators of rapport in which distance education teachers find valuable to implement while working with high school students (E. Murphy & Rodríguez-Manzanares, 2012).

However, in higher education research into TP, Shea (2006) found that instructors were directly responsible for building a sense of community through indicators of facilitation and direct instruction. Teachers in this study however expressed that their purposes for using cooperative and collaborative strategies were designed to parallel the learning activities expected of their face-to-face class interactions. Whether these were intended to explicitly build a learning community was not verbalized. However, teachers observed that students used their own initiatives to build their ties and camaraderie, given that they identified themselves as adolescents, elearners and part of a blended learning class. In this sense, teachers may still be unaware of their potential role in learning community building through the manifestations of TP in different ways. Thus, this study affirmed prior recommendations in research for the professional development of teachers on blended learning course design, pedagogies and use of technology (Deutsch, 2010; Jokinen & Mikkonen, 2013). Likewise, this study suggested the inclusion of the CoI framework as a focal point to guide teacher training on course design, pedagogy and learning community building.

This study found that TP at the K-12 setting is manifested uniquely by homeroom teachers or class advisers who view their adolescent learners' needs holistically. These teachers provided learning support through additional time and effort to support students with learning difficulties. Homeroom teachers also tasked themselves with contacting parents to

provide additional support for students in need. They also provided accommodations for students who needed to be absent due to employment obligations at day jobs, domestic work duties or family responsibilities. These roles are likened to teacher functions that are found within the Adolescent Community of Engagement (ACE) proposed by Borup, West, Graham, and Davies (2014b). The framework presents clear roles of parents, students and teachers through varied engagements as performed by members. In using the ACE however, TP as manifested by students themselves may be overlooked. This oversight may occur given the terms used by the ACE framework – parent engagement, student engagement, teacher engagement and peer engagement. In the context of blended learning communities, and as reinforced in this study, students manifested TP as they engaged in collaborative learning. The findings and discussion related to collaborative learning are outlined in Chapter 7, Cognitive Presence.

5.3.4 Teaching Presence and Learning Community Building

Specific manifestations of TP by K-12 teachers and learners in this study indicated processes of learning community building found in higher education research. These processes pertain to the establishment of boundaries, rules and guiding principles (Palloff & Pratt, 2005; Vesely et al., 2007) grounded on good communication (Peck, 2010) and equality (Manalili, 2013). Among K-12 teachers, these processes are represented by explicit actions categorized under Design and Organization within the CoI. However, among K-12 learners, actions are observed to be more implicit, meaning these are closely tied with a shared goal of having a group output while keeping harmonious ties and communication with peers. In two cases, where an LMS is the main platform, online communications are limited to ministerial concerns or providing advice, rarely for deep dialogue. However, these timely communications are welcomed by students with shared values for accountability, time management, responsibility and skills improvement through outputs and timelines.

Thus, in the context of K-12 blended learning, these communications mirror the types of engagement proposed by Brook and Oliver (2003). Their study described engagement as a combination of three types of communications: enabling, supportive and facilitative. These were indicated as found within the learning environment as well as the process by which learning communities are developed. This study found certain types of communication within K-12 blended learning environments which are similarly supportive and facilitative of learning. For example, manifestations of TP through teacher communications were perceived by students as directed towards clarification of tasks, ensuring basic understanding of content, and completion of class activities and requirements. These are likewise interpreted as the teachers' manner which respects the students' need to engage and learn.

This study affirmed prior findings on blended learning where student satisfaction and perceived learning are correlated with positive views of teacher expertise on delivery of content, choice of methodologies, facilitation and instruction as important to student engagement (Deutsch, 2010; Shea et al., 2003; Wise et al., 2004). Likewise, findings which point to the role of the teacher as a source of learning support for K-12 students in need are aligned with recent findings on instructors, experts and other individuals who are part of the students' communities. The students' personal and course communities are elements of the Academic Communities of Engagement, a recent framework repurposed from the ACE (Borup et al., 2020), which are perceived to contribute to student success whether in fully online or blended learning environments.

The importance of dialogue and communication was stressed as essential components to achieve genuine community (Peck, 2010) and constructivist learning communities (Garrison, 2017). Through these, members of a learning community build connectedness through exchange of ideas, disclosure and sharing of each other's perspectives which leads to the development of mutual respect and trust. Manifestations of TP in this study showed aspects of dialogue mainly through the exchange of ideas and the

sharing of work. These were made possible through the facilitation of the teacher and through the design of the instruction and learning activities. In this scenario, the students trust that their teachers and fellow students would acknowledge their ideas and contributions as constructive or acceptable. In return, they would also do the same for their classmates, in reciprocal exchanges to include giving pointers for improvement. It is through these sustained exchanges that occur during group work or cooperative learning activities, that the foundations for trust and mutual respect are built.

Findings more importantly revealed areas for improvement related to communications and the use of technology. This study indicated the importance of scaffolds such as timeliness of feedback and other communications with K-12 students who need clarity and consistency to carry out expected work. Students felt that this was part of creating the structure that they needed to help themselves manage their time or regulate their learning. These ideas affirmed teacher actions to ensure self-regulation as members of blended and online learning communities (Hayes et al., 2015). Self-regulation included the ability to plan and organize one's learning, monitor one's understanding of tasks and strategies to accomplish work and the ability to direct and manage one's learning, which is crucial among adolescent learners as found in prior research (Matuga, 2009; Zimmerman, 1990; Zimmerman & Schunk, 2008). Findings in this chapter allude to self-regulation as part of student TP interacting with cognitive presence. These aspects are discussed in more length in Chapter 7 Cognitive Presence.

Co-creation of knowledge is one clear goal and outcome of constructivist learning communities as highlighted by Garrison et al. (2001) and Shea, Li, Swan, and Pickett (2005). Whether the manifestations of TP by both teachers and students lead to a deepened understanding of concepts and lessons or knowledge construction has yet to be ascertained in the study. What this study was able to establish is that members of the learning community at the K-12 have the willingness to engage in the process of blended learning, set clear roles and expectations, co-share fulfillment of roles and achieve shared goals. Shared values of responsibility and the role of

technology as manifested among teachers and learners were also demonstrated. Having shared values is a characteristic of learning communities in prior studies in higher education (Palloff & Pratt, 2005; Vesely et al., 2007).

This study also highlighted Garrison's (2017) observation that within a community of inquiry, TP neither assumes teaching as the 'guide on the side' nor the 'sage on the stage'. Within a learning community, there is a multiplicity of roles that are co-shared among members which likewise make for socially shared learning in higher education (Vaughan et al., 2013). The study revealed this as also valid in the context of K-12 blended learning. Likewise, Shea et al. (2006) found value in emphasizing learning communities as dynamic constructs. This study provided evidence of the transitioning to constructivist learning communities in blended learning classes as affirmed through shared roles of TP, with students having more control over their learning. These shifts from mere access to technology as part of blended learning towards changes in pedagogies which allow for students to become active learners were also indicated in prior research. Graham (2009), in his categories of blends, depicted the development of blended learning from enabling blends to enhancing blends and to transformative blends drawn from varied samples of blended learning at the tertiary level. This study provided evidence of the evolving nature of blended learning through the manifestations of teaching presence across the different blended learning programs undertaken in the K-12 schools in the Philippines.

Dialogue and communication are of the utmost importance among learning community members. Samples of these were revealed in the study through the communication of direct feedback and assessment. These reinforce prior research by Sheridan and Kelly (2010) related to instructor immediacy behaviors which higher education students find important, such as responses to student's call for support and timeliness of feedback. However, this study has revealed that providing feedback remains an area for improvement. The importance of immediacy behaviors, clear communications, student support and other manifestations of TP that students find important serve as inputs

for the professional development of teachers towards the creation of quality TP and learning community building.

5.4 Chapter Summary

This chapter sought to discuss findings on the ways teachers and students manifested TP in their blended learning classes. The discussion brought to light distinct manifestations of TP in the categories of design and organization and for facilitating discourse. In response to the research sub-question, "How is teaching presence manifested by teachers and students in the blended learning interactions?", this study found that the manifestations of TP at the K-12 aligned with prior findings in higher education learning communities as documented in research by Palloff and Pratt (2007), Schwier (2001) and Tsai (2012). This chapter provided evidence of the roles and actions K-12 teachers and students perform, manifested as TP which lead to learning community building through their blended learning interactions. Specifically, these are through establishing guidelines or ground rules, boundaries and shared values which are indicative of learning communities as established in higher education online learning (Brown, 2001; Shea, 2006; Vesely et al., 2007). Additionally, this chapter revealed manifestations of TP by students in the K-12 setting within indicators of facilitating discourse and direct instruction. These indicated a shift in the roles for managing and regulating learning as performed by students when online. This was evident because students were giving them more control of their own learning and in supporting others. In summary, this study provided evidence of the role of TP within the CoI framework and also in relation to the other presences leading to learning community building as outcomes of K-12 blended learning.

While the study found the TP categories and indicators as valid in the context of the K-12, it also revealed limitations in the CoI Survey instrument as a measure of TP. Suggested modifications to the TP items must be undertaken in order to reflect TP as both fulfilled by teachers and students. With these modifications is a call to reconsider changes in the categories and indicators of TP. These changes will allow for the TP within the CoI framework to be

applicable in the K-12 setting and in contexts where blended learning models are still emerging.

Areas for improvement which related to TP were also discussed, particularly in the communication and the timeliness of feedback and online facilitation of discourse afforded by the choice of media and use of technology. The study revealed that through the CoI framework, TP may be further understood in the context of K-12 learning. The study affirmed the role of TP in learning community building reported in higher education research, which is also found to be valid among K-12 teachers and students. Areas recommended for future investigation are strategies for building trust, mutual respect and self-regulation, aspects crucial to adolescent learners.

The next chapter presents findings and discussion of the manifestations of SP and CP. These are based on data similarly gathered from the participants using qualitative techniques. The discussion includes an interpretation of the intersections of the presences in the light of learning community building.

Chapter 6 - Manifestations of Social Presence in K-12 Blended Learning Classes

6.1 Overview

This chapter delves deeply into the blended learning experiences of students and teachers through SP, another element of the CoI. This chapter builds on prior findings in Chapter 4, specifically the student-to-student interactions. Interaction among peers is within the space of Social Presence (SP) as studied by Swan (2003) in higher education online learning communities.

This study sought to investigate whether blended learning experiences lead to the development of learning communities and the interactions which come into play in K-12 contexts. SP is the element which directly captures the social interactions through its categories of affective expression, interactive communication and group cohesion. Chapter 2 indicated that this element was believed to support the attainment of personal and academic learning goals among members of online learning communities at the higher education. The process of achieving these shared goals through SP was said to be positively influenced by the group's sense of community and connectedness (Swan, 2002) as well as the collaboration developed through social interaction (Kreijns, Kirschner, & Jochems, 2003).

This research aimed to understand ways that K-12 students and teachers interact socially while learning together and whether these lead to learning communities. This study, while exploring the presences, was interested in the intersections as found within the CoI framework. Thus far, Chapter 5 examined and discussed TP as roles mainly demonstrated by teachers. It likewise indicated TP as manifested by students through direct instruction and facilitation during group work activities. This chapter adds the layer of SP to the analysis and examines setting climate as the intersection of SP and TP. The intersections of the presences were a research gap identified in Chapter 2 as reported by Parker and Herrington (2015). This study found that it is within this intersection that the manifestations of SP provide

support for learning community building. Evidence of setting the climate for learning will be covered later in this chapter.

This chapter is structured along similar lines of the previous chapter, with findings and discussions specific to SP and based on the same sample of teachers and students. The qualitative data collection and analysis applied to TP was consistently used to interpret and analyze the manifestations of SP in this chapter. The discussion section intends to answer the research sub-question: "How is social presence manifested in blended learning classes?" This will entail analysis which highlights the social interactions and sense of connectedness as revealed by students and witnessed by teachers. The interpretation of findings based on the blended learning survey and student FGD participants will strengthen the role and the choice of technology leading to the outcomes of blended learning. Lastly, the discussion will cover areas for consideration in the process of suggesting changes to the CoI categories and indicators to suit the K-12 setting.

6.2 Findings on Social Presence

Findings on SP were drawn from student FGD (N=8 groups, 29 students) and teacher interviews (N=5 teachers). Participants were asked open-ended questions to describe their interactions and experiences within their blended learning classes. Some questions specifically probed how students worked together in their groups or as a class whether online or face-to-face. To gain detailed descriptions, students were asked to complete the CoI Survey Part 1 (Likert type scale, N=40 students), CoI Survey Part 2 (open-ended questions, N=24 students) with specific items and questions to particularly surface manifestations of SP (see Appendix K). Teacher interview questions included questions related to affective expression and interactive communication as indicators of SP. To further validate the participant responses, three face-to-face classroom observations were analyzed to include stored data in virtual classrooms and field notes.

Findings based on these data collection instruments are covered in the initial section, specifically on the categories of SP within the CoI, namely Affective

Expression and Interactive Communication. Thick descriptions of the manifestations are supported by results from descriptive statistics generated through SPSS. The latter section presents findings on class interactions, stored data and field notes.

6.2.1 Findings from Student and Teacher Participants

Students across schools believed that blended learning affords them the time to socialize or be with others while learning and getting their work completed. From the CoI Survey Part 2, a student from School C, a Science High School, stated, "compared to regular learning, when I'm in blended learning, I get to know my peers and their traits." Some students from School B indicated that they have more time to socialize and get to know others while studying. A few students from School C viewed the peer interactions as part of their participation grade. However, students of School A under the OHSP perceived their online social interactions as both having a conflicting set of advantages and disadvantages. One group of School A students were unanimous in stating that online social interactions were opportunities to update or assist each other while online given that students only have once-a-week face-to-face classes. These exchanges happened through FB Messenger which made communication convenient as well as open among students and their English teacher. A disadvantage mentioned by a School A student was that communication became "bothersome" when a few ones raise unrelated topics or comments.

Data from teachers indicated manifestations of SP among students specifically in the categories of Affective Expression and Interactive Communication. Teachers across all schools noticed that students were more able to openly express themselves online as they progressed through the months of undertaking blended learning. Mr. Wilfred of School A said, "Nothing hampers them to spill their thoughts." Teachers from Schools B and C felt the same way, too. They sensed that the confidence level of students increases during online interactions. Teachers likewise were able to gain students' opinions and feedback on the lessons or learning activities and witness how students interact with each other. Ms. Lota of School C

specifically noticed the difference in students' language use when in the LMS platform and when in FB Messenger. They appeared to be more formal in the LMS while more casual in the latter. Students were also aware of such nuances in their language use during instances when their teachers were online, in keeping with the expectations for communication and their roles as students.

Most results from the CoI Survey Part 1 (Likert-scale) showed support for the above findings, as indicated in Table 6.1 below. All items on SP received positive ratings, with items on Affective Expression gaining the highest.

Table 6. 1

Descriptive Statistics of Social Presence Items from the CoI Survey Part 1

Category	Survey Item		Mean	Std. Deviation
Affective Expression	SP14	Getting to know other students	4.53	0.599
	SP15	Forming distinct impressions	4.15	0.770
	SP16	Interact and learn through online or web-based communication	4.33	0.656
Interactive Communication	SP17	Comfortable conversing online	4.28	0.877
	SP18	Comfortable participating in online discussions	4.20	0.723
	SP19	Comfortable interacting online	4.30	0.758
Group Cohesion	SP20	Comfortable disagreeing with classmates	3.80	1.203
	SP21	My point of view was acknowledged	3.97	0.891
	SP22	Develop a sense of collaboration	4.13	0.939
	N = 40			

Source: SPSS Data Analysis of SP Items based on Results of the CoI Survey Part 1

Item SP14 on Affective Expression received the highest mean rating and lowest SD among all items of the CoI Survey Part 1 as seen in Figure 6.1. This item garnered a total of 38 out of 40 responses (combined agree and strongly agree) and particularly reflected a sense of community and connectedness. The items for Affective Expression (SP14 and SP16) are on interacting to learn online, coupled with results from survey items shown in Figure 6.1 to indicate the students' sense of belonging in Group Cohesion as seen in Figure 6.1

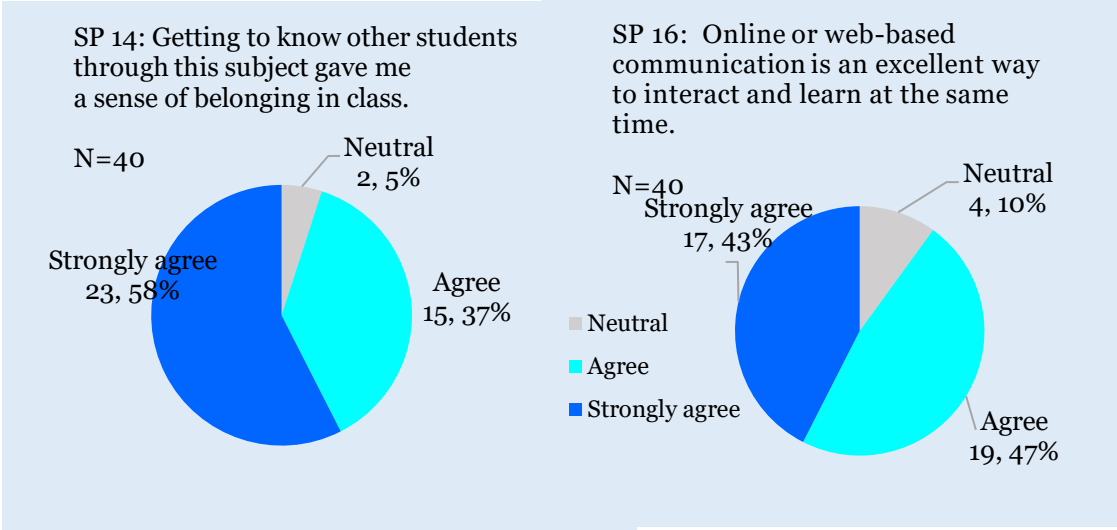


Figure 6.1 Results of Items SP14 and SP16 under Affective Expression of SP, CoI Survey Part 1

Results on Affective Expression are also due in part to the use of online or web-based communication to socialize and learn at the same time, as seen in Item SP 16. Out of 40 responses, 36 responses (combined agree and strongly disagree) indicated online communications among K-12 students as a very good way to interact and learn. These communications are interpreted as students being comfortable with each other or how they are perceived by other people when online, as revealed during the FGD. For example, particularly in School C, students noticed no difference in how they relate to each other whether face-to-face or online. One student said, "I show the same Me whether online or when we meet in person." Another mentioned, "I am able to really see the behavior of each classmate." A group of students from School C, however, were more explicit, seeing blended learning as the chance to connect with classmates and get to know each other well as "it increases our class spirit." Interactive Communication items of the CoI Survey Part 1 revealed high ratings, as seen in Figure 6.2. These are found in Items SP17, SP18 and SP19 which refer to the comfort level of students while engaged online in open communication and discussion.

The majority of the student responses indicated ease of communicating and interacting when online through FB Messenger and the LMS platform, as

seen in the combined results of 'Agree' and 'Strongly Agree' in all three items under Interactive Communication.

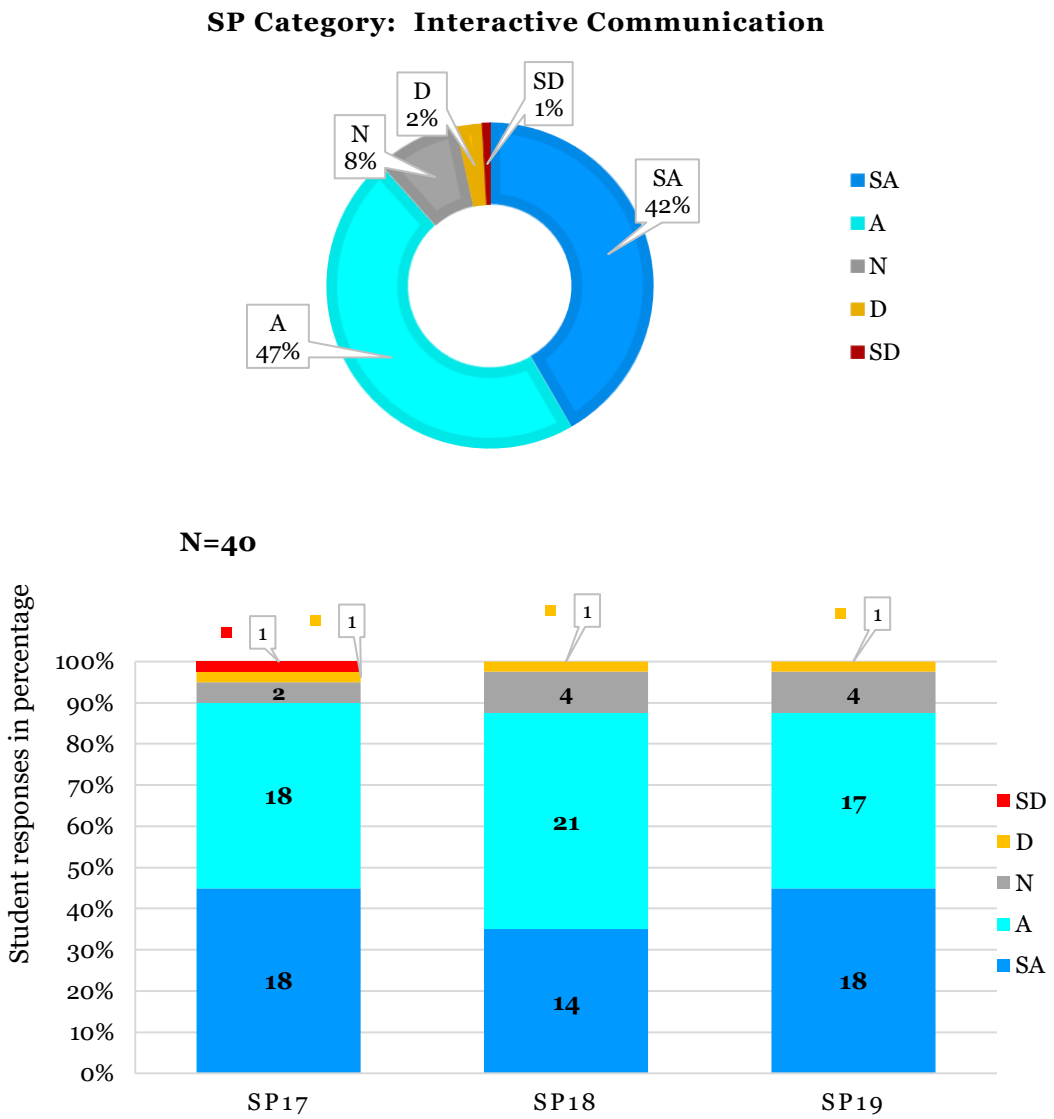


Figure 6. 2 Results of Items SP17-SP19 under Interactive Communication, Social Presence of the CoI Survey Part 1

The results from the CoI Survey Part 1 (Likert scale) are further qualified by samples of SP in Table 6.2 below. These are manifestations across three categories, drawn from student responses to the CoI Survey Part 2, student FGD teacher interviews and questionnaires.

Table 6. 2

Responses to Questions Related to Social Presence

SP Category	Student Responses	Teacher Responses
Personal/ Affective expression	It feels like as if you can really see them in the messages they send, and you can sense –"aah, it's really him'. (Patty_C) Even if we see each other for a while, it feels like every day. (Sienna_C) If one of my friends feels down, I tend to send messages to remind them that I will always be here for them. (Student_B) It's like you hear their voices in their words. (Sienna_C). I love to learn when I'm with my classmates. (Student_C) Sometimes you see someone waves…if someone say hello or how are you. (Maria_A)	[No teacher responses in interviews related to Affective expression]
Interactive Communication	I am comfortable asking my teacher. (Micah_C*) There are times when we get into fights, especially during group work. (Teresa_C) Although our conversations sometimes are not about the class. There's joking around, like the usual every day. (Micah_A) It's easy for us to communicate because we are a block section. (Aimee_C)	I observe students and their behavior and make informal conversations. (Mr. Earl_C) They're somehow talking about their interests…they're sharing each other's opinions. (Mr. Wilfred A) You can really feel their presence because they speak out…they respect their classmate's opinions. (Mr. Bobby_B) In FB Messenger, they are more casual, as if they are just telling a story or saying something to you. (Ms. Lota_C)
Group Cohesion	Since we're a block section we already know how to approach each other. (Student_C) We can help those who are having a hard time. (Student_A) You can really see us still buzzing 11:00 at night, still talking about how we are going to do things the following day. (Joey_C)	I observe the teachers getting close to the students because we interact with them online…even when we are out of the school, we still interact with them (Ms. Jessie_A) I see how they are as classmates or friends/ companions. (Ms. Lota_C)

	We know each other so well that we even notice if we change the usual words we use, so we quickly ask, 'Is that you…is that really you?' (Joey) Not everyone is really close. For example, among us, we are also close to our other classmates…We are a select group (Diego_A) A few ones don't seem to care even if for example they were present in school and they know the answers, but they say they do not know anything, or they do not say it. (Diego_A) We end up just making adjustments in the end. Also, in that way we get to understand what they say. (Cherry_A) Sometimes you can see we don't get along. (Rachel_B) We really feel how much more we love each other. (Sienna_C) When we see each other in school, we are always together, we feel comfortable…it feels light. That how it is. (Diego_A)	

Note. * Letters A, B, C after participant pseudonym refer to Schools A, B or C where research participants were situated

The manifestations of Interactive Communication and Group Cohesion in Table 6.2 indicated how students perceived their interactions and communications while socializing and learning at the same time. Responses generally revealed how students saw each other and treated each other in relation to the groups they belong to, either as groupmates, as a class or a block section. Teachers also attested to how they perceived or have observed how students are with each other.

Students across the schools described their peer relations as "bonded," "connected" or "close." In particular, students of School C have discussed these consistently both in the FGD and surveys, reiterating their identity as being a "block section." These students have spent time together as a class in one section for four consecutive school years. The eLearning Coordinator

clarified that unlike the blended learning block section, students from the regular classes were shuffled every year across five other sections. Examples of students describing their 'connectedness' as a block section are as follows:

> Teresa: Sometimes, we don't get updated about school activities. We just happen to learn from the others
>
> Diane: At first, we felt we were being left out as a section
>
> Interviewer: Was this while you were a Grade 7 or just this schoolyear?
>
> Diane: Oh, since Grade 7, we felt that way. But now, since our classmates have more friends from other sections, at least they have started to become aware of us.
>
> Interviewer: Oh, so there were times when you felt part of your class but not really part of the school. You see that as a disadvantage?
>
> Teresa: Yes, when there are school competitions, we are just less in number. When there are competitions by batch, we feel left out.
>
> Diane: Because more students from the regular sections are being chosen to join.
>
> Aimee: ...when there are competitions, we are small in number.
>
> Bruno: But we still do our best even if we are less in number as a class. It's just that sometimes, numbers really matter, especially if it's a Choral Recitation in Filipino.

Some teachers also felt connectedness with their students or homeroom class. For example, the two teachers of School B expressed more affinity with their students. They had no problems being transparent sharing their online identities and profiles with students through Facebook, Ms. Jessie said that: "In Facebook, I have really nothing to hide. If I can serve as an inspiration to them, then that's my role. Other teachers would have separate accounts – student-class account then personal account. For me, it's just the same."

Under the category of Group Cohesion is Group Identity or Collaboration as an indicator. Among students of School C however, collaboration has been expressed as a means to "earning higher grades" or "easily or promptly

getting things done" and "submitting requirements on time." Results from the CoI Survey Part 1 which related to Group Cohesion indicated disparate results, namely in Item SP20 in Figure 6.3. In the CoI Survey Part 1, Item SP20 is about trust among classmates and peers while interacting and learning together.

Schools B and C revealed maintenance of trust, despite disagreements or issues, among groupmates in the survey and likewise reported by students in varied samples of Group Cohesion identified in Table 6.2. Results from School A on Group Cohesion show a spread of ratings across students (N=7). Among all cohorts of student groups in three schools, students from this group attested to having less online and face-to-face collaborations. According to the four students of School A, connectedness was felt within their group. However, they cannot ascertain this for the whole class. The closeness was appreciated by these select few but doing group work was not perceived to be valuable nor important to achieving their shared goal.

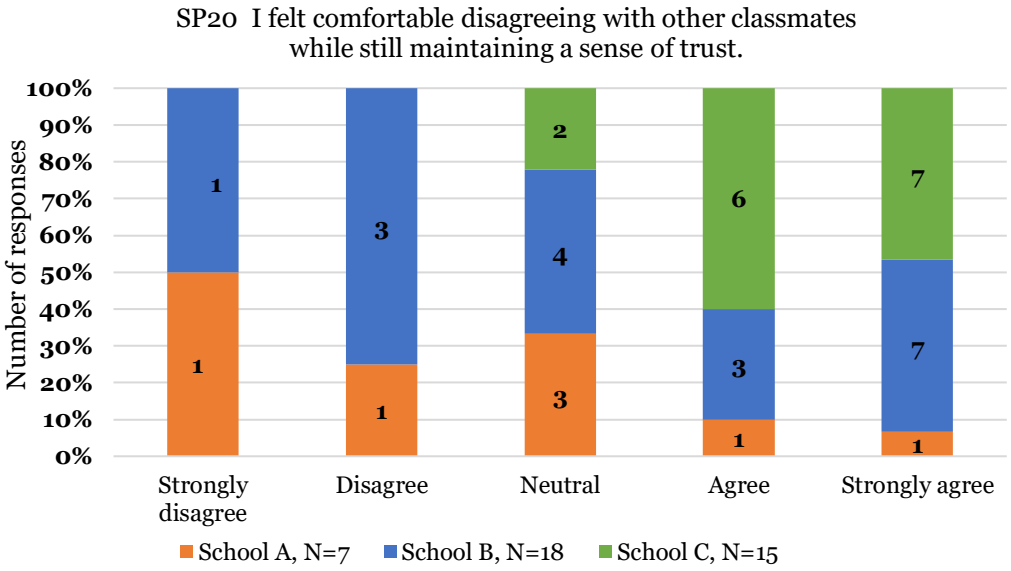


Figure 6. 3 Social Presence Item SP7 on Group Cohesion

When asked further about collaboration, a student stated that their group work output "is not so good while doing online group work because the others do not help or participate in the work." Two out of five students indicated in the CoI Survey Part 2 (open-ended questions) that group work is seldom accomplished online or face-to-face. The results from the Likert-scale ratings

of the CoI Survey Part 1 however revealed otherwise as seen in School A of Figure 6.4. The said rating applies to the few instances that students have engaged in group work in their one subject where they undertake blended learning.

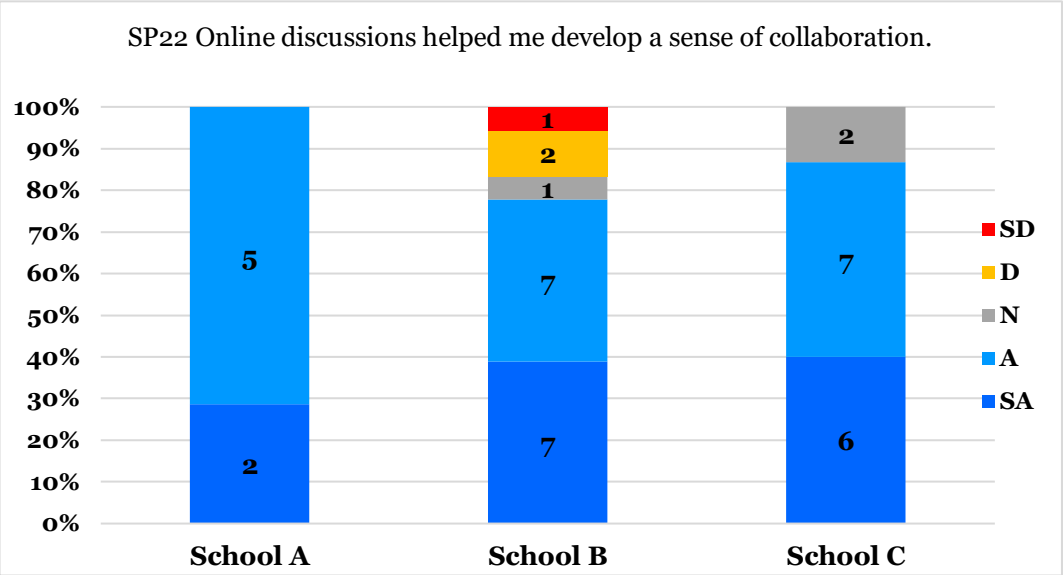


Figure 6.4. Item SP22 under Group Cohesion of Social Presence, CoI Survey Part 1

Collaboration as an indication of Group Cohesion became more evident upon the examination of the intersection of Social Presence and Cognitive Presence, rightfully labeled as Supporting Discourse in the CoI framework. The discussion section of this chapter will delve into these in more depth. Results from a portion of CoI Survey Part 2 reflected responses to questions in support of prior results on SP across three categories. An item from the CoI Survey Part 2 asked students to describe their blended learning experiences. Results in Table 6.3 revealed selected responses which pertain to all the categories of SP. For example, responses fulfilled the needs of students to socialize, express themselves and collaborate while meeting their learning goals at the same. These results validated the manifestations of SP within the blended learning experiences of the students.

Table 6. 3

Reasons stated by Students based on One Choice Question

Question 1: Which emoticons and descriptive words best describe your overall experiences of doing blended learning with your classmates and teachers? Choose the top 3. Then describe or explain further.

• more time to socialize and get to know others well while being able to study at the same time • it's good to work and collaborate with peers, too. This way you can cope with the loss of extra curricular activities. • our bond is stronger than anything working with them is very good and they are very sociable • because it's clear to me that I am a student and I need to participate • it widens my thinking and it helps • I am able to express myself more • so that I can also share my knowledge • we are able to learn more than the usual • also for our grades	• it's cheerful because we get to make conversations • because I gain new knowledge • the Power Points are really helpful • I learn much in elearning especially how to manage my time because even while at home, I can study • I am happy with things I like to do • there are eModules • because it's one way to complete my studies • It's fun because I get to do online work and also answer online • because even when we are at home, we can still learn and also take some sleep/ rest • I feel glad about it • it's fun because I learn a lot • it's fun because I like it when I am with my classmates • when I get to be with them • it's fun because the learning system is really good

Note. Compiled by the researcher from responses to the CoI Survey Part 2

Findings also indicated the interactions of social presence and teaching presence within the intersection of setting climate in the CoI framework. The responses came from both teachers and students across the three schools, as seen in Table 6.4.

Table 6. 4

Responses Coded as Setting the Climate: Intersection of SP and TP

Teaching Presence Category/Indicator	Responses Coded as Setting Climate	Social Presence Category/Indicator
Design & Organization	"A classmate announces the right time so that everyone goes online." (Reyan_B) "The teachers never make us feel left out or they're assuring us that what they teach us is the same as what they teach the other sections." (Shiela_C) "The teachers say: Ok, if you have any questions, just ask us. You can ask through the platform." (Sharon_C) "We are used to being in contact. Someone can just instantly call and say how's our work, how's our report, how about the group work…are we done…were you able to do it?" (Sienna and Joey_C) "We monitor the things we do in our projects." (Student_C) "I always try to have a tension-free classroom setting by letting students be just themselves." (Mr. Wilfred_A)	Interactive Communication – Risk-free Expressions; Learning Climate
Facilitating Discourse -Shaping Constructive Exchange	"We have a set of rules. There's the class president there who reminds everybody to behave accordingly. The class monitor will remind someone." (Mr. Wilfred_A) "We really help each other." (Student_B) "They show support when they express: I know you have so many things to do, or I feel proud that you were able to do this. And that is like them saying thank you to us." (Diane_C) "I let them group so that if something is not clear to them, they can discuss in a small group." (Ms. Jessie_B)	Group Cohesion – Group Identity and Collaboration
Direct Instruction -Focusing, Resolving Issues	"The private messages itself are really helpful in a sense. "(Shiela_C) "The teachers sense when it is already peak periods for us. So, they no longer give homework…in such cases, they let us do recitations or performance tasks." (Joey_C)	Personal/Affective – Expressing Emotions, Self-Projection

Note. Compiled by the researcher from FGD and interviews
*Letters correspond to Schools A, B and C where participants were situated

The examples of setting climate were in response to questions for teachers and students to describe in detail group work, teacher support and peer support. Most of the evidence related to SP across all its categories coincided with TP across its indicators. Most evidence was provided by Grade 7 students of School B and Grade 10 students of School C. These students have more face-to-face classes compared to students of School A thereby have increased opportunities to engage in collaborative work through blended learning. School A students meet only once a week therefore also value sustaining online interactions. They were generally comfortable with doing independent/individual work. These nuances highlight the value of SP and in relation to TP while learning together and from each other afforded by blended learning interactions. The next sections will reveal findings in support of the interaction between TP and SP.

6.2.2 Findings from Class Observations and Virtual Classroom Stored Data

Different kinds of stored data were made available to the researcher to further examine manifestations of the presences. For the stored data, teachers and students were asked for samples. The researcher was given permission to view online content and class exchanges through the LMS and FB Messenger from Schools A and B. For School C, students indicated selected exchanges with teachers as well as with schoolmates in an after-class school club. This was accomplished during the FGD while students were sharing about after class interactions, group work and collaboration.

Table 6. 5

Results on Coding Frequencies and Samples of Social Presence

Social Presence Categories and Indicators	**Coding Frequency: Face-to-face Class Observation**	**Coding Frequency: Virtual Classroom Stored Data**	**Samples of SP from Stored Data ✸ Instructor SP ✪ Student SP**
SP_Affective Expression	**11**	7	
Expressions of emotions	2	3	✪ "Ok sir This week sir?" ✸"👍

			✪ "My answer is also NO! because they are too young..." ✪(after sharing a video link to project) "mwehehe" (spelled out laughter)
Self-disclosure	2	2	✪"Yes is my answer because nowadays even at their early age, students can do whatever they want ☺"
Use of humor*	7	2	✪😊@Sir Wilfred ✪"Our answers are all the same, hahaha"
SP_Interactive/Open Communication	**6**	**10**	
Asking questions	2	1	✪"Sir, may we use Tagalog in response?"
Complimenting contents of others' messages	3	2	✷"👍"
Continuing a thread	0	4	✪"Why@Ann Marie...Pls do not be absent on Thursday..." ✪"Yes, because our exam is coming up soon. I still do not know which ones to review."
Expressing appreciation or agreement	0	1	✪ "Ok, Sir. Again, thank you very much! ☺" ✪ "Thanks@Rosa May Quintos" ✪ "My answer is also NO."
Quoting from others' messages	1	0	[no example]
Referring explicitly to others' messages	0	2	(Correcting the teacher online) ✪ "Sir, time #3 has no underline."
SP_Group Cohesion	**9**	**16**	
Addresses or refers to group using pronouns	6	2	✷"Good morning elearners!" ✷"Kindly share this reviewer with your classmates, dear child. Thanks!" ✪"Sure po, mam. Thank you po! ☺" ('po' signifying respect to an older person)
Phatics and salutations	1	11	✪@SirWilfred Sir, I will Add Shane Alcasid to join the GC, is that okay? ✷"👍"

Vocatives	2	3	✪"Good Evening po sir. Sir Santos, this is Diego. Sir, may I seek permission to use the CompLab for our ICT project. Thank you po." ✪ "Yes@Miranda R Montemayor" (tagging FB student group member by the teacher)

Note. Collated from stored data files of the class LMS and FB Messenger provided by participants

The coding frequencies and samples under the stored data by FB Messenger above support manifestations of Group Cohesion and Affective Expression as evident in face-to-face class observation sessions and stored data of virtual class interactions. Interactive communication was also manifested in both modes of learning but with certain items which were not equally indicated, for example continuing a thread, expressing agreement or disagreement, quoting from messages and referring explicitly to others' messages. The language used to represent care or respect in the local language was observed. These were found in the samples on vocatives in Table 6.5. While online, students consistently addressed their teacher using salutations or even asking permission to ask a question.

Coding frequencies also revealed evidence of instructor social presence and possible indicators and samples implying setting the climate for learning as the interaction between SP and TP. Among the coded instructor SP, the use of humor was observed as mostly indicated but happening during discussions or while students were on task. These serve the purpose of interaction and facilitation, hence may also be subsumed under the heading setting the climate for learning.

Manifestations of SP have been coded to the indicators as seen above. However, selected responses could not be coded in any of the indicators but serve a function under SP. For example, in continuing a thread of poll responses where the teacher wanted students to vote then explicitly stated their reasons, one student response states: "My answer is also NO! Because

they are too young. A 9yr old child is 'wala pang muwang' [too young] to be aware to do the crime." The use of English interspersed with Filipino (as first language), a form of code switching within the online interaction was observed as a function of bridging communication as well as ease in the incidental use of Filipino while engaged in interaction within the English class subject. This is interpreted as a form of Interactive Communication.

6.2.3 Findings from Field Notes

From the field notes, the researcher was able to take note of manifestations of social presence by teachers in the following manner: classroom environment, nonverbal behavior, tone of voice and general disposition of the teacher with the students. An excerpt from the field notes of School A is as follows:

> **Field Notes: School A English Class of Mr. Wilfred**
>
> I noticed when it was Mr. Wilfred's class, the seating arrangements change. The students move all the chairs on each side of the wall, rows parallel to each other, seats facing each other leaving a large space in between, but still with the teacher's table at the front center part near the whiteboard. In this arrangement, students are able to participate seeing each other's faces and the teacher is able to call their attention strategically addressing both sides of the room. Students are able to find ways to conveniently express themselves to their classmates and the teacher without having their backs against the teacher and their peers, save for the one to two rows behind them. The teacher draws attention to the front only for reminders and transition activities to manage the day's activities. Most of the time he let the students do their writing and consulting with each other or have them freely express themselves whether they volunteered to respond or not to his occasional questions.

The above field notes reinforce prior findings in this chapter and depict 'setting the climate' for learning, the intersection of SP and TP. This intersection was manifested through the teacher's concrete steps to make the environment conducive for interactions with teachers. In addition, the

interactions with students were supportive of interactive communications to take place, as well as facilitation of discussion and direct instruction under TP.

6.2.4 Summary of Findings on Social Presence

Findings on SP revealed manifestations of students and teachers interacting socially and within the context of attaining shared goals of learning. Students have expressed a sense of connectedness and comfort in expressing themselves online and face-to-face based on the CoI Survey data and FGD. Data from classroom observations and stored data show manifestations of Affective Expression through the use of humor and expressing emotions. Teacher responses to interview questions related to SP validated other findings on Interactive Communication and Group Cohesion. Interpretations of these three indicators of SP are indicated in the discussion section in response to the research question. Other samples and responses are also interpreted as SP interacting with and in particular setting the climate within the CoI framework. Setting the climate will be discussed at length in the discussion section as a way to understand the presences in the light of prior research on the CoI framework in both the higher education and K-12 settings.

6.3 Discussion on Social Presence

Research sub-question 3: How is social presence manifested in the blended learning classes?

The discussion in this section is aimed at interpreting the manifestations of SP based on the categories and indicators within the CoI framework established in research. These are Affective Expression, Interactive Communication and Group Cohesion. The interpretation of these aspects is in response to the research sub-question seeking to understand SP examined through the blended learning experiences within the K-12 setting. The initial sections of the discussion highlighted the intersection of SP and TP as setting the climate for learning within the CoI, an area this study sought to uncover given the gap in the literature on the intersections of the presences (Parker & Herrington, 2015). The latter section of the discussion intends to deepen the

analysis of the manifestations of SP in light of the literature on blended learning, the role of technology and learning communities.

Setting the climate for learning is the space where teachers apply strategies for learning community building which results in students experiencing blended learning as 'best of both worlds' and in different ways. Evidence in this study builds on this theme found in higher education (Bele & Rugelj, 2007; G. Young, 2002). Findings from class observations and field notes were analyzed and highlighted teacher and student actions manifested as TP along with that of SP. These highlights were apparent mainly through manifestations of interactive communication, cooperation and collaboration.

Within the blended learning interactions are opportunities for learning community building through the expression of personal and collective identities while engaged in cooperative and collaborative learning. These were indicative as outcomes of 'learning with' as much as 'being with' at the K-12 setting. In higher education, the emphasis was on the flexibility and convenience afforded by blended learning, as well as best of both worlds allowing face-to-face and online communications revealed in Chapter 4. While this holds true among K-12 teachers and students, evidences in this chapter will reveal added meanings of blended learning to high school students. Findings put value in their interactions which resulted in connectedness and building of their collective identity as 'elearners' or a 'block section' undertaking blended learning. This was specific to School B and School C students. As for School A students, their collective identity was more about being open high school students who are equally able to engage in blended learning despite challenging circumstances. These meanings are highlighted through manifestations of SP, which are also due in part to the K-12 setting in which the CoI was applied. It is within this age group where sense of self and others, and belonging are forged through interactions with others. Implications for the CoI framework and future research shall be mentioned in the light of learning community building and further applicability of the CoI at the K-12.

Suggested changes in the CoI framework were recommended in research through emotional presence and instructor SP as additional presences (Kozan & Caskurlu, 2018). This study asserted that the categories and indicators of SP are valid within the context of K-12 teachers and students as supported by strong indications for Group Cohesion and Interactive Communication during face-to-face work. Hence, given a better understanding of setting the climate for learning through the evidence for the interaction of TP and SP, this chapter argues that these other presences to extend the CoI need not be accommodated.

Instead, this study finds relevancy in rethinking the items of the CoI Survey and outlines possible items from the Shared Metacognition Questionnaire to be considered as part of SP. Blended learning at the K-12 therefore becomes an ideal setting to further test the applicability of a revised version of the CoI survey instrument. This is because while students engage in cooperation and collaboration, the use of socio-emotional skills to interact while learning is honed (Lock et al., 2017). Self-regulation, co-regulation and shared regulation that are crucial to student engagement and success are likewise enacted during blended learning.

6.3.1 Affective Expression

Affective expression within the CoI acknowledged emotional engagements as part of learning through indicators of emotional expression, use of humor and self-disclosure (Garrison, 2017; Garrison et al., 1999). Manifestations of affective expression in this study were demonstrated by students and teachers when they were being at ease and transparent with their identities. These behaviors have been most evident through the teachers' use of humor and by expression of emotion while students were on task or during an ongoing discussion. The use of humor and other emotional expressions as indicators of SP have been studied in higher education learning communities as contributing to affective learning (Arbaugh, 2001; Gorham, 1988). Garrison (2017) suggested humor as a means to communicate goodwill. Richardson et al. (2015) found that these displays of emotions are the means for teachers to project themselves as real persons. In this study, through

affective expression, adolescent students sensed the human side of their teachers particularly in the online environment because they do not get to see each other on a daily basis.

Manifestations of emotional expression as indicators of SP in this study allowed students to project themselves when online. Students attested to being able to sense their classmates' personalities. Even when online, they indicated how they see each other as 'real'. This is likened to SP as salience initially described in the literature by Gunawardena and Zittle (1997). This study found how features of the platform allowed for students to manifest their salience through emoticons of 'thumbs up' or a 'smiley face', in addition to displaying humour through spelled out laughter among students and teachers in their FB Messenger interactions. Hence the factor of technology choice as supportive of SP reported by Short, Williams, and Christie (1976) was evident in this study. These manifestations of emotional expression likewise echoed findings from the study of K. L. Murphy and Collins (1997) and E. Murphy and Nippard (2007) where secondary level students and teachers openly express themselves through direct messaging and other online tools. Multimedia tools allowed for affective expression through the use of behavior codes which K. L. Murphy and Collins (1997) described as text phrases or terms which facilitate understanding and to acknowledge each other's identities.

Other manifestations of SP through affective expression have been minimally observed in stored data within the LMS compared to those found in the group chats by FB Messenger. Samples of self-disclosure surfaced but minimally through stored data and class observation notes. This may be due to limited stored data provided by students from their group chat exchanges. However, students during the FGD revealed that peer-to-peer interactions entailed giving personal advice and encouragement to peers. These communications alluded to possible personal disclosures among classmates whom they described as "friends" or "like siblings". The study however was not able to probe this area sufficiently and whether the extent of self-disclosure

contributed to learning community building as a means to develop and strengthen trust.

Thus far, manifestations of SP in this study were observed as purposeful to address adolescent learners' personal need to socialize, to achieve learning targets, or to responding to the teacher's direct instruction and facilitation. Hence, blended learning interactions served both social and academic purposes within the context of learning and task completion. These interpretations aligned with observations of the development of the presences over time in higher education research (Garrison & Arbaugh, 2007; Shea & Bidjerano, 2010). SP was found not to occur in isolation and its dynamic nature has been observed throughout a wide range of course interactions (Akyol & Garrison, 2008). This study reinforced findings in higher education research stating that within online learning communities, interaction is not enough (Garrison & Cleveland-Innes, 2005). The same was found to be valid through manifestations of SP in the K-12 setting.

6.3.2 Interactive Communication

Interactive communication is the category which has the greatest number of possible indicators within SP of the CoI framework thereby making it more observable. This study revealed the manifestations of interactive communication but as happening differently between face-to-face and online modes. Interactive communication was observed during face-to-face class sessions where ongoing teacher facilitation took place. Teachers and students in this study were found to engage in each other's learning in these face-to-face class discussions and through collaborative work. Data from class observations and stored data indicated that communication involved students as asking questions, complimenting others' messages, expressing an agreement, and referring explicitly to others' messages. These manifestations of SP meant the interactive communications were within the common goal of learning and not merely viewed as an informal, social set of exchanges.

In literature, certain teacher behaviors serve a social function which were conceptualized as instructor SP (Richardson et al., 2015). Manifestations of

instructor SP in this study meant teachers affording the space for interactive communication to happen face-to-face. These were largely observed during face-to-face class sessions of their blended learning not only through their movements or tone of voice. Interactive communications were triggered in the manner by which the teachers explicitly arranged the classroom and positioned themselves in relation to the blackboard and other materials. This was evident in the arrangement of the technology in the physical space available for the class and to individual students. Within a shared room arrangement, teachers played out intended roles or behaviors which students responded to as a class. With the teacher seated in front, students looked on and listened to gain information and also to accord respect. Students gave their teachers the space to perform their role as providers of direct instruction. This was positively received and evidenced when they looked forward to listening to the teachers as part of their blended learning experience. The teacher's movements, drawing near, and giving brief comments signified shifts from direct instruction to facilitation. The teacher giving way for students to speak in front meant a shift of authority or respect to another person other than the teacher. The use of the whiteboard or chalkboard (both as substitutes to an LCD screen) and a louder tone of voice signaled the direct instruction to take place briefly or for a sustained period of time. In research, these are likened to immediacy behaviors which have been reported in higher education research (Arbaugh, 2001; Bozkaya & Aydin, 2008; Gorham, 1988). These behaviors include non-verbal and verbal expressions meant to reduce physical or psychological distance among students and teachers. Actions attributed to teacher immediacy have been reported to influence positive learner perceptions of SP.

Findings on interactive communication to include manifestations of TP in Chapter 5 exemplified what Parker and Herrington (2015) have reported as setting the climate. There is a gap in research pertaining to the intersections of the presences and they focused on finding out how setting the climate is defined in literature. Characteristics and descriptions of setting climate were outlined to guide the design for online instruction, namely: "(1) designing a friendly learning environment, (2) building rapport, (3) engendering a sense

of belonging, and (4) developing a sense of purpose to assist student learning" (Parker & Herrington, 2015, p.9). In particular, this study revealed ways teachers capitalized on the organization of their students' learning environment to trigger interactive communication. Manifestations of instructor SP were seen through the teachers' decisions on room arrangements, location and movements to encourage interactive communication within the face-to-face sessions of their blended learning classes.

Few studies have considered instructor SP according to R. A. Thomas, West, and Borup (2017). Findings here on instructor SP observed during the face-to-face component of blended learning aligned with the suggestion that instructor SP be seen as separate from student SP as proposed by Pollard et al. (2014). In their study, instructor SP was found to impact on the community and the learning environment. Seeing these as separate was possible using the SP coding protocols, indicators and categories validated in research and applied to face-to-face classroom observation at the K-12. Doing so allowed for closer examination of the manifestations of SP in the light of identifying strategies for learning community building. Uncovering the teacher actions which trigger interactive communication served to affirm the important role teachers play in building and maintaining learning communities among K-12 students. Thus, teachers will be able to rely on this study's findings to capitalize on explicit ways to encourage interactive communication to purposely develop online identities. The development of identity is the foundation for connectedness which makes the difference for positive experiences of learning community among K-12 students. Findings on SP from this study therefore builds on the work of Shea et al. (2006) investigating teaching presence behaviors which strongly predict the development of students' sense of community at the higher education levels.

Akyol and Garrison (2008) sought to investigate the interaction and progress of all the presences in fully online courses. Results of their study point to the dynamic nature of teaching presence and SP throughout the courses. SP was not indicated to be as important to the other presences in terms of learning at

the higher education as reported by Akyol and Garrison (2008). However, they noted its prospective value in the K-12 setting. Thus, this research provided evidence in support of this and more in terms of learning community building through SP. Manifestations of affective expression and interactive communication revealed the place of SP among adolescent learners interacting as much as learning. This was evidenced by their active role in engaging interactive communication. This study builds on the work of Richardson and Swan (2003) where SP was found to be integral to the educational experience of students within a post-secondary level course. Likewise, it addresses the call for understanding the nature of SP within K-12 settings as suggested by Garrison (2017).

6.3.3 Group Cohesion

This study found that manifestations of group cohesion highlighted the quality of relationships among members of a K-12 learning community and their sense of community. These in turn resulted in positive perceptions of blended learning experiences for most teachers and students in this study. E. Murphy and Nippard (2007) suggested that SP was not only about social interactions for task completion but also about relationships among students. Examples of expressions which indicate teacher-student relationships were manifested in this study through the group cohesion indicators. These include vocatives, phatics and salutations. For example, during affective expressions when online, students still addressed their teachers respectfully through salutations and vocatives with the classic use of 'po' in Filipino and Sir or Ma'am and teacher's first name. A few posts showed a teacher using a term of endearment while giving instructions. These terms reflect established relationships between adult and adolescent members of the learning community. Class observation findings indicated that in moments when students or teachers let their guard down, students related to their teachers as teacher-facilitator, teacher-second-parent or even teacher-mentor-adviser. This affirms the findings of Johnson et al. (2017) indicating that teacher-student relationships deepened student engagements in blended learning transactions.

Manifestations of group cohesion in this study contributed to blended learning as being perceived positively by most students due to feelings of sense of community. Within the CoI instrument, three out of a total of nine SP items account for this category, referring to a sense of trust, a sense of collaboration, and mutual respect. All these are captured by the construct of sense of community played out through manifestations of group cohesion. Sense of community is what sets apart a learning community from other groups or virtual forums (Jones, 1997) and manifested as a sense of belonging, mattering and commitment to shared goals (McMillan & Chavis, 1986). This study found that students identified themselves as part of the class and likened the community to being part of a family as siblings. As one student from School C stated, "Of course, we have been together for a few years already, so we treat each other like siblings. So, of course when there are competitions, we are all-out support for each other. Supereffort!" These references to connectedness and belongingness are highlighted through other student responses as seen in Table 6.2 and samples from stored data in Table 6.5. Therefore, this study supported research linking SP and TP with a sense of community (Shea, 2006) and SP with perceived learning (Hostetter & Busch, 2012; Picciano, 2002; Richardson & Swan, 2003).

Findings in this study implied trust and respect and within the context of cooperative learning and collaborations. For example, two items within the Likert-type CoI Survey referred to trust felt while engaged in interactions namely, "I felt comfortable disagreeing with other classmates while still maintaining a sense of trust," and "I felt that my point of view was acknowledged by other students in class." These items gained the lowest mean score items though still indicated positive responses. This could be attributed to the survey item using the word 'trust' which may be hard to break down or reflect upon in relation to acts of disagreement. Also, FGD questions substantially dealt with respect, belongingness and connectedness but did not probe deeply into the student's concept of trust. Trust and mutual respect were elements described in research which assure harmonious relationship within learning communities (Blanchard & Markus, 2004; Brown, 2001; Vesely et al., 2007). Studies have established that

through collaboration, as explicitly designed and facilitated within the learning activities, the participants use these opportunities for risk-free communication and to form trusting relationships. While this study did not focus on investigating course designs nor pedagogies, findings revealed the role of TP and SP in learning community building. This study found that teachers intentionally have students engage in cooperative and collaborative learning during scheduled face-to-face sessions given that students did not meet as often. Within these spaces, teachers and students enact learning together amidst social interactions.

Manifestations of group cohesion found in this study imply the need for further research on TP strategies related to trust-building among K-12 members of a learning community. Peacock and Cowan (2016) termed a sense of belonging or connectedness as trust and further implied this as part of tutor behaviors which prepare learners to cope with emotional issues. Their study went as far as re-identifying the intersection of SP and TP as 'trusting'. On the other hand, behaviors or actions related to relationship-building through openness, mutual trust and respect were said to fall within instructor SP (Pollard et al., 2014; Richardson, et al., 2015). In this study however, rapport and trust-building come into play as a manifestation of TP under resolving issues and direct instruction and part of collaborative learning under SP. Settling conflicts among adolescents in this study were interpreted as mechanisms to ensure learning could take place smoothly and focus towards achieving the higher goal of learning. In particular, high school students from the Grade 7 student cohort of School A in this study expressed trust their teachers to manage conflicts during their scheduled face-to-face sessions; also, in their presence as teachers they can contact anytime for help. Trust in this instance was clearly manifested as TP. However, among the Grade 10 student cohort of School C who rely on each other as groupmates, trusting in each other's skills and capabilities to deliver during collaborative work is interpreted as a manifestation of Group Cohesion. This personal accountability is necessary to healthy relations leading to sustained quality knowledge exchange (Booth, 2011) which is expected of collaboration. Trust as an indicator of genuine community is also

crucial to community maintenance (Peck, 2010). Thus, the interplay of SP and TP through trust-building has been affirmed by this study among K-12 teachers and students.

This study, however does not readily ascribe to replacing the term 'setting climate' as 'trusting' in the manner suggested by Peacock and Cowan (2016). Notions of trust and trust-building have been studied in higher education learning communities (Usoro, Sharratt, Tsui, & Shekhar, 2007; M.-L. Young & Tseng, 2008). It has been proposed as the interplay of TP and SP for learning relationships to work within a CoI but among tutors and students as they build learning relationships towards enriching their educational experiences (Peacock & Cowan, 2016). SP is found to be supportive of CP in learning communities (Garrison, Cleveland-Innes, et al., 2010; Kozan & Richardson, 2014; S. Lee, 2014) of blended and online learning environments. Instead, it suggests further studies to delve into ways teachers and students enact on trust-building strategies as part of TP interacting with SP, that is leading to group cohesion through collaboration within the learning community. Rather than coming up with other terminologies to relabel the intersections, this study simply suggests emphasizing trust-building strategies as part of learning community building. Doing so will in turn sustain the ongoing conversations to explore how SP items in the CoI can best capture and measure SP as enacted by teachers and students (Dunlap & Lowenthal, 2014). As such, this will also add value to the role of SP especially in the K-12 setting where harmonious teacher-to-student and student-to-student engagements are crucial to student success and academic achievement (Borup et al., 2014a; Borup et al., 2014b).

6.3.4 Social Presence and the Choice of Media

Manifestations of SP, which were explored to include a sense of community in this study, were enabled by the choice of media. The use of an LMS and social media tools have been reported in research as it relates to teacher and student interactions (Bowers-Campbell, 2008; Kabilan et al., 2010) and SP (Deng & Tavares, 2013; Mathieson & Leafman, 2014). SP was rated as high among teachers and students, with teachers having more control over the

LMS (Mathieson & Leafman, 2014). However, both teachers and students gave mixed feedback on the use of social media for learning (So & Brush, 2008). In this study, however, both students and teachers were convinced that there were benefits to be gained by combining the use of FB Messenger alongside the use of an LMS and other apps for learning. In the Philippines, access to Facebook is an included accessory for mobile phone plans. Most students in the study reported accessing content and engaging in small group and class interactions at FB Messenger through their own mobile phones or by using their personal computers. These findings echo Milošević et al. (2015) where the use of social media was reported to facilitate interaction, cooperation and discussion.

Social presence is defined by the extent through which members of the learning community feel the 'realness' of others and their relationships which is dependent on the features of a learning environment (Short et al., 1976). Another view of SP asserts that these are actions and behaviors which allow for members to project their identities based on social factors (Gunawardena, 1995). This study found that the teacher's decision to sustain interactions through the particular choice of media was for the purposes of self-expression. Hence, it was the media itself that was instrumental for open communications while students engaged in language learning. The English teacher captured this by saying, "They're not confined with the limitations inside the classroom, but they are free to express who they really are through online interaction."

Manifestations of SP in this study affirmed the balanced view on SP asserted by Kreijns, Kirschner, Jochems, and Van Buuren (2011). The said study reported that SP refers to both "the degree of realness of the other and the degree to which social interpersonal relationships are salient" (p. 7). Realness in this study was evidenced by students attesting to sensing each other's identities even when online. The students were able to identify each other through the discourses and within the emotion that was rendered over the group chats. As one student of School C observed, "It feels like as if you can really see them in the messages they send, and you can sense, aah, it's

really him." Another student also said, "It's like you hear their voices in their words." Thus, blended learning experiences in this study became opportunities to affirm the identities which the students and teachers present of themselves both online and offline, as 'real'.

Projections of identities in online communication also signified the sense of community or the feeling of mutual respect and trust (Swan, 2003; Tsai, 2012). Students in this study felt that they were able to build harmonious ties as peers, classmates and friends. The sense of community was made possible using FB Messenger to interact and attain learning goals. Through the conscious decision to engage in social media and face-to-face transactions while engaged in blended learning, students attested to being easily able to validate each other's online communications. This study found that sense of community was mostly supported by manifestations of group cohesion and established within the intersection of SP and TP which was enabled by the choice of media. Setting climate as the intersection of SP and TP are discussed further in the next section.

6.3.5 Setting Climate: The Intersection of Social Presence and Teaching Presence

Setting the climate for learning as the intersection of TP and SP is a gap in the literature reported by Parker and Herrington (2015). This study presented challenges to investigate SP in isolation. Likewise, it calls to mind the need to understand the interactions between SP and TP. Findings indicated a pattern of the manifestations of this intersection across categories of affective expression, interactive communication and group cohesion.

This study found that the manifestations of instructor SP are subsumed within the intersection of TP and SP or what is termed as setting climate within the CoI (Garrison, 2017; Garrison et al., 2001). Arbaugh (2001) described these teacher actions as examples of immediacy behaviors which contributed to affective learning and facilitated open communication. Immediacy behaviors included nonverbal behaviors which enhance connectedness. Specific to the lesson delivery approaches used by Mr.

Wilfred of School A, his movements, facial expressions and relaxed tone of voice are interpreted as a teacher being at ease with his teaching and connecting with students. The students' response showed that they likewise welcomed his identity as a teacher-facilitator or language coach. He was appreciated for his role to guide the class while they were working on their individual writing tasks. The examples from Ms. Jessie of School B demonstrated a teacher at ease with herself in handling technical glitches, moving among pre-assigned groups or closing the distance to consult with some students. She feels that she is fulfilling her teaching role by being with her students, co-monitoring group work and managing behavior alongside the assigned group leaders.

This study sought to address the gap in the research on the intersections of the presences within the context of K-12 teachers and learners. Findings revealed that setting the climate for learning meant the use of immediacy behaviors as a manifestation of TP and teachers' projecting their identities as a manifestation of instructor SP through the use of voice, gestures and dispositions that she/he brings into the learning environment. Students responded to these teacher behaviors as manifested through affective expression and interactive communication which was taking place in the blended learning environment. The discussion thus far highlighted the blurring of lines between SP and TP in K-12. Shih and Swan (2005) mentioned how the SP of instructors can be confused with TP. This study is able to reconcile these manifestations as subsumed within setting the climate.

Thus far, unlike the suggestion of Pollard et al. (2014) of adding instructor SP to the CoI, this study found that the SP categories and indicators should be maintained as such when applied to the K-12 setting. This research instead proposes for a further appreciation of the intersections so that SP is not to be viewed in isolation from TP. These two presences have been found to interact based on findings from this study through the manifestations of interactive communication. This research builds on prior findings on the interaction between SP and TP in setting the climate for learning in higher education and online learning communities. These two presences are said to be positively

linked throughout the phases of building online learning communities (Francis & Cowan, 2008; Peacock & Cowan, 2016).

Setting the climate was defined by Garrison (2017) as "the process of creating the conditions for participants to feel sufficiently at ease to engage in meaningful discourse" (p. 38). Beyond this, the current study found that setting the climate included strategies to build learning community. Social presence becomes the expression of being a learning community through the projection of their roles and identities within shared virtual spaces, a physical classroom and the actual school environment. The frequency of engagements over time within these spaces, and simultaneously through face-to-face and online allowed for the strengthening of the members' sense of community. For example, students of School C reasoned that their connectedness was brought about by being a block section. This means being together for three to four school years as a class of elearners. School A students noticed quality time spent together as peers over a span of months which made them feel like a family or relate to each other as siblings. The factor of time in the development or progress of the presences was studied closely by Akyol and Garrison (2011) in higher education. These factors are found to be valid in the K-12 setting as revealed in this study.

The materiality of presences was examined by Sørensen (2009) through observations concerning the use of the blackboard, textbooks and computers. These observations were also compared alongside student responses, teacher actions and positioning in a physical classroom. Selected field notes in his study revealed how the teacher as authority, and students as subjects, were established by the regional presence of the blackboard, the teacher and the class within a shared space. Similarly, this study was able to examine the presences through the face-to-face delivery of lessons. Within the class interactions, manifestations of SP among K-12 teachers and students were further appreciated. The field notes in this study revealed the researcher's observations which included reflections of student responses or behaviors which were triggered by the teacher's positioning, tone of voice, and use of space in physical classroom. The interaction of TP and SP was revealed as

taking place within the usual traditional classroom having blackboards, printed handouts, notebooks, mobile phones and a large TV in the room. This study identified interactive communication within a traditional K-12 classroom of students doing online learning at least twice a week. Regular class sessions in a physical classroom were welcomed as opportunities for shared experiences. This was interpreted by students looking forward to interacting while learning face-to-face. In response, the teachers in this study set the classroom space to purposely allow for direct instruction, facilitation, self-expression and social interaction. Outside of the physical classroom space, students engaged in the virtual LMS or FB Messenger with the teacher occasionally checking on their online learning. Yet, students are afforded face-to-face experiences which enhanced the relationships.

This study addressed the need to recognize the presences for their coherent whole while looking into patterns and interrelationships among the presences as proposed by Garrison (2017). In this study, making use of the coding protocols alongside class observation templates and field notes were important to portray the materiality of the presences. These observations of the presences allowed for a deepened understanding of human transactions within blended learning communities. The researcher finds sense in the proposition of Sørensen (2009) that forms of presences may well be analyzed through the lens of spatial formations and socio-material arrangements of technology within a shared learning space. Most studies on blended learning usually compare online instruction versus face-to-face classroom instruction (Halverson et al., 2012). Sorensen's (2009) work on the presences provided a further appreciation of the face-to-face classes as opportunities to examine SP through the verbal and non-verbal immediacy behaviors of teachers. This is particularly relevant given that blended learning also draws from the strength of face-to-face class sessions, especially in the context of emergent blended learning environments.

6.3.6 Social Presence and Learning Community Building

Manifestations of SP in this study surfaced new meanings of the best of both worlds attributed to blended learning in prior research (Christensen et al.,

2013; G. Young, 2002). In this study, adolescent learners indicated that blended learning affords "more time to socialize and get to know others well while being able to study at the same time," and "it's fun because I like it when I am with my classmates to learn." Hence, students derive satisfaction from their blended learning experience as opportunities to socialize and undergo learning as a shared experience. Findings in this study reinforced prior research on the relationship between SP and student satisfaction in blended and online higher education courses. Social presence is said to positively influence student satisfaction and overall class participation (Bozkaya & Aydin, 2008; Shih & Swan, 2005; Tu & McIsaac, 2002). This study presented support for this within blended learning in the K-12 context.

Blended learning research in the K-12 context reported on increased cognitive and emotional engagements from students (Johnson et al., 2017). Affective learning was reported as crucial in the K-12 context where adolescent learners continue to define their identities while being with peers and adults (Halverson et al., 2012). Adolescents were found to have varied levels of maturity (Oviatt, Graham, Borup, & Davies, 2016) and consequently, they need to acquire socialization skills to build on their sense of self and belongingness. Values formation and positive experiences of respect, trust and responsibility are essential preparation for adult life and are crucial to their maturity. Manifestations of SP in this study were interpreted as the manner by which students expressed recognition of the self and others within a shared space of learning with and being with. Through manifestations of group cohesion, the shared identity of being elearners or open high school learners was sufficient to create a sense of belonging to a class or group. This study revealed that students have the shared feeling of being bonded. The experience of belongingness to a group was established by learning in the blended way. This applied when they were apart from other students and within schools that delivered learning in a traditional manner. Their shared spaces during daytime were the physical classrooms in their real-time school. These spaces were alongside a 24/7 virtual space to share with fellow members of FB Messenger class groups and small groups. The study found

that teachers selectively engaged in these shared spaces to maintain the roles learners expect of them.

In this study, manifestations of SP, and as interacting with teaching presence, highlighted the strength of blended learning when it comes to examining the cognitive and socio-emotional needs of students and their engagements to address these needs. Student engagement is multifaceted because it taps into both the emotional and cognitive components of learning as reported by Manwaring, Larsen, Graham, Henrie, and Halverson (2017) in higher education research. They asserted that blended learning was a robust area to examine in order to improve student engagements. Redmond, Heffernan, Abawi, Brown, and Henderson (2018) reflected on what characterized as student engagement in fully online learning environments. Their online engagement framework for higher education research included elements of engagement which have been likewise observed in this study. For example, social and emotional engagement is about "connecting with others for both educational and non-educational activities beneficial from an academic, social and emotional perspective" (p.194). This kind of student engagement was found in this study through SP. Manifestations of SP were embodied when teachers have the socio-emotional need to express care and provide advice while students have the socio-emotional need to belong and freely express themselves. Further studies on student engagements in blended learning at the K-12 level are thus recommended to deepen these understandings and inform planning for blended teaching and learning.

Thus far, findings on SP at the K-12 setting supported the relatedness of SP and sense of community reported in higher education research (Gunawardena, 1995; Hostetter & Busch, 2012; Shea, 2006; Wise et al., 2004). Manifestations of SP in this study indicated learning communities as outcomes of blended learning interactions through the sense of community and immediacy behaviors, student and instructor SP as well as TP. This study asserted that these manifestations, which relate to learning community building, fall within setting climate for learning in the K-12 context. In addition, manifestations of shared roles and identities as well as values of

respect and trust were also revealed as qualities of a learning community. This section shall analyze these further as supported by findings on SP.

Through SP, this study established what it meant to experience 'learning community' in the K-12 likened to the construct of 'collective identity' explained by Kennedy and Kennedy (2013). The work of community building was described to include social and psychological aspects in the process of developing what he termed as "sense of us" and "me" (Kennedy & Kennedy, 2013). These are indicated through empathy, tolerance and appreciation of differences. In the study, the 'collective identity' was manifested through the appreciation of similarities and their common need for belonging, which the students expressed through their identities. Blended learning among K-12 students also affords opportunities to express shared identities as "peers" and "schoolmates."

Distinct findings from School C and School B revealed that the school environment was the common space to be with other peers and schoolmates. The physical school was the place to engage in club activities and inter-level school competitions which took place in between or after class hours, and this was extended in the virtual space. Evidence from a student Facebook group and their FB Messenger exchanges were shared by student participants to show online interaction with regular students from other sections and grade levels as officers and members of a club. Students looked forward to being active club members as an expression of belonging to the school in the same manner as regular students. Thus, their identity as schoolmates was reinforced through club membership. Students also anticipated joining interclass or inter-level competitions to let others know their class identity as elearners and through a desire to feel part of the school community. These concrete student actions are referred to as collaborative engagement, an element included in the online engagement framework proposed by Redmond et al. (2018) for higher education. This kind of engagement is "related to the development of different relationships and networks that support learning, including collaboration with peers, instructors, industry and the educational institutions" (p.194). The students were asked about a

few disadvantages of being part of a blended learning block section. Their responses reflect that they had a strong sense of class spirit, but they were less secure about their sense of 'school spirit'. Another student from School C suggested that there be "... more communication within the community." This evidence points to the shared identities and values that they held for belonging to their class or block section, to their clubs and the school as a much broader outcome of their blended learning experiences.

Thus, this study discussed a distinct kind of sense of community on which adolescent high school students built through time and shared experiences with other peers and schoolmates. The repeated experiences within a concrete shared space in time and opportunities to develop their identities which afforded through blended learning strengthened the trust that existed among members of the school community. Trust is a key characteristic of learning communities which can be designed and fostered through meaningful discourse and collaboration (Reilly, 2014; Shea, 2006). The process of forming trusting relationships is built over time through constant communication, interaction, disclosures and risk-taking. The ease of peer-to-peer and teacher-student relationships grounded on trust may be both attributed to blended learning which happened over a time period. These also imply emotional connections through shared history among learning community members (Dueber & Misanchuk, 2001). This study reinforces the research which supports that time spent together is a factor which influences learning community building and is a determinant for the quality of the learning community as an outcome. Manifestations of SP found among K-12 teachers and learners in this study are therefore indicative of processes of learning community building. The processes which are highlighted include identity formation and expression, and these are produced through the quality of time spent together.

6.4 Chapter Summary

The findings and discussion on SP in this chapter were framed to respond to the research sub-question: "How is social presence manifested within the blended learning classes?" This study found that K-12 students in blended

learning classes engaged in social interaction as adolescent learners and as high school students. The social interactions fulfilled their needs as adolescents seeking interaction, belongingness and connectedness which gave way to achieving shared goals within a learning community. Manifestations of SP in this study provided support for this claim. The K-12 teachers were part of the students' experiences of social interaction as the technology platforms for learning afforded these. Teachers found value in online socialization given their roles as 'advisers' and 'facilitators' of learning. The choice of media contributed to the manifestations of SP in this study. Teachers and students have been transparent about their online identities through their social media profiles and while engaged in online interaction through FB Messenger.

This chapter more importantly discussed the intersection of TP and SP as setting the climate for learning. In this space, teachers either intuitively engaged in social interaction or explicitly designed learning to encourage student participation. Setting the climate has resulted in connectedness, group cohesion, and interactive communication as expressions of learning community. The intersection of TP and SP is observed as an outcome of blended learning interactions which have been influenced by the choice of media. These observations have reinforced the SP categories and indicators of the CoI as applicable within the K-12 setting through further appreciation of the intersections in the framework.

Findings thus far deepen the understanding of how the online mode and face-to-face mode enhance each other. These findings established that blended learning communities are fostered through the manifestations of SP and TP. Likewise, this study revealed alternative approaches to the presences which may be examined alongside the use of indicators within the CoI. Within the context of blended learning at the K-12, classroom transactions contribute equally to understanding the presences and learning communities.

While prior studies have proposed changes to the CoI through the addition of emotional presence or instructor SP, this study argues instead for further

appreciation of the intersections of the presences in the context of K-12 blended learning. In doing so, the integrity of the three presences is maintained while addressing aspects of instructor SP through setting the climate for learning. However, this study suggests considering co-regulation and shared regulation as indicators within the framework. The premise for this suggestion is derived from the observation that cooperative and collaborative activities are part of student interactions, whether these interactions were explicitly designed by teachers or student-driven, as found in this study.

In particular, this study found the use of field notes as valuable for examining the face-to-face transactions within blended learning. This strengthens the role of qualitative research in capturing phenomena in contexts where these types of studies may well be maximized to inform pedagogy and practice. This study also illuminated areas worthy of further investigation in learning community building, specifically on the construct of trust and its place among K-12 students and teachers. Thus far, this chapter reinforced the K-12 context as an area to further investigate for blended learning and the longstanding CoI framework. This study suggested the further application of the CoI along with other studies to explore the presences in settings where blended learning programs are emergent or even flourishing but remain hidden.

The next chapter presents the findings and discussion of the manifestations of cognitive presence. This chapter includes a response to the final research sub-question. The concluding chapter follows thereafter.

Chapter 7 – The Manifestations of Cognitive Presence in K-12 Blended Learning Classes

7.1 Overview

This chapter seeks to build on the evidence presented in Chapter 4, namely interaction with content which Swan (2003) referred to as the space of cognitive presence within the CoI framework. Cognitive presence is believed to be the mark of a constructivist learning community as further qualified through the categories and indicators validated in research (Garrison, 2017). The findings and discussion on the nature of blended learning in Chapter 4 elicited thick descriptions of interaction with content and themes on blended learning experiences. An arising theme on blended learning as learning anytime, anywhere brought to light the ways that technology-enabled K-12 students to access content in order to maximize opportunities to learn on their own and with others. Evidence of interaction with content in this study revealed that students were taking an active part to engage in cooperative and collaborative learning. These were due in part by the teachers' design and organization of content and learning activities, which were revealed through manifestations of teaching presence in Chapter 5. Teaching presence and social presence were also found to be manifested by students to attain their shared goals of learning and interacting. Chapter 6 provided evidence of setting climate as the intersection of TP and SP.

Thus far, the blended learning interactions in this study revealed positive perceptions and gains from both teachers and students. This resulted in learning communities from the product of the shared experience within their blended learning classes. The quality of learning within these learning communities has yet to be uncovered. Therefore, this chapter intends to analyze and interpret the manifestations of cognitive presence based on the student and teacher experiences to ascertain the nature of what entails 'learning' within the learning community.

This chapter will present the findings and discussion on the manifestations of Cognitive Presence (CP) as seen through constructs defined by Garrison and Akyol (2015). The findings are drawn similarly from data utilized in the prior chapters, presented as findings from student and teacher participants, class observations and virtual classroom stored data as well as field notes.

The discussion in this chapter will respond to the research sub-question, "How is cognitive presence manifested within the blended learning interactions?" The response will revolve around the constructs of self-regulation, co-regulation, supporting discourse, portions of which were elicited through open-ended and semi-structured questions of the CoI Survey Part 2, FGD and the teacher questionnaire (see Appendix K). This chapter will present an analysis of these constructs in the context of learning communities as the outcome of blended learning experiences among K-12 students and teachers. This interpretive study examined these constructs in keeping with the research and the recommended areas for further research by Garrison and Akyol (2015) and Garrison (2017). The discussion covers the intersection of CP with the other elements, namely teaching presence and social presence. In particular, the analysis includes the proposed 'regulating learning' as the intersection of CP and TP by Garrison and Akyol (2015). The discussion argued in favor of further understanding and appreciation of these intersections in order to maintain the integrity of the three presences. This is as opposed to accommodating the proposed additional presences from prior studies in higher education research.

Consequently, this chapter proposes changes to the CoI categories, indicators and the CoI survey instrument instead of accommodating additional presences to the framework as proposed in higher education research. Specifically, this study suggests that the constructs of self-regulation and co-regulation need to be made explicit. These proposed changes will be justified to strengthen the framework's applicability at the K-12 setting based on this chapter's findings. Therefore, this research argues for the CoI as a valid framework to examine blended learning experiences, even in contexts where

K-12 blended learning programs are still emerging, and collaborative inquiry has not been introduced as a pedagogical practice.

The nature of the qualitative data collected and made available to the researcher was limited in terms of analyzing the cycle of practical inquiry within the CoI framework. The researcher also needed to work within the boundaries of time accorded by the selected K-12 schools, teachers and students who had given their assent to participate in this project. Given these limitations, this chapter indicated areas for future research which are to be discussed in detail through the final chapter.

7.2 Findings on Cognitive Presence

Results of the CoI Survey Parts 1 and 2 showed evidence of students experiencing cognitive presence. These were validated by results from teacher interviews and student FGDs. Manifestations of cognitive presence were characterized as self-regulation, and co-regulation, and as interactions with the other presences. Certain indicators of cognitive presence were manifested during the class observations. However, data from field notes and stored data were not able to capture the collaborative inquiry.

The next sections will present CP findings in detail. Responses from student participants will be presented first then responses from teacher participants will follow. The researcher saw that this structure was necessary due to the nature of the items, questions and results from the CoI Survey Parts 1 and 2 and student FGD. Chapter 5 indicated how CoI Survey items and coding protocols on teaching presence were mostly framed to rate the teacher's teaching presence. In this chapter, the researcher found that the CP items and coding protocols were framed with student ratings based on what and how she/he is learning. Since this study capitalized on a qualitative research methodology, it therefore follows that the reporting of findings largely depends on the nature of the data made available and as interpreted by the researcher (Merriam & Tisdell, 2015).

7.2.1 Findings from Student Participants

Results revealed interaction with content as cognitive presence happening evenly across face-to-face or online, also evidenced by Chapter 4 findings on one mode enhancing the other. Interaction with content was found to allow teachers to post content online which engage student thinking and participation. Students were able to tackle content and do learning activities in advance making them either prepared or confident to engage in their face-to-face classwork with teachers and peers. This was supported by data from the CoI survey as depicted in Figure 7.1. Data from the CoI Survey Part 1 and a portion of the Part 2 have been generated and indicated manifestations of CP.

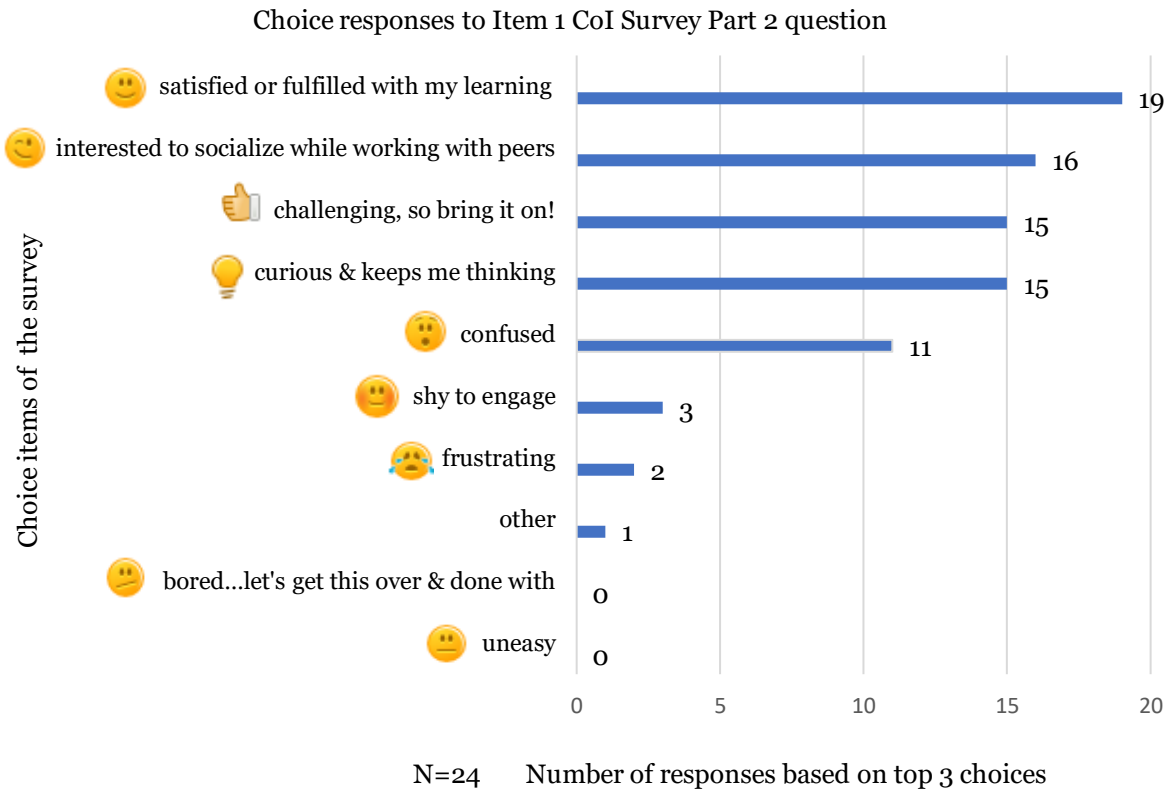


Figure 7. 1 Top Choice Responses to CoI Survey Part 2 on Blended Learning Experiences

Most students believed that their experiences of participating in blended learning were as challenging and engaging to pique their curiosity and thinking as seen in Figure 7.1. Students of School C explained that through

blended learning, their intelligence and ability to think more broadly were tested through the modules, learning activities, quizzes and assessments.

The CoI framework strongly advocated that students actively participated in their own learning through the collaborative inquiry cycle (Garrison, 2017). Cognitive presence of this nature is also ascertained through specific results from the CoI Survey Part 1. Items in this portion of the survey are framed from the student's view and how she or he is learning. Out of the 12 items under CP in the survey, five items started with "I" as seen in Table 7.1. These items signify the individual learner as an active participant of her or his learning through critical thinking, exploration and application of knowledge and problem-solving. These also correspond to items of the Shared Metacognition Questionnaire by Garrison and Akyol (2015).

Table 7. 1

Cognitive Presence Items of the CoI Survey Part 1

CP Categories as Phases of Practical Inquiry	**CoI Survey Item**
Triggering Event	Item CP25: I felt motivated to explore content related questions.
Exploration	Item CP26: I utilized a variety of information sources to explore problems posed in this subject.
Resolution	Item CP32: I can describe ways to test and apply the knowledge created in this subject. Item CP33: I have developed solutions to problems that can be applied in practice. Item CP34: I can apply the knowledge created in this subject to my work or other non-class related activities.

Note. Adapted from "Developing a community of inquiry instrument: Testing a measure of the community of inquiry framework using a multi-institutional sample" by J.B. Arbaugh et al., 2008, *The Internet and Higher Education, 11*, p. 135 Copyright 2008 by Elsevier.

Other items under CP indicated the nature of the activities such as problem-posing, brainstorming, finding relevant information and online discussions. These activities are partly attributed to the teacher's design and organization of curriculum.

Items pertaining to CP indicated even ratings and positive results as seen in Table 7.2 below. Among all items in the CoI Part 1 Survey, CP items gained the highest mean ratings compared to SP and TP items. Selected items under CP covered the full range, with isolated strongly disagree and disagree responses. Generally, the mean scores are high and the SD results as skewed left, towards 'Strongly Agree' and 'Agree' responses.

Table 7. 2

Descriptive Statistics of CP Items of the CoI Survey Part 1

CP Category	Survey Item	Mean	Std. Deviation
Triggering event	CP23 problems posed increased my interest	3.63	1.102
	CP24 online learning activities engaged my curiosity	4.13	0.822
	CP25 motivated to explore questions	4.02	0.920
Exploration	CP26 utilized a variety of information	4.05	0.904
	CP27 brainstorming and finding relevant information	4.27	0.506
	CP28 online discussions	4.10	0.841
Integration	CP29 combining new information	4.38	0.667
	CP30 construct explanations	4.33	0.764
	CP31 reflection on content and discussions	4.23	0.660
Resolution	CP32 test and apply knowledge	4.00	0.751
	CP33 developed solutions to problems	4.15	0.802
	CP34 apply the knowledge created	4.28	0.716

Source: SPSS Data Analysis of CP Items based on Results of the CoI Survey Part 1

The lowest mean score is found in the category of Triggering Event, with Item CP23 having 3.63. This item referred to problem-posing as a means to gain interest in discussion and participation compared to other CP items. It is possible that problem-posing activities were not the usual ways to introduce a new subject content to gain interest, given also the didactic teaching approaches in school subjects. However, both CP24 and CP25 gained high mean ratings. Item CP24 referred to other learning activities to engage a student's curiosity and Item CP25 was about motivation to explore questions. Upon close examination of results across three classes, School C students from a Science high school mostly gave high ratings to this item in their

Filipino class subject compared to School A, English class subject and School B Science class subject which revealed a spread of scores, as seen in Figure 7.2. A possible explanation is that the Grade 10 students of School C engage in more problem posing activities and problem-based learning given that in a Science high school, students are given more challenging subjects (for example, high-level Math and Science) compared to other public high schools in the Philippines.

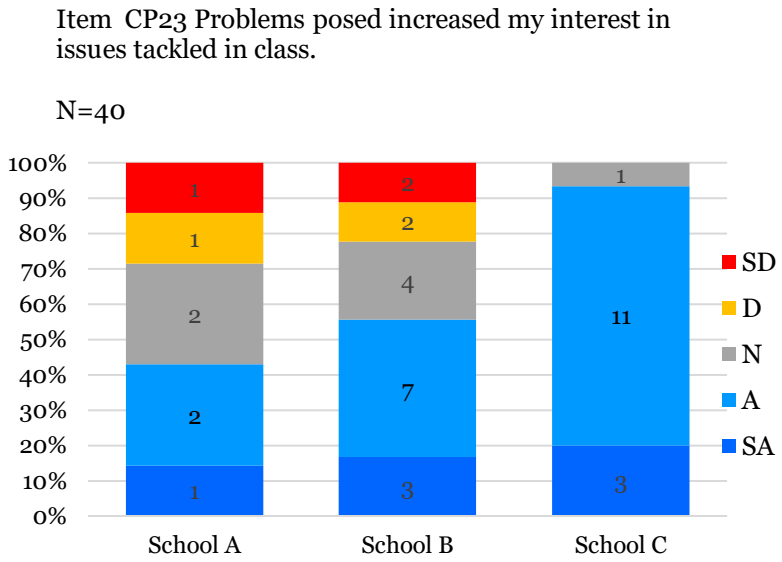
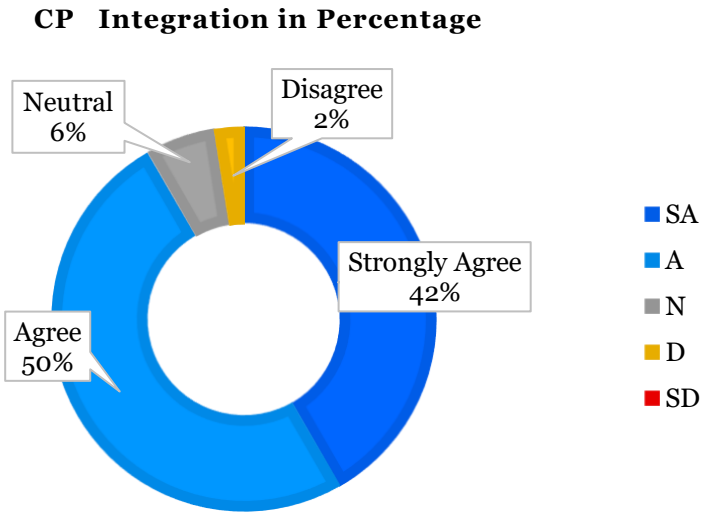


Figure 7. 2 Item CP23 Triggering Event of the CoI Survey Part 1

On the other hand, the highest mean scores are found in Items CP29 and CP30 which fall under the category of Integration. These items on Integration of the CoI Survey Part 1 placed emphasis on how students explored and integrated knowledge on their own based on different learning activities provided through the subject. For example, in Figure 7.3, Item CP29 is related to connection and convergence of ideas in response to questions discussed in class. The item received 38 out of 40 responses (combined agree and strongly agree). Items CP30 and CP31 as seen in Figure 7.3 also come under the category of Integration which implies knowledge construction and reflection as part of critical thinking among students. These items received very high ratings, with Item CP30 having 37 out 40 and CP31 having 35 out of 40 positive responses (combined agree and strongly agree items). These were however also attributed to the nature of learning

activities planned by the teachers as part of Design and Organization, which is a category of Teaching Presence.



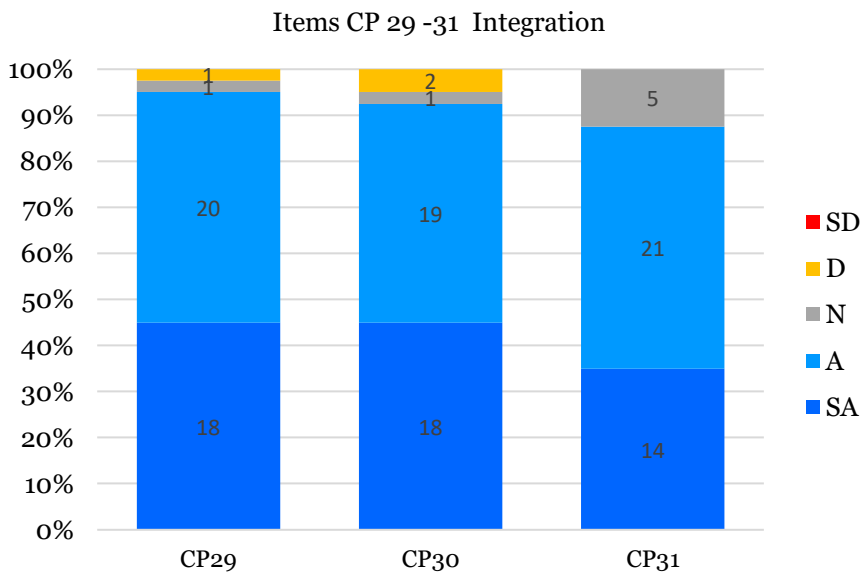


Figure 7. 3 Items CP30 and CP31 under Cognitive Presence of the CoI Survey Part 1

The three CP items in the survey pertaining to Resolution also received high ratings at 83% (combined agree and strongly agree) based on the summed-up results across three schools in Figure 7.4. These items referred more to student effort and action to apply knowledge. Item CP33 was on problem solving and knowledge application while Item CP34 was about the wider application of knowledge to other subjects.

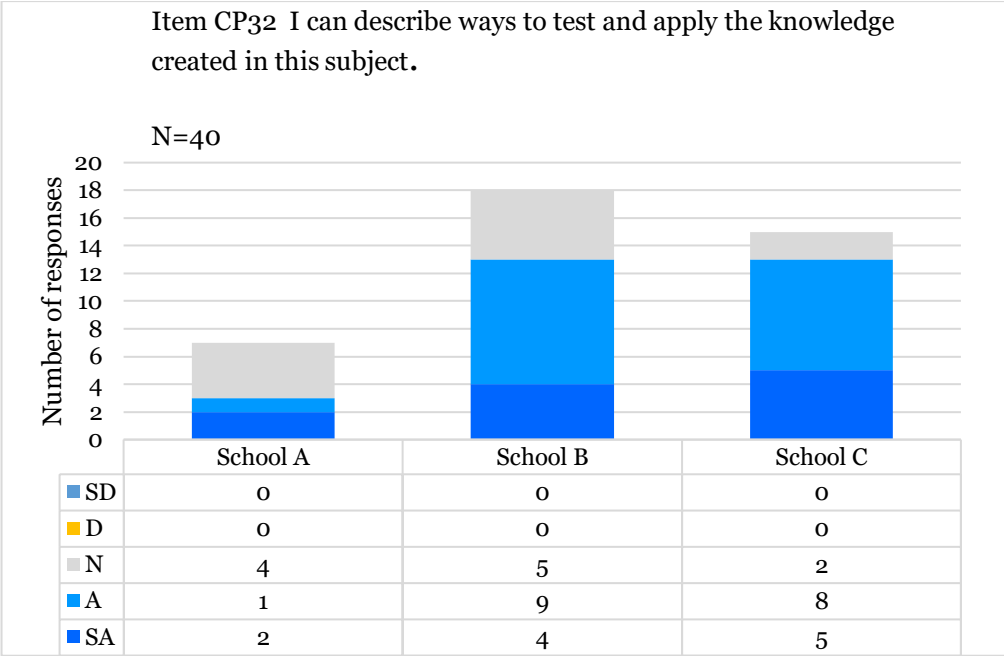


Figure 7. 4 Responses to the category of Resolution under CP of the CoI Survey Part 1

However, Item CP32 under Resolution as seen in Figure 7.5 received a range of top three responses. This item referred to the student's ability to describe ways to apply and test knowledge, receiving 29 out of 40 positive responses (combined agree and strongly agree) and 11 neutral/no opinion responses.

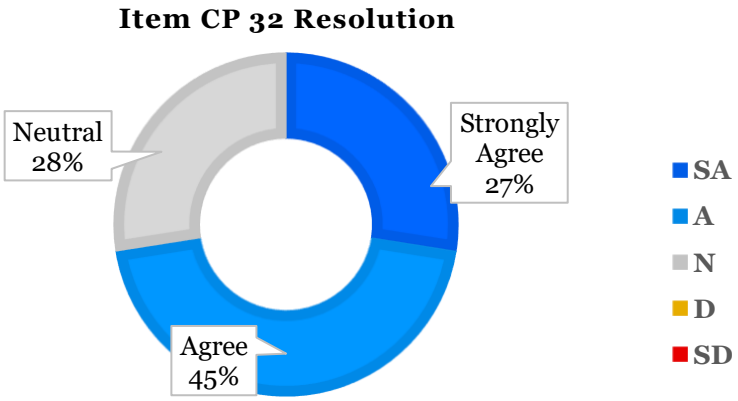


Figure 7. 5 Responses to Item CP32 Resolution under CP of the CoI Survey Part 1

Data from student FGD also provided support for students that were engaging in groupwork and collaborative learning as established in Chapter 4, for student-to-student interaction. To qualify further manifestations of these interactions, data were re-examined in the light of CP categories and indicators. Student accounts of their group work and collaborative learning

are shown in Table 7.3 below. When asked to describe further the nature of the conversations during small group work or during collaboration online that was initiated by the students, the samples have been drawn which are indicative of Supporting Discourse, the intersection of SP and CP and Selecting Content, the intersection of TP and CP. Group cohesion as an indicator of SP was revealed to be interacting with different categories of CP.

Table 7. 3

Student Responses Corresponding to CP Categories, Indicators and Interacting with SP or TP

CP Categories & Indicators and corresponding items from Shared Metacognition Questionnaire by Garrison and Akyol (2015) SR= Self-regulation item CR= Co-regulation item	**Student Responses** on questions related to peer support, regulation of behavior, group work and collaboration, the role of ICT	**Interaction with SP or TP**
Exploration – information exchange CR 1* I pay attention to the ideas of others SR 11* I apply strategies. CR 12 I help the learning of others.	We give each other hints and tips. That's like giving each other ideas on how to work things out (Patty_School B) When some are not able to go online, I give them a copy of the new module so they can work. (Student_School B)	SP - Interactive Communication SP – Group Cohesion
Exploration – suggestions for consideration SR 11 I apply strategies. CR 12 I help the learning of others.	Sometimes, we write our summaries. Then someone in the group reads for us. Then it gets explained. Then all of us end up helping each other understand the assigned chapter. (Joey_School C)	SP – Group Cohesion SP - Interactive Communication
Exploration – suggestions for consideration CR 7 I look for confirmation of my understanding from others. CR 13 I monitor the learning of others.	We would talk on our GCs like, "Do you get this? Do you get that?" And then one would answer. Then, another one. We would share knowledge instantly. (Shiela & Micah_School C)	SP – Group Cohesion TP – Facilitating Discourse

Exploration – suggestions for consideration CR 12 I help the learning of others. SR 11 I apply strategies.	I help by starting the work if I handle this expertise in my field or supporting it to the best I can by sending the things they needed via Messenger. (Student_B)	SP - Interactive Communication
CR 7 I look for confirmation of my understanding from others.	Sometimes whenever I have assignments and unsure about the answers, I ask them if they could recheck. (Student_School C)	SP - Interactive Communication
Integration – Creating solutions SR 11 I apply strategies. CR 1 I pay attention to the ideas of others.	We talk in our group chats, sum up all possible ideas and pick the best one. (Shiela_School C)	TP – Direct Instruction Focusing Resolving Issues
Integration – Creating solutions CR 1 I pay attention to the ideas of others. CR 13 I monitor the learning of others.	Sometimes when I ask them whether they have done the work already, they will answer not yet and so I convince them to do the needed online work. (Student_School B) I usually check our GCs (Group Chats) to see what I can help out with, and sometimes I myself support their ideas in a project. (Student_School C)	SP – Group Cohesion TP – Direct Instruction SP - Interactive Communication
Application – Reflection SR 11 I apply strategies. I monitor the learning of others.	We sum up all possible ideas and pick the best one, we also get to monitor the things we can do in our projects. (Student A)	SP – Group Cohesion TP – Facilitating Discourse

Note. *Items from Shared Metacognition Questionnaire: self-regulation (SP) and co-regulation (CR); collated by the Researcher based on FGD and CoI Survey Part 2

Samples provided by students indicated explicit actions students take to attain shared goals to accomplish the needed work. A few samples were not merely for selecting content as labeled in the intersection of CP and TP within the CoI framework, but rather to co-regulate learning. To aid in interpreting these, the researcher used items from the Shared Metacognition Questionnaire of Garrison and Akyol (2015) as seen in the leftmost part of the

table. The student responses pertained to paying attention to others' ideas, monitoring the learning of others and helping others' learning.

Students across schools attested to being able to collaborate even when online, through the aid of technology, as seen Table 7.4 below. For example, students of School A and School C indicated that they engaged in group chats mainly to exchange information, discuss ideas, or do work together to further understand a lesson. Students of School B engaged in cooperative and collaborative learning activities but more in their face-to-face classes.

Table 7. 4

Student Responses on Collaboration and Technology in Learning

Grade 10 Student of School C	"Being together for 4 years, I can say that our bond has been strengthened, we know each other more now. We are able to expand our knowledge by the use of our platform and with the help of our teachers."
Grade 7 Student of School B	"It's fun, noisy, chaotic and yet we are able to do what needs what is asked of us to do."
Grade 10 Student of School C	"I'll never forget my class, we all had to go through hardships together and we treat each other like family, so it taught me the sense of cooperation and the fact that we should always help each other out."
Grade 10 Student of School A	"Sometimes we have group work or collaborative work given while online but it's not usually done while we are online...the quality is not so good while doing online group work because the others do not help or participate in the work."
Grade 10 Student C	"Due to having classes only for 2-3 days, we do group works mostly online or meeting up when we do not have classes. We usually talk using social media apps like Facebook and FB Messenger. We assign tasks to each member and encourage them to participate with the group. We get references from the lessons posted in the platform or we follow the instructions/activity given by the teacher through the platform."

Note. Collated by the researcher from different students based on anonymized data from CoI Survey Part 2

Collaborating online is not without its challenges. Findings point to a few issues students' experienced while working together. These were related to peer relations while doing group work. Though students described their interactions as mostly constructive and positive, issues arose relating to the quality of their work. This was perceived by students as part of undertaking

group work and still recognizing their similarities and differences. Student discourse, while describing their learning experiences also mentioned the use of technology.

Chapter 4 revealed specific actions students have taken to maximize learning on their own and while with others. These responses were re-examined in the light of metacognition as part of CP reported in recent research by Garrison and Akyol (2015). Student descriptions of online work implied forms of metacognition through self-regulation, as seen in Table 7.5.

Table 7. 5

Aligning Items: Samples of CP with Self-Regulation and Co-Regulation

CP Survey Items Arbaugh et al. (2008)	**Student Responses on questions related to:** peer support, regulation of behavior, group work and collaboration, the role of ICT's	**Shared Metacognition Questionnaire Items** Garrison and Akyol (2015) SR – Self-regulation CR – Co-regulation
26. I utilized a variety of information sources to explore problems posed in this subject.	I see to it that I write every reminder or work given by the teacher so that I am able to pass to a classmate the activities. (Student_A*)	SR11 I apply strategies. CR 8 I request information from others.
28. Online discussions were valuable in helping me appreciate different perspectives	They ask, and I get to answer them correctly and I can also contribute my answers, and so we learn more. (Student B)	CR 7 I look for confirmation of my understanding from others. CR 9 I respond to the contribution others make. CR 11 I challenge others' perspectives
29. Combining new information helped me answer questions raised in the class activities.	I do the research and tasks for us. (Student_B) I am able to explain so that they will be able to understand more each problem. (Student_B)	SR11 I apply strategies. CR12 I help the learning of others.
32. I can describe ways to test and apply the knowledge created in this subject.	By watching tutorials regarding this certain app and applying it until I master it then upgrading to another app that can boost my creativeness much further.* (Student_C)	SR6 I am aware of my existing knowledge. SR11 I apply strategies.

*Note**. Corresponds to schools where students are situated; collated from anonymized data of the CoI Survey Part 2

In Table 7.5, items from the Shared Metacognition Questionnaire of Garrison and Akyol (2015) were added to show corresponding self-regulation and co-regulation taking place. Students attested to regulating their learning, when online and working independently. One student indicated, "I am more comfortable by myself because I am able to focus." Another student said, "Sometimes I prefer that I study on my own because I feel I can understand more. It seems like his way of teaching is different. She/he has her/his own different ways, while mine is different."

At the same time, students also revealed that completing online work was a challenge to keeping focused on the task at hand. Students gave examples of getting distracted with Facebook, YouTube, Wattpad, and having multiple tabs open while engaged in online work. Other students also mentioned delaying work by playing online games or spending too much time on Facebook. To cope with distractions, students have indicated ways to manage their time better such as taking note of deadlines. They also passed on reminders and announcements to each other, especially to those who had been absent during their face-to-face sessions.

In summary, findings from student participants revealed varied ways CP is manifested which were interpreted alongside the categories and indicators within the CoI framework. Results also indicated the interaction of CP with TP and SP, especially during group work and collaboration, with examples of co-regulation and metacognition.

7.2.2 Findings from Teacher Participants

Manifestations of CP in this section are presented from responses of teacher participants who took part in the interviews and questionnaires as well as classroom observations. Data from teachers allude to critical thinking and reflection among students taking place within the blended learning classes, as seen below:

> **Mr. Earl, eLearning Coordinator of School C**: "Through critical thinking, students focus on the processes of learning rather than just attaining facts about phenomena. Critical thinking helps learners to

create and apply new knowledge to real-world situations. The elearners think critically and become actively responsible for their own education."

Mr. Bobby, Filipino teacher of School B: "In my teaching, I also use social media, 'open your Facebook account then you can post your responses'. I also ask them to post their reflections on their lessons."

Ms. Jessie, Science teacher of School B: "In terms of encouraging them to reflect on their learning, I usually do it face-to-face by asking them how they are going to apply what they have learned to their everyday lives. And if there is still time, I let them do some activities in connection to the lesson."

Ms. Lota, the Filipino teacher of School C felt that critical thinking was innate or that capable students were predisposed to use it. As such, it may affect the outcomes of their blended learning experiences. She indicated:

"It is really up to the student and their skills. If the students are quite intelligent or knowledgeable or capable, then it becomes more appropriate, especially among those who can really rely on their own thinking. But for students who are not able to do so for example those who really need more support or help compared to those who are in regular classes. Blended learning is really meant for those who are more capable."

7.2.3 Findings from Class Observations and Virtual Classroom Stored Data

In terms of the CP indicators, Information Exchange and Connecting Ideas were manifested across the three schools because they were described by teachers and they were witnessed in the class observations. These CP indicators were under the categories of Exploration and Integration, respectively. Sample data from classroom observations were juxtaposed to provide support to teacher responses. Evidence of CP from these data sources has been found across all its categories and selected indicators as seen in Table 7.6.

Table 7. 6

Samples of Cognitive Presence from Teacher Participants and through Class Observations

CP Category & Indicator	Cognitive Presence Samples	
	Samples from Teacher Responses	**Samples from Class Observations**
Triggering Event – **Sense of Puzzlement**	They are meaningfully engaged by being active in the live discussions and in raising their questions to their teachers. (Ms. Jessie_School B)	Teacher generates a few questions to trigger thinking then proceeds to the Clickers game as an intro activity. (Filipino Class, School C) Students continue to engage with each other while playing the game – shortly discussing the best answer for each item question. (Filipino Class, School C)
Exploration - **Information exchange** **Suggestions for Consideration**	The outputs manifest their interest to learn the subject. Their creativity is shown every time they participate virtually (Mr. Wilfred_School A) They post questions. Their classmates also see that question. Then they could also browse the answers to that question. (Ms. Jessie_School B)	Students engage in the paragraph writing activity. They seemed to be focused on the task at hand given directions and prior online activity. (English Class, School A) This time, students share differing views to interpret a story event—they express themselves using specific language structures to express opinions. (Filipino Class, School C) Students pick up on the clues given by the teacher**.** (Filipino Class, School C)
Integration – **Connecting Ideas** **Creating solutions**	They share insights about a particular issue during problem-based activities. (Mr. Wilfred_School A) Through critical thinking, students focus on the processes of their learning rather than just at the facts about the phenomena (Mr. Earl_School C) Students are meaningfully engaged and actively learning when they ask questions with HOTS related to the topic (Mr. Bobby_School B)	Students compose/create an OPM song through language use; playing with word structures, rhymes and meanings (Science Class, School B) Students respond to the sharing by adding ideas to the discussion. (English Class, School A)
Resolution – Applying New Ideas **Vicarious/ real-world solutions**	Through the online exchange of ideas together with their classmates, it helps them at least to apply things they've learned…they figure things on	Students are thinking/reinventing informative FB posts to advocate for the recycle, reduce, reuse to friends/ followers. (Science Class, School B)

Reflections	their own, by themselves.' (Mr. Wilfred_School A) I also ask them to post their reflections on their lessons. (Mr. Bobby_School B) I usually do it during face-to-face by asking them on how they are going to apply what they have learned to their everyday lives. (Ms. Jessie_School B)	Students tried to give examples from their own experiences of varied teaching styles to apply the lesson in their own context. (Filipino Class, School C)

Note. Analysis performed by Researcher based on teacher interviews and questionnaire and class observations

Data presented in Table 7.6 revealed that manifestations of CP were observed across selected categories and indicators. Whether these actions were constructivist in nature and likened to the phases of Practical Inquiry embedded within the CoI framework cannot be ascertained given the limited time to do a series of classroom observations.

To further validate the manifestations of CP, data from the class observations were counted and juxtaposed with that of stored data coding frequency count. In particular, data were gathered through live class observations with the researcher jotting down notes on a class observation template, then writing field notes and memos thereafter. Details on the cognitive presence indicators against coding frequency counts appear in Table 7.7.

Table 7. 7

Coding for Classroom Observation and Stored Data

CP Categories	**File Sources**	**Class Observation Notes**	**Stored Data**
Triggering Event		**8**	**2**
Sense of Puzzlement	3	5	2
Recognize problem	2	3	0
Exploration		**14**	**8**
Suggestions for consideration	3	3	0
Leaps to conclusions	0	0	0
Information exchange	3	8	5

Divergence within the online community	0	0	0
Divergence within a single thread	1	1	3
Brainstorming	2	2	0
Integration		**8**	**0**
Creating solutions	0	0	0
Convergence within a single message	0	0	0
Convergence among group members	1	2	0
Connecting ideas, synthesis	3	6	0
Resolution		**7**	**1**
Vicarious or real-world application of solutions, ideas	3	5	0
Reflection	1	1	1
Defending solutions	1	1	0

Note. Collated by the Researcher as generated by NVivo then manually verified.

Stored data did not provide sufficient support for cognitive presence manifested through the practical inquiry cycle of the CoI framework compared to the face-to-face class observation. As mentioned, limited stored data was made available to the researcher. With the limited stored data, findings generally alluded to Information Exchange and Triggering Event as evidenced by a poll activity and student responses in FB Messenger stored data. In the poll activity, the teacher posted about a controversial issue which students need to record their votes and then justify their responses in English. Students posted their votes and explanations, hence this deemed to support the manifestations of CP.

Table 7.7 provides evidence of students when they were engaged in Exploration but mostly through Information Exchange in both face-to-face class observations and stored data of virtual classes. Triggering event was manifested in both the class observations and stored data. Integration was also indicated through convergence among group members and through the process of connecting ideas during discussions, but this was not indicated in

the stored data. Manifestations of Resolution were found mostly in face-to-face classes while Reflection as an indicator of CP was found both in face-to-face observation notes and stored data.

Thus far, manifestations of CP among students were mostly evidenced through findings from student and teacher participants and face-to-face class observations. Due to limitations in stored data, only a few results provided support for CP through online work. Overall, however, findings revealed manifestations of CP through collaborative work, critical thinking, self-regulation and co-regulation and metacognition. The CP manifestations were evident because they occurred during the face-to-face and online interactions.

7.2.4 Findings from Field Notes of Classroom Observation

Field notes were completed by the researcher to reflect after making class observations. One example below was quoted from the researcher's descriptions and reflections based on the face-to-face class observation during the Filipino class at School C.

> **Field Notes: School C**
>
> The teacher while discussing, rephrased her questions as if to draw more hands to be raised in response. The questions all throughout triggered responses but largely directed to the teacher driving the discussion rather than to the class/ their peers for further engagement. Hence, the discussion largely took place as student-teacher interaction, likewise student-content. These allowed exchanging ideas to continue with the teacher, though not with their classmates. The questions given either sought students' opinions or given as comprehension checks for understanding, questions to engage critical thinking and interpretation of the text, symbolism and hidden meanings. The facilitation, however, comes across as largely meant for students to arrive at already known answers which the teacher needed to validate understanding of the context, characters and dialogues in the chapter reading. Only a few hands were raised at a time to

respond to direct questions, while in some instances a few or a group would answer in unison. In one occasion, the teacher engaged the class to build on and express their thoughts based on another classmate's response. The teacher also used a bit of humor and broke her serious face with a smile while interjecting sarcasm.

All in all, the students seem largely satisfied with the class that went on while seated from where they were and with the movement of the slides in the presentation of the varied content/portions of the module assigned.

These observations from School C coincided with other class observations from School A and B which revealed how discussion and facilitation mainly triggered thinking and engagement. These were found to be largely driven by the teacher through questions with students responding in return. However, these were not sufficient to reveal the phases of practical inquiry indicative of constructivist collaboration. Findings however provided a glimpse of interaction with teacher and content and in particular student-content interaction specific to the categories of CP. Likewise, these provided evidence of the interaction of CP with TP and SP (refer to Appendix L for other field notes).

7.2.5 Summary of Findings on Cognitive Presence

Findings presented in this section revealed manifestations of cognitive presence among K-12 teachers and students through the constructs proposed in research by Garrison and Akyol (2015). The evidence presented blended learning as positively experienced by students across the categories of CP within the framework. Students were actively engaged in their own learning and that of others in the process of accomplishing activities and fulfilling role expectations. Teachers also made sure that cooperative and collaborative learning was part of the students' learning experiences, given that blended learning provided the opportunity for these activities to take place online and face-to-face.

This section also demonstrates the ways the researcher re-examined the data to ensure that there was enough evidence of CP as discussed by Garrison and Akyol (2015) and suggested for further investigation (Garrison, 2017). The constructs of self-regulation, co-regulation and metacognition proposed in recent higher education research provided guidance to interpret the qualitative data which were indicative of the manifestations of cognitive presence.

The next section of the chapter elaborates on these manifestations and relates them to learning communities and more so, suggestions for consideration within the CoI framework.

7.3 Discussion on Cognitive Presence

Research sub-question 4: How is cognitive presence manifested in the blended learning classes?

In answering the research question, this section will interpret cognitive presence findings as manifestations of self-regulation and co-regulation. The section includes a discussion which highlights the interaction of CP with the other presences as the space where manifestations of shared metacognition were found. Findings related to cooperative and collaborative learning, dialogue, reflection and critical discourse will also be interpreted in relation to the blended learning experience. In particular, the aspects of learning communities are noted as outcomes of blended learning. The interactions of CP with the other presences will also be analyzed in relation to learning community building.

7.3.1 Self-regulation and Co-regulation within Blended Learning

The blended learning environment in this study provided the context to further examine manifestations of CP through the constructs of self-regulation and co-regulation as studied by Garrison and Akyol (2015). These areas were proposed by Garrison (2017) for further research in other settings. Self-regulation was suggested as an area to be studied in the context of secondary school students. This is particularly relevant given the growth of online learning in the K-12 setting (Lock et al., 2017; Matuga, 2009; Nota et

al., 2004; Schunk & Zimmerman, 2012; Wong, 2019; Zimmerman, 1990). This study argued that within blended learning there are opportunities for learners which afford flexibility, personalized learning and learning anytime, anywhere. As a result, CP may be closely examined through manifestations of self-regulation and co-regulation among K-12 students. The following discussion analyses these further, in terms of learning community building and the suggested application of the CoI and areas for future research.

This study found evidence of self-regulation and co-regulation or shared metacognition as seen through the examples that demonstrated interaction with content and interaction with students. Swan (2003) referred to these types of interactions as the space where CP and SP exist. Student manifestations of CP through their individual and collaborative work were re-examined to match with the CP categories and Shared Metacognition Questionnaire formulated by Garrison and Akyol (2015). Samples of CP were found in student responses through the CoI Survey Part 2 and student FGD, as seen in Table 7.3 of this chapter. These samples identified the explicit actions taken by the students to monitor their learning and to guide that of others, particularly when they were working in groups. The students were accountable to include their contributions in pursuit of their attainment of the learning goals.

Findings also revealed that the manifestations of CP among K-12 student participants were aligned with the definitions and examples of self-regulation proposed by Zimmerman (1990) along with Schunk and Zimmerman (2012). These self-regulated learning strategies correspond to seeking information, keeping records and monitoring and seeking social assistance from others.

Increased motivation and self-regulation were reported as outcomes of blended learning due to the flexibility and personalized learning it affords (Staker & Horn, 2012). These are the same reasons that support the adoption of these programs at the K-12 level in selected settings (Halverson, 2017). This study affirms these outcomes in the context of blended learning as an emerging practice in other contexts such as K-12 programs in the Philippines.

The nature of blended learning interactions in Chapter 4 revealed that through blended learning, K-12 students enjoyed being able to learn at their own pace or 'learning on their own' due to the flexibility accorded by technology use in blended learning. Learning anytime, anywhere in this study meant greater opportunities for student control and flexibility in the ways that students could interact with content and with peers and as afforded by technology. For example, student responses revealed that blended learning meant being able to freely access and select content wherever and whenever while students worked online and by themselves. Due to the flexibility allowed by blended learning, students attested to learning time management, discipline and responsibility while improving their technology skills to learn. These skills related to the regulating behaviors studied by Zimmerman (1990) and imply self-regulation as CP manifested by adolescent learners in this study. Therefore, in the process of exploring the use of categories and indicators alongside the construct of shared metacognition of CP, this study found relevance in the applicability of the CoI framework at the K-12 level.

Blended learning, as experienced by participants in this study, also afforded personalized learning where evidence of co-regulation in this study was found. In prior studies, personalized learning was accorded by teachers through the organization of course content, additional student support and management of deadlines (Horn & Staker, 2011). Students gained suitable student support from their teachers through blended learning which resulted in improved self-direction and motivation to learn (Hoxie, Stillman, & Chesal, 2014). In Chapter 5 of this study, findings described how homeroom teachers or class advisers and subject teachers supported their students by giving timely assignments and by accommodating the needs of their students to ensure that they understood the lessons and had the capacity to accomplish tasks. Teachers attested to sending private messages to selected students to give quick feedback on the status of their work so that they could do better in their assessments.

The findings in this chapter also revealed students provided support for other students by monitoring task completion and checking for understanding of lesson content while engaged in online collaborative activities. These actions are interpreted as manifestations of co-regulation found in higher education research (Garrison & Akyol, 2015; Shea & Bidjerano, 2010). Co-regulation was defined by Hayes et al. (2015) as actions whereby "one member of the group with more knowledge and skills provides for scaffolding support for another" (p.17). Likewise, in this study, these acts of co-regulation are interpreted as manifestations of teaching presence interacting with CP to attain shared goals of learning. This study found that co-regulation remains a valid construct of the CoI in the context of K-12 blended learning.

The manifestations of self-regulation and co-regulation in this study are also interpreted as the means by which K-12 blended learning students demonstrated trust and reciprocation, elements indicative of learning communities (Brown, 2001; Vesely et al., 2007). The trust and reciprocation were manifested within the collaborative work of students for the purposes of achieving the shared goal of learning and not for mere social interaction. These are therefore indicative of learning communities as outcomes of blended learning experiences. This study asserts that concrete strategies for learning community building in relation to trust, mutual respect and reciprocation at the K-12 are valuable. Therefore, the design of K-12 blended learning courses must include these strategies in order to explicitly develop self-regulation and co-regulation among adolescent learners where these skills are reported to be crucial to success in learning (Barbour & Reeves, 2009; Oviatt et al., 2016; Wong, 2019).

Thus far, evidence of self-regulation and co-regulation found in this study contributed to the current literature on self-regulation to address the gap in literature pointed out by Garrison (2017). The discussion in this study argued that the constructs of self-regulation and co-regulation within the CoI signify trust and reciprocation which are indicative of learning communities as outcomes of blended learning. This research is a step toward

understanding how K-12 teachers and students explicitly support each other as learning community members to arrive at shared goals.

7.3.2 Regulating Learning: The Intersection of TP and CP

Prior research suggested that online learning is a matter of learner motivation and learner abilities related to the constructs of self-autonomy and regulation, monitoring and metacognitive skills (Shea & Bidjerano, 2010; Zimmerman & Schunk, 2008). Beyond the presence of the online teachers who direct the learning, are the online learners themselves who drive online course interactions. The student interactions are important to certain goals that may be different from those of the teachers (Shea & Bidjerano, 2010). This study likewise found that these behaviors were manifested within the intersections of CP with the other presences, specifically as selecting content and supporting discourse. Selecting content was recently proposed to be changed to regulating learning by Garrison and Akyol (2015) as they solidified their findings on a Shared Metacognition Questionnaire which included items on self-regulation and co-regulation. These findings are similar to points raised by Shea and Bidjerano (2010) to examine further the construct of metacognition and self-regulation as learner behaviors. Their research proposed having learning presence as an additional element to accommodate constructs of self-efficacy, self-regulation, motivation and metacognition. This study however suggested that the constructs of self-regulation, co-regulation and metacognition needed to be viewed and examined integratively as 'shared metacognition' given the process by which the CP was manifested and examined in the study's setting.

Shared metacognition was proposed by Garrison and Akyol (2015) and defined as the construct that signifies "an awareness of one's learning in the process of constructing meaning and creating understanding associated with self and others" (Garrison, 2018, p. 2). The construct was described to capture two distinct but interrelated elements of self-regulation and co-regulation. In this study, the process of finding manifestations of CP revealed that the construct of one cannot be studied independently from the other.

This was made evident in the manifestations of CP which may be equally categorized as manifestations of SP and TP as found in Table 7.3 of this chapter. This study asserts that shared metacognition can be found within the intersection of CP and TP, thus lending support for the proposed regulating learning as the intersection of TP and CP in work of Garrison and Akyol (2011). In addition, this study suggests that given the recently proposed changes to the intersection as regulating learning, the categories under CP undergo revision to accommodate as categories the constructs of self-regulation and co-regulation examined in research. This suggestion may be considered in the light of emergent blended learning programs as found in this study.

This research considers learning community building as a dynamic process which undergoes developmental phases as observed by Brook and Oliver (2003), Brown (2001), and Peck (1987, 2010). In settings where learning communities remain hidden within still emerging blended learning programs, the practical inquiry cycle based on constructivist learning theory may still be largely undefined or unknown. Teaching and learning practices in these contexts are in the gradual process of shifting away from teacher-centered and instructivist pedagogies.

7.3.3 Supporting Discourse: The Intersection of CP and SP

Supporting discourse is at the intersection of CP and SP within the CoI framework. In an earlier study, Morueta et al. (2016) sought to examine the relationship between CP and SP. Their study reported the positive relationship of SP and CP especially in instances when teaching presence is inaccessible or not felt. Similarly, in this study, CP and SP are positively related, with students further qualifying the group cohesion and collaborative learning they have experienced as a highlight of their blended learning experiences. In Chapter 5, manifestations of social presence indicated adolescent learner behavior towards engaging in social interaction for task completion, and attainment of learning targets. While doing so, students have mentioned sustaining online interactions with their classmates on days they are not in school and while they are learning on their own.

This chapter presented a re-examination of the blended learning interactions and revealed that these entailed students initiating online facilitation, regulating their online browsing, monitoring the status of group work, checking on a peer's understanding and searching for additional information to help themselves to learn. Similar student behaviors were also found by Lam (2015) through a case study which explored student experiences in a higher education blended learning course. The study gathered qualitative data through interviews and field notes without the use of the CoI instrument. It concluded by proposing an extension of the CoI framework to include 'autonomy presence' which was defined as "the drive to inquiry that leads to sharing and discussion initiated by individuals" (Lam, 2015, p. 51). Findings in this study however characterized these student-driven actions as co-regulation amidst small group social interactions while engaged in cooperative and collaborative learning. Co-regulation is a construct within the CP which was proposed by Garrison and Akyol (2015) and this was recommended for further research together with self-regulation under the term shared metacognition. This study asserts that co-regulation is likewise found within the intersection of SP and CP as supporting discourse. As such, the 'autonomy presence' need not be accommodated within the CoI as a separate presence.

Thus, the findings in this chapter reaffirm the relatedness of CP and SP which were reported among higher education students, as well as the choice of social networking technologies which enabled the interactions to take place (Bowers-Campbell, 2008; Deng & Tavares, 2013; Kabilan et al., 2010), and to enhance their face-to-face discussions and sense of community (Milošević et al., 2015). The same is valid within the K-12 context given that in this study, evidence of strong group cohesion was forged through sustained interaction and learning afforded by the school's LMS platform and FB Messenger. These were likewise supported by results from the CoI survey showing high ratings across the presences.

While some studies will go as far as to suggest the inclusion of instructor SP and instructor presence (Pollard et al., 2014; Richardson & Lowenthal, 2017),

autonomy presence (Lam, 2015) and learning presence (Shea & Bidjerano, 2010) this study instead argues for a better understanding and appreciation of the intersections of the presences which includes supporting discourse as the space where co-regulation also takes place. These were mostly manifested through collaborations, interactive communication and group cohesion. As such, this study affirms the stance of Garrison (2017) to maintain the integrity of the three (3) presences while recommending further research into the meanings placed by learning community members on the intersections of the presences to assure the applicability of the CoI framework in other settings.

7.3.4 Collaboration and Collaborative Inquiry in Learning Communities

Learning communities are marked by collaborative effort, critical discourse and problem solving towards knowledge creation (Reilly, 2014; Schrage, 1991; Tu & Corry, 2002). This study found learning communities as outcomes of blended learning through the evidence of cooperative and collaborative work driven by the TP and the CP of both teachers and students. Class observation and field notes from Schools B and C mostly support collaboration as taking place brought about by the teacher's design and through strategies for instruction. Teachers attested to setting up their classes for learning activities to engage more student-to-student interactions. The online work was perceived by students and teachers as the means to enhance their face-to-face class sessions. One teacher from School B indicated that the collaborative tasks which the students enjoyed doing were role-playing, group presentations, experiments and solving problem sets by the group. Teachers encouraged small group cooperative learning for students to share each other's ideas and interact. Students valued listening to their teacher and their peers to complement learning by themselves when they were not in school. One student from School C said, "There is something about having it in our groups which I think is needed. So, there are many possible ways to learn since not everything you can really find through the links given." This study affirmed the role of TP ensuring CP within the spirit of inquiry as observed in research (Akyol & Garrison, 2008; Garrison,

Anderson, et al., 2010; Joo et al., 2011; Szeto, 2015). Prior studies asserted that for collaboration to take place, the design of the instruction and the types of tasks are explicitly planned. This was important to ensure that critical discourse was occurring among members of the learning community and not mere social interaction (Garrison & Cleveland-Innes, 2005; Pawan et al., 2003; Shea et al., 2003).

Findings also revealed that students themselves fueled and sustained the collaborations which occurred online and offline. The outcome of these collaborations resulted in connectedness and the attainment of shared goals which are indicative of learning communities (Brown, 2001; Jones, 1997; Kilpatrick et al., 2003). In Sections 1 and 2 of the survey, it was revealed that students anticipated going to school to be with their classmates and teachers not just to socialize. This placed the emphasis on school as a place to learn from and with each other. As discussed in Chapter 5 on Social Presence, students' willingness to engage online is attributed to time spent together and the sense of community that they have attained. Manifestations of CP likewise revealed that the sense of connectedness and belongingness which students felt is connected with their learning. As they learned together within a shared space, the "collective identity" of students was acknowledged because they were contributors to each other's learning as it became seen and felt. Kennedy and Kennedy (2013) discussed collective identity in relation to community building among group members through metacognitive goals and reflexivity. Learning community therefore was a matter of thinking about thinking through the process of attaining social and cognitive goals. In this study, the collective identity was inferred from findings on manifestations of SP and CP. Under CP the collective identity was reinforced through a combination of student-initiated small-group work online and teacher-planned group activities when in school. Collective identity in this study meant that the students viewed themselves as problem solvers and partakers of their own cognitive pursuits and that of their classmates, within the realm of their blended learning experience. This study therefore found learning communities as outcomes of blended learning through manifestations of

collaboration as CP driven by both teachers and students. These are represented by the collective identity members have shared.

Within learning communities, members collaboratively engage in shared discovery to define problems, find solutions, and take action (Schrage, 1991; Tu & Corry, 2003). These signify the willingness to take risks in order to learn new ideas, skills and practices (Kilpatrick et al., 2003). Repeated shared experiences of learning new ideas, skills and problem solving online and offline result in further engagements which lead to mutual understanding. In this study, mutual understanding means students are made aware of their strengths and shortcomings and therefore manage to solve problems as they learn together. These outcomes are largely supported by findings from teacher and student responses presented in Tables 7.5, 7.6 and Table 7.7. Among all blended learning classes, findings from School C showed strong support for a learning community characterized by mutual needs, support and understanding. This resulted in clear learning outcomes which the eLearning Coordinator has claimed*:*

> "the greatest achievement I am referring to is also due to the added computers last year. The previous year, in Grade 10, almost 75% to 80% from the class graduated with high honors because they got 90 to 93 as their average. So, they really are different because given that they are in the elearning program our blended learning, yet they are able to keep up with the level of those of the regular class."

Learning communities are marked by shared values and experiences among members which are necessary for collaboration and knowledge construction to take place, not just to the benefit of the individual learner but to enrich the experiences of the learning community as a whole (Blanchard & Markus, 2004; L. Zhao et al., 2012). Thus far, this study found that through re-examining manifestations of CP, these shared views on technology and the shared value placed by students on their blended learning experiences have been highlighted. For example, some students expressed appreciation for blended learning as a means to improve ICT skills, responsibility and discipline which they perceived as valued in society and possibly for their

future employment. The findings from Chapter 4 suggested that blended learning provided opportunities for students to improve skills in ICT use. In prior studies, technology served as a form of motivation to engage and sustain learning among teachers and learners (Deutsch, 2010; Nellman, 2008). Hence, the manifestations of self-regulation and co-regulation in this study are also interpreted as the means by which K-12 blended learning students demonstrated trust and reciprocation. These important elements which are indicative of learning communities (Brown, 2001; Vesely et al., 2007). In this study, the trust and reciprocation were for the purposes of achieving the shared goal of learning and not for mere social interaction.

The cooperative and collaborative learning tasks led to improved cognition, reflection and knowledge creation which is expected of collaborative inquiry as another case in point. Learning communities are not just defined by social interactions, shared values and shared roles to achieve common goals. The learning and reflection are valuable within a community of inquiry. Within the CoI, these are said to be manifested through dialogue, reflection and critical discourse as members of the learning community engage in the cycle of collaborative inquiry (Garrison, 2017; Redmond, 2014; Reilly, 2014). Critical thinking and other high order learning skills are examined through the construct of CP (Layne & Ice, 2014; Richardson & Ice, 2010) within learning communities. However, the full cycle of collaborative inquiry has not been covered by this study. The presence of critical thinking may be inferred as taking place through manifestations of CP. As for dialogue, reflection and critical discourse, this study was able to reveal only minimal evidence to validate the teachers' responses.

7.4 Chapter Summary

This chapter provided a deepened understanding of blended learning interactions through the manifestations of CP within the CoI framework. This study was able to provide evidence of learning communities as outcomes of blended learning interactions through meanings and manifestations of CP which have been drawn from shared experiences of connectedness,

collaborative work, trust and reciprocation as well as shared views on technology from K-12 teachers and learners.

This study has initiated the application of the CoI survey instrument in a K-12 setting, and more concretely through a bilingual version which was adapted for use among K-12 students. This resulted in an interpretation of CP through self-regulation and co-regulation, which are constructs subsumed within shared metacognition. Shared metacognition has been proposed for further research to include the interaction of the categories of TP and CP. It was recommended that investigating these would lead to a greater understanding of how metacognitive skills can be developed to guide student learning. Through an interpretation of the findings, this study demonstrated items of the Shared Metacognition Questionnaire which correspond to manifestations of CP leading to an appreciation of the intersections of the presences within the CoI.

The chapter presented a valid means to examine the qualitative data provided by K-12 teachers and students through the practical application of the CoI framework. However, given the limited class observations and access to stored data of online classes, the study was not able to provide sufficient evidence to establish the collaborative inquiry cycle as defined in literature by the CoI. Overall, this qualitative study was able to provide evidence of learning community building through the interactions of CP with the other presences. The interaction of CP has implications for future research for further applicability of the CoI in the K-12 setting where blended learning is emergent. This study therefore addresses the call for keeping the integrity of the presences within the CoI while exploring the potential to strengthen its applicability at the K-12 setting and in learning environments where either blended learning programs are still emerging amidst teacher-directed pedagogies or where collaborative inquiry has not been fully co-opted.

The next chapter is the concluding chapter of this thesis. It provides an overall response to the central research question and includes implications for further research. The contributions of this study will also be presented.

Chapter 8 - Conclusion

8.1 Overview

This final chapter responds to the key research question: In what ways do experiences of teachers and students signify learning communities as outcomes of K-12 blended learning classes? It discusses the concrete contributions of this study in the areas of K-12 ODeL knowledge in the Philippines followed by practical contributions to teaching and learning practices in schools and blended learning programs. Specific to the CoI framework applied in this study, this chapter explains the study's contribution to the CoI knowledge and research. Implications for future practice are discussed along with ideas for policy, teacher professional development and linkages. Future research on the CoI framework in the field of ODeL are also outlined.

8.2 Response to the Central Research Question

In what ways do the experiences of K-12 teachers and students signify learning communities as outcomes of blended learning classes?

This research concludes that blended learning interactions were indicative of learning communities as experienced mostly by students and selectively by teachers through this exploratory case study. Findings illuminated evidence of learning communities as outcomes of K-12 blended learning classes as seen through the manifestations of TP, SP and CP. These revealed positive learning experiences and student satisfaction of blended learning. A deeper analysis of these manifestations resulted in an appreciation of the intersections of the presences as the space for learning community building. The following sections will further unpack these intersections in the light of learning community building.

Setting the climate for learning: Role fulfillment and collective identity building

This study concludes that setting the climate for learning is situated in the space where learning community building transpired. The learning community was experienced by K-12 teachers and students through role fulfillment and expression of identities, which was manifested as TP and SP. Shared roles of teaching presence and the shared views on the value of technology also defined the kind of learning communities which were outcomes of their blended learning interactions.

This study concludes that the expression of identities as community members was typified throughout the learning communities in this study, which was investigated through the lens of social presence. In the process of role fulfillment, K-12 teachers and students revealed their personal and collective identities through evidence of affective expression and group cohesion while online, and through interactive communication while together face-to-face. Teachers responded through their identities as homeroom advisers and subject area teachers who were comfortable with themselves as they maintained rapport and during their interactions with their students in class.

Likewise, this study concluded that blended learning interactions signified the mutually beneficial process which resulted from the role fulfillment and the identity-building constructs that were found among K-12 teachers and students in this study. These resemble mutual respect and reciprocation among members who maintain harmonious ties within the learning community. These relationships are important in sustaining and monitoring actions towards their common goals of learning.

Learning communities were exemplified through shared views on blended learning and the value of technology in making the learning happen. This study concluded that shared views and shared roles equally define learning communities which were evidently established within the K-12 setting in this study. Evidence of students and teachers valuing the role of technology in their day-to-day activities was established, especially when it came to their

online communications. The satisfaction that they derived from their shared class experiences has led to a common advocacy for blended learning. Thus far, this study concluded that shared views on blended learning and their experiences resulted in a sense of community or a feeling of connectedness that is indicative of learning communities.

Regulating learning: Trust-building and attainment of shared goals

Learning communities are characterized by the processes of trust-building and attainment of shared goals through collaboration, dialogue and critical discourse. This study concluded that regulating learning, the intersection of TP and CP as the space where learning community members manifested trust-building and the attainment of shared goals of task completion and learning.

Group cohesion is where collaboration was categorized within SP and where evidently CP was manifested. The cooperative and collaborative work activities forged connectedness among K-12 students that were revealed within their blended learning interactions. Within a group setting, other aspects of learning communities as outcomes among K-12 teachers and students were also uncovered, namely manifestations of self-regulation and co-regulation, which are constructs of CP. Engaging in collaboration meant that students worked towards directing their individual learning alongside monitoring each other's behavior and their work targets. They also checked on each other's understanding in order to help a peer, a groupmate or a classmate. The self-regulation and co-regulation were observed during online interactions where students relied on each other, irrespective of whether their teachers were online or not. As a result, students built trust with one another working towards the attainment of shared goals. These concrete actions were indicative of learning communities as outcomes of blended learning experiences at the K-12.

Teachers shared the same goals as students by expressing how blended learning became a chance to be better teachers. By providing them with

opportunities for innovation, they were being challenged, in return, to manifest the kind of teaching that they expected themselves to deliver. However, whether teachers identify themselves as being equally part of their students' experiences of learning community was not ascertained. Though students viewed teachers as partly responsible for building their sense of community and designing collaborative learning activities, the study was not able to determine whether teachers explicitly see their role as facilitators of learning community building. The study utilized an adapted version of the CoI survey instrument which was framed to investigate the students' views of connectedness, not necessarily that of the teachers. Thus, the study was not able to determine whether teachers felt the need to have a sense of belonging with their classes or to have a shared experience of learning community building. However, teachers generally perceived themselves as responsible for rapport building with their students and parents. This study concluded that learning communities as outcomes of blended learning was mostly evident among students compared to the teachers included in this study.

Supporting discourse: Communication and collaboration for knowledge construction

A defining characteristic of learning communities is knowledge construction among its members. The students in this study engaged in collaborations through exploring ideas and concepts, exchanging information, confirming their understandings, seeking clarification, and by monitoring their task assignments within their group. These actions were characterized under the categories of exploration and integration as CP among K-12 students in this study. Evidence of communication and collaboration among students also resulted in a sense of community, thus indicative of SP. At the same time, these were found to sustain discussions and interactions towards the attainment of learning goals, that were evident online and face-to-face. Teachers and students also concurred that their blended learning interactions included learning activities for critical thinking and as part of the reflection on their lessons.

Learning communities within an enabling and an enhancing K-12 blended learning model in the Philippines

Thus far, learning communities as outcomes of the K-12 blended learning interactions have been justified in this study. This study suggests that learning communities are dynamic and evolving as teachers and students continue to enact and experience what it means to be a learning community within the conditions afforded by their blended learning classes and through their choice and use of technologies. The dynamics of learning community building across the categories of blends are illustrated in Figure 8.1.

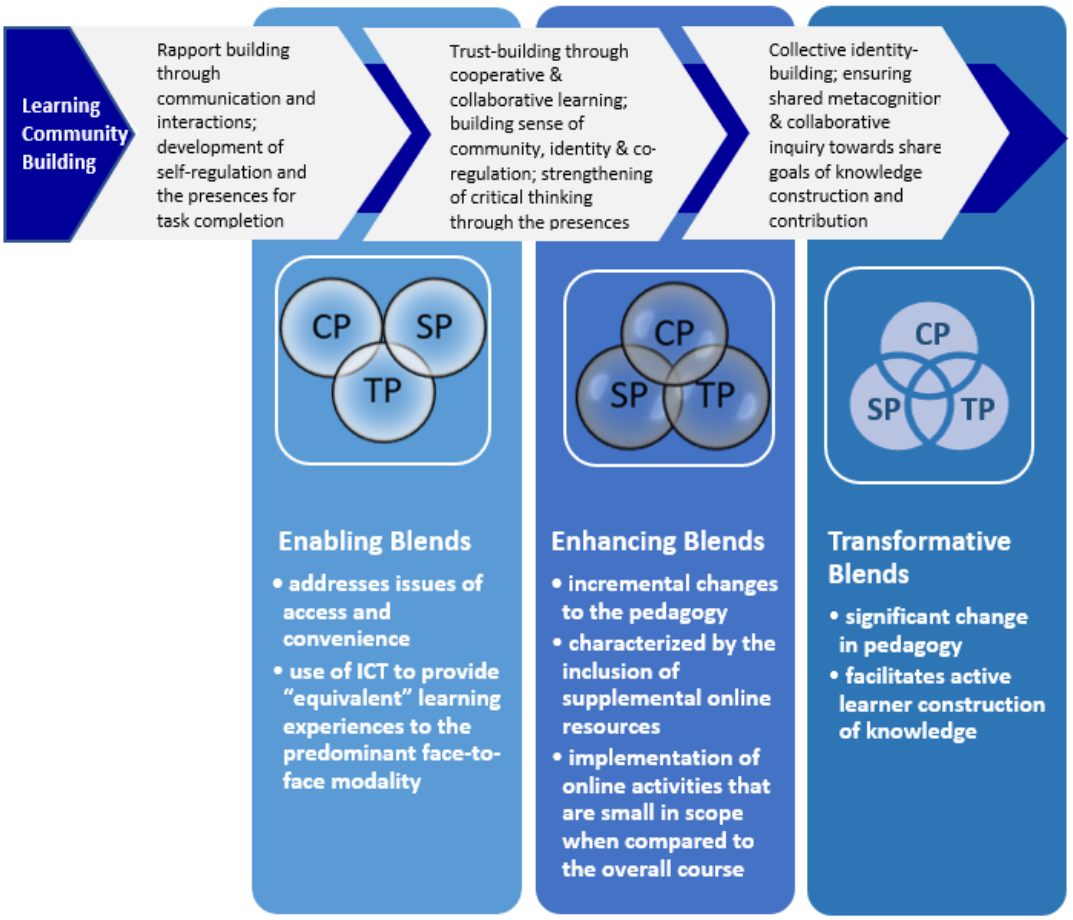


Figure 8. 1 A Developmental Model of K-12 Blended Learning Communities across Graham's (2009) Categories of Blends

The model provides a developmental view of the CoI depicting learning community building by explicit design and through focused strategy for the K-12 setting. The Developmental Model of K-12 Blended Learning Communities illustrates the presences and intersections of the CoI

framework across the different kinds of blended learning represented in this study through the three schools. Enabling blend is indicated through blended learning taking place at the class level of open high school students in School A who can only afford to have face-to-face interactions once a week in school. The use of the FB Messenger addresses the issue of access and aimed at maintaining open and interactive communication by the teacher with his students who can only be in school once a week. Enhancing blend is demonstrated by School B students and teachers who are willing to invest time engaging with content in their LMS and anticipate interacting with their peers and teachers. Social presence is highlighted as students treat each other like siblings and see themselves as a group of 'elearners'. Transformative blend is indicated by School C, a block section of high school students who have been classmates for more than three years in a Science high school. Cognitive presence was indicated through face-to-face and online collaborations made intentional by the teacher or driven by students themselves as seen through self-regulation and co-regulation of learning. As teachers and students in enabling blends and enhancing blends enact on learning community building and engage in constructivist learning, the intersections of the presences become more pronounced. As this model serves to guide, inform and influence K-12 blended learning practices, teacher and student experiences within blended learning classes or programs have the potential to become transformative blends.

This study concluded that the CoI is an applicable framework to understand learning community building in a K-12 setting where constructivist learning has not been fully realized. In contexts where behaviorist and cognitivist learning are ingrained or prevalent, collaborative inquiry may not be readily experienced and achievable. This does not discount the idea that blended learning can still be implemented in settings where collaborative work and critical thinking are experienced which partly signify the development of learning communities. As blended learning programs become decisive in adapting constructivist learning pedagogies, this study proposes the CoI Framework for K-12 Learning Community Building, as seen in Figure 8.2, to examine and highlight the intersections of the presences and its crucial role

in the educational experiences of teachers and students in blended learning programs. The alternate framework, with proposed modifications to the CoI categories, indicators and the CoI survey instrument for the K-12 setting will be further discussed in the next section as part of this study's major contribution.

8.3 Contributions of the Study

This study arrived at concrete contributions in the areas of K-12 ODeL knowledge in the Philippines and blended learning pedagogical practice. The study most importantly contributed to the theory and research on the CoI framework. This is made evident in this section's proposed modification to the framework, its categories and indicators and corresponding items of the CoI survey instrument, to further its cause in K-12 blended learning environments.

8.3.1 Contributions to Knowledge on Philippine K-12 ODeL Programs

This study has made contributions to knowledge on ODeL at the K-12 setting through providing baseline data of blended learning programs in the Philippines. The study uncovered different kinds of blended learning classes which represent forms of blendedness that are aligned in prior studies. Evidence of varied levels of interactions was revealed, an attestation of active and meaningful blended learning experience for both Filipino students and teachers. The study affirmed the knowledge and practice of blended learning within the K-12 system of the Philippines which is made possible by schools, teachers and students who have found relevancy in its practice.

Of interest that this study pursued was for evidence of teaching and learning that are enabled by technology among students and teachers in classes under programs considered as ADM of the Department of Education in the Philippines. Prior studies on ADM have evaluated program implementation and learning outcomes as well as the successes and challenges. This study built on this prior research by highlighting the lived experiences of teachers and students at the grassroots level through programs conceptualized at the

school district level. The blended learning interactions resulted in teaching and learning experiences which were positively perceived by teachers and students from a blended learning block section of a Science high school and school-wide eLearning program. This ran alongside the recent reforms which have been instituted within the Philippine educational system while in its transition years of moving into a 12-year basic education program. Thus far, student satisfaction and perceived learning through the class interactions, was not necessarily in terms of grades or academic achievement, but in terms of the overall experience of learning. This was particularly relevant to increase the flexibility, responsibility and challenges that accompanied blended learning, especially when students were not always in school.

Therefore, this study contributed additional evidence of innovation through the ADM. Within the public-school system, which is dominated by instructivist and transmissionist learning culture, the study demonstrated considerable potential for blended learning programs to grow. This is significant given the support this research hopes to advocate for change. This contribution has future implications in policymaking in support of blended learning programs to transform pedagogies in schools where enabling conditions permit it to succeed. The implications are further discussed in the next part of this chapter.

8.3.2 Contributions to Teaching and Learning Practices

This study affirmed the current teaching and learning practices which fuel student participation to engage in their own learning and that of others. This research is a step forward to understanding how K-12 teachers and students explicitly support each other as learning community members to arrive at shared goals. The results of the study offer information and insights for other teachers who may still be in the phase of embracing the challenge of teaching through blended learning in their classes.

This study placed the schools in a strategic position to influence teaching practices to enable blended learning to succeed within the district city schools and in other closely similar settings. Concrete evidence of teacher actions

leading to learning community building within blended learning classes was revealed. The study highlighted the teaching and learning practices through the evidence of the manifestations of the presences and its intersections. These affirm the blended learning practices within these schools which are foreseen to guide teaching teams in other schools that might be considering blended learning pedagogies grounded on learning community building.

This research documented the practical use of technology platforms for learning in schools which have capitalized on ICT integration. The documentation in this study serves to raise awareness of the transformative possibilities of blended learning with the intelligent use of technology to harness active learning among K-12 students. These have implications on school-based policymaking and implementation guidelines, given recent memorandum related to the use of social media in schools. The Department of Education in the Philippines discouraged the use of social media as a means of communication among teachers and learners and banned its usage in class projects. The memorandum served as a protective measure to students against potential problems related to privacy and cyber threats. The results of this study hope to contribute to this discussion while bearing in mind the shared views on technology use and the benefits of social media communications among teachers and students documented in this study.

8.3.3 Contributions to Blended Learning Programs in Schools

This study affirmed links between prior findings on sense of community and the K-12 context in this study. Examples of categories and indicators under teaching presence and social presence were found as students engaged in cooperative and collaborative learning activities. Findings showed specific examples for the process that K-12 teachers and students used to establish their online identities and forge connectedness through social interactions and to sustain engagement in learning activities. The study made known the learning communities as experienced by students themselves. These call to mind the importance of holistic development, which regular and traditional schooling, are often able to achieve within the four walls of the classroom. This study revealed that these can be likewise experienced by high school

students who are not in school nor do not meet face-to-face daily. Therefore, through the study's baseline data on the what's and how's of blended learning practice within the school district, programs can be monitored for their gains, much needed support and possible influence on school practices within the district.

Through the thoughtful use of a research-based framework, this study demonstrated the potential of the learning communities construct, and the CoI, to guide K-12 blended learning program practices. The contribution to blended learning programs in the Philippine school setting is represented by the Developmental Model of K-12 Blended Learning Communities (see Figure 8.1) discussed in response to the research question. This model is foreseen to guide the schools as they inform and prepare parents and students on program goals, guidelines, and conditions expected of blended learning, not only in terms of modes delivery of instruction, but in terms of ensuring active learning. During school orientation and program promotion or advocacy, blended learning may be discussed as a way of building learning communities where both teachers and learners engage in sustaining interactions as the means to build connectedness, trust, and mutual respect.

8.3.4 Contributions to Theory: Knowledge and Research into the CoI Framework

The study found the practical application of the CoI framework as it contextualized its use within K-12 settings. This research was able to adapt a bilingual version of the CoI survey instrument based on a slight rewording of terms to suit the K-12 context of the study. With its adaption and use among the student participants, coupled with other qualitative data collection tools, this study found ways to examine findings leading to highlight the intersections of the presences as the space for learning community building.

Prior studies have examined individual presences and the interrelationships of the presences. Other studies concluded by extending the framework to add a new element within the framework. This study, in its quest to investigate learning communities as outcomes of blended learning, instead sought to

address an under-researched aspect of the framework. Through an appreciation of the intersections, this study established these intersections as the space for learning community building. The concrete knowledge generated from this study is represented in Figure 8.2. This study asserts the importance of learning community building in the context of the K-12, and through the interactions of the presences. Within the intersections are actions and strategies towards learning community building which align with the arguments for learning communities in prior research.

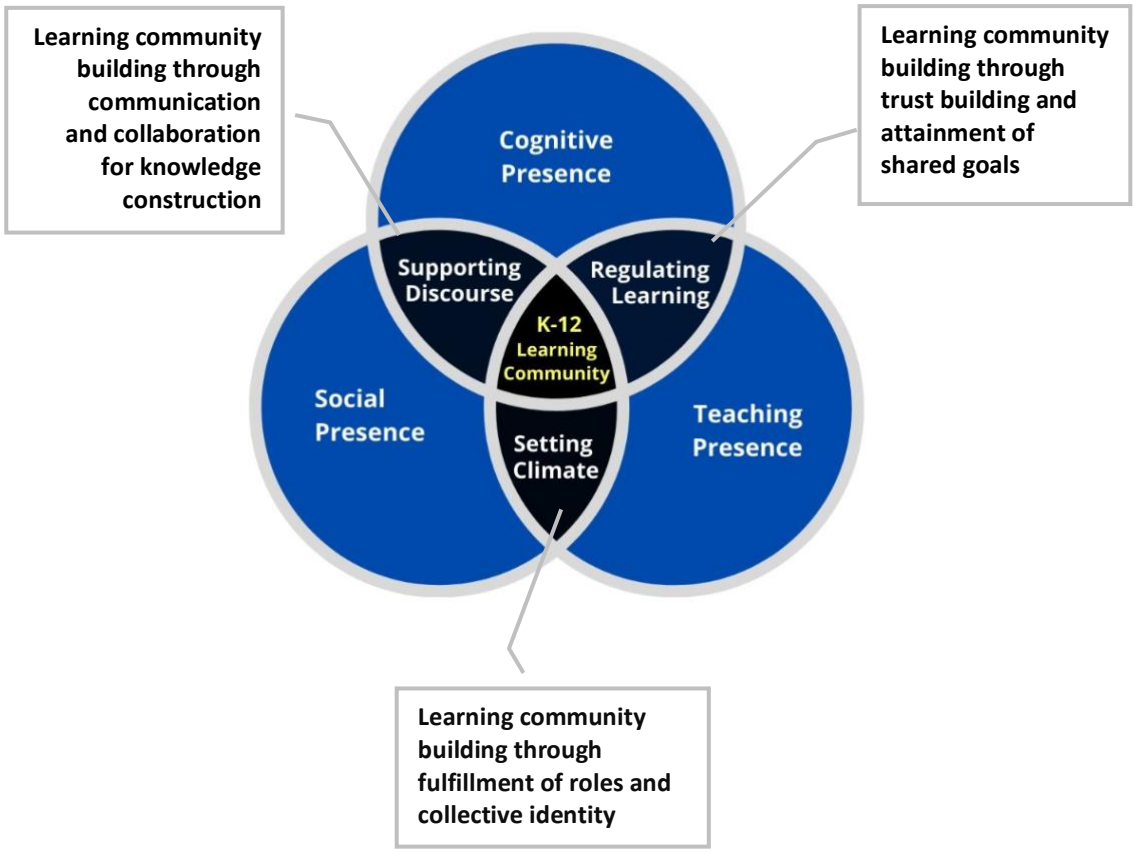


Figure 8. 2 The CoI framework for K-12 Learning Community Building adapted from Garrison et al. (2000)

The CoI framework for K-12 Learning Community Building focuses on learning community building as part of the educational experience of blended learning, especially in settings where the essence of socio-constructivist learning through the collaborative inquiry have not been realized, which is in the case of most public schools in the Philippines. Currently, blended learning is defined in terms of technology use and modalities for the delivery of instruction. The focus has been towards academic achievement and comparing learning outcomes of face-to-face instruction and online delivery

to justify its claims alongside traditional or mainstream ways to teach and learn. This research argued for an alternate view of blended learning, that is highlighting the experience of learning community building specifically through explicit and implicit acts from teachers and students. It is the teachers and the students that become the main drivers of change. Particularly, these acts are geared towards shared goals of learning by oneself through self-direction and learning with and being with, fueled by shared views on the role of technology and advocacy for blended learning. As a result, the development of learning community becomes a shared experience of setting the climate for learning, the feeling of connectedness while building personal and collective identities, and the regulation of one's learning and that of others. Thus, in the context of K-12 schools, learning community building becomes its hidden curriculum to support its evolution as a transformative pedagogy.

The proposed framework has implications for future research at the K-12 in four concrete ways: 1) to inform and reflect on teaching and learning practices 2) to structure teacher reflection and professional development; 3) as a guide to defining enabling mechanisms in support of transitioning to a constructivist learning culture by leading to policies and guidelines; and, 4) as a catalyst for course design and resource development potentially leading to prospective linkages with open universities. For these possibilities to be realized, this study argues for a proposed modification to the CoI as one of the contributions of this study. A discussion and justification of these suggested changes are found in the next sections.

8.3.4.1 Proposed modification to the CoI categories and indicators

In settings where learning communities remain unknown within still emerging blended learning programs, the practical inquiry cycle and constructivist teaching are not as widely adopted. This is especially true in traditional school settings such as in the Philippines. Teaching and learning practices in these contexts are still gradually shifting away from teacher-centered and instructivist pedagogies.

Applying the CoI framework in such a setting through this study revealed evidences of self-regulation and co-regulation through varied manifestations of TP, SP and CP, but did not see how these were being accounted for within the framework or the instrument. The researcher also found that the CP items of the CoI survey instrument did not explicitly reveal the self-regulating task students perform, and instead are rather implied. In addition are student actions manifested as TP which indicates self-direction while students were learning on their own. Manifestations of SP and CP in this study also revealed ways students co-managed their learning and monitored each other while engaged in group work through cooperative and collaborative activities. Hence, the proposed accommodation for TP, SP and CP are put forth which likewise responds to the call for further studies on the shared metacognition construct and questionnaire (Garrison & Akyol, 2015). The proposed modification is represented in Table 8.1 which reveal important aspects of teaching and learning as found in blended learning communities.

Table 8. 1
Proposed Changes within the Presences of the CoI: Categories and Indicators for K-12

CoI Element	Categories	Indicators
Teaching Presence	➢ Design and Organization ➢ Facilitating Discourse ➢ Direct Instruction ➢ Self-direction	• Setting curriculum & methods • Shaping constructive exchange • Focusing and resolving issues • Monitoring/Knowledge of cognition • Strategy use
Social Presence	➢ Affective Expression ➢ Interactive Communication ➢ Group Cohesion ➢ Shared Regulation	• Self-projection/Expressing emotions • Learning climate/Risk-free expression • Group identity • Cooperation and collaboration
Cognitive Presence*	➢ Self- and Co-regulation ➢ Reflection ➢ Critical Thinking and Dialogue	• Monitoring/Managing cognition • Reflecting on content/learning process • Sense of puzzlement • Exploration/Information Exchange • Connecting ideas • Applying new ideas

Note. Adapted to include proposed changes by the researcher and highlighted in yellow as additions to the initial categories and indicators proposed by Garrison et al. (1999)
*Categories of CP, namely Triggering event, Integration and Resolution were removed but its indicators maintained.

Self-direction (under TP), Shared Regulation(under SP), Self- and Co-regulation and Reflection (under CP) have been accommodated as additional categories within the CoI. These new categories have corresponding items for accommodation as indicators. For example, under CP is Reflection as a category with indicators of 'reflecting on content' and 'reflecting on the learning process' which have been made explicit. Under SP, Shared Regulation are cooperation and collaboration as indicators. All other additional indicators which support shared metacognition have also been included as part of TP and CP under Self-direction and Self-and Co-regulation respectively.

To note are the other categories from the collaborative inquiry under CP which have been replaced with the category 'Critical Thinking and Dialogue', except for Exploration being maintained with the corresponding indicators. This proposed change is based on manifestations of indicators found in the study but not necessarily as how it is defined through a constructivist learning theory. Keeping the indicators within the framework will provide support for learning communities which are transitioning to constructivist learning communities.

The proposed modifications within the categories and indicators for the K-12 context are still in keeping with the framework's integrity and its three presences. These suggestions are based on findings which correspond to the shared metacognition discussed by Garrison and Akyol (2015) and prior research on self-direction by Garrison (1997), the components of self-regulation as reported by Nota et al. (2004), the learning presence construct proposed by Shea et al. (2012) and reflection as an indicator of CP suggested by Redmond (2014) and data from this study.

This study's proposed CoI categories and indicators, the CoI Framework for K-12 Learning Community Building and Developmental Model for K-12 Blended Learning Communities are foreseen to inform and guide the professional development of teachers as well as blended learning course

development program practices. These opportunities are foreseen to reframe pedagogies and transform mindsets.

Consequently, suggested modifications will also apply to the CoI survey instrument. The proposed categories of self-and co-regulation and shared regulation correspond to items indicative of monitoring, regulating and managing cognition from the Shared Metacognition Questionnaire as seen in Tables 7.3 and 7.5. These are then suggested for accommodation when rewriting the CoI survey instrument for K-12 blended learning. The next section elaborates on these suggested changes to the instrument for the K-12 setting.

8.3.4.2 Proposed modification to the CoI survey instrument for K-12 blended learning

With the above are suggested modifications to the CoI survey instrument as seen in Table 8.2, Table 8.3 and Table 8.4. For suggested changes to TP, Table 8.3 shows Self-direction as an additional category, with indicators and corresponding items for inclusion to the CoI survey instrument (see highlighted items). These are based on findings from Chapter 5 where manifestations of TP indicated actions or behaviors coming from students themselves. This is also based on findings which have been described in Chapter 7 and shown in Tables 7.3 and 7.6. The items on Self-direction correspond to monitoring and strategy use as indicators.

Table 8. 2

Proposed Changes to Teaching Presence Items of the K-12 CoI Survey Instrument

Teaching Presence Categories and Survey Items	Indicators
Design and organization	
1) The teacher clearly communicates important goals or content/topics on the subject.	Setting curriculum and methods
2) The teacher provides clear instructions on how to participate in the learning activities.	Setting curriculum and methods
3) The teacher clearly communicates important due dates/ time frames for learning activities.	Setting curriculum and methods
Facilitating discourse*	
4) The teacher helps in identifying areas of agreement or disagreement that helped the class learn.	Shaping constructive exchange

5) The teacher guides the class towards understanding content in a way that helped clarify our thinking.	Shaping constructive exchange
6) The teacher keeps the class engaged and on task in a way that helped us learn.	Shaping constructive exchange
7) The teacher makes effort to develop a sense of community among students in our class.	Shaping constructive exchange
Direct instruction	
8) The teacher helps to focus the discussion on relevant issues in a way that helps me learn.	Focusing and resolving issues
9) The teacher gives feedback that helps me understand my strengths and weaknesses in relation to the subject's goals and objectives.	Focusing and resolving issues
10) The teacher provides feedback in a timely fashion.	Focusing and resolving issues
Self-direction	
11) I am aware of my existing knowledge.	Knowledge of cognition
12) I assess my understanding.	Monitoring of cognition
13) I make judgments of the difficulty of the problem.	Strategy use
14) I change my strategy when I need to.	Strategy use

Note. Adapted from items of the CoI survey instrument by Arbaugh et al. (2008), with one item* under facilitating discourse moved to CP.

For the proposed changes to SP of the CoI survey instrument, Shared Regulation as a category of SP is based on this study's findings which maintain the three presences, but with the indicator cooperation and collaboration to account for active individual and group learning. Within the social learning interactions of students that have been brought about by the choice of media, this study found students took on roles to further their learning and that of others. These interactions take place simultaneously and incidentally as students interact and they see their roles as peer learners. Students co-regulate while engaged in cooperative and collaborative learning activities designed by teachers but for either social or cognitive reasons or both. Hence, the addition of Shared Regulation as an indicator of cooperation and collaboration which coincide with selected items from the Shared Metacognition Questionnaire (see highlighted items) in Table 8.4. These items were reworded and added to the CoI survey instrument, with some items rewritten to suit the K-12 context in the Philippines. This modification is also based on the review of the alignment of the SP items (see asterisked items) suggested by Lowenthal and Dunlap (2014).

Table 8. 3

Proposed Changes to the Social Presence Items of the K-12 CoI Survey Instrument

Social Presence Categories and Survey Items	Indicators
Affective expression	
1) I can form distinct impressions of some of my classmates.	Self-projection
2) I am comfortable expressing my emotions through online or web-based communication.	Expressing emotions
3) I can trust my peers' expressions and other communications while interacting online.	Risk free expression
Interactive communication	
4) I feel comfortable conversing through online platforms such as Facebook/LMS/chat groups.	Learning climate
5) I feel comfortable engaging in online discussions as a way to learn.*	Learning climate
6) I see our disagreements as part of communicating or interacting while learning.	Learning climate
Group cohesion	
7) Getting to know other students through this class gives me a sense of belonging.	Group identity
8) I feel comfortable disagreeing with other classmates while still maintaining a sense of trust.	Group identity
9) I feel a sense of connectedness with my peers.	Group identity
Shared regulation	
10) My classmates and I listen to each other's ideas or points of view.	Cooperation and collaboration
11) My classmates and I consider each other's feedback and contributions.	Cooperation and collaboration
12) My classmates and I help each other learn.	Cooperation and collaboration
13) My classmates and I monitor each other's behavior while learning.	Cooperation and collaboration

Note. Adapted from the survey items of the CoI instrument by Arbaugh et al. (2008), Shared Metacognition Questionnaire by Garrison and Akyol (2015); *Adapted from the suggested rewriting by Lowenthal and Dunlap (2014)

As for CP, there are selected items for inclusion based on the Shared Metacognition Questionnaire and from prior studies which have examined CP and the categories of Integration and Resolution as part of the practical inquiry cycle. Notice that CP items in the CoI survey instrument correspond to these indicators (see highlighted items). An item from the TP portion of the instrument was also moved to the CP portion of the instrument (see asterisked items).

Table 8. 4

Proposed Changes to the Cognitive Presence Items of the K-12 CoI Survey Instrument

Cognitive Presence Category and Survey Items	Indicators
Self-and co-regulation	
1) I am aware of my effort and motivation.	Monitoring cognition
2) I assess how I approach the problem.	
3) I look for confirmation of my understanding from others.	Monitoring cognition
4) I challenge the perspectives of others.	Managing cognition
Reflection	
5) I reflect upon the comments of others.	Reflecting on the learning process
6) I reflect on the content and discussion to help me understand concepts in the subject.	Reflecting on the content
Critical thinking and dialogue	
7) Learning activities engaged my curiosity.	Sense of puzzlement
8) Brainstorming and finding relevant information helped me and my classmates resolve content-related questions.	Information exchange
9) New concepts were explored sufficiently in this subject.	Exploration
10) Group interactions and discussions were valuable in helping me and my classmates appreciate different perspectives.	Connecting ideas
11) Combining new information helped me answer questions raised in class activities.	Connecting ideas
12) Learning activities helped me construct explanations or solutions*.	Applying new ideas
13) I can apply the knowledge created in this subject to my other classes or school-related activities.	Applying new ideas

Note. Adapted from survey items of the CoI instrument by Arbaugh et al. (2008), Shared Metacognition Questionnaire by Garrison and Akyol (2015); * TP item rewritten and moved to CP

The above contributions to this study address the call for keeping the integrity of the presences within the CoI while exploring ways to strengthen its applicability at the K-12 setting and in learning environments where either blended learning programs are still emerging, or collaborative inquiry has not been introduced. This study has initiated the application of the CoI survey instrument in a K-12 setting, and more concretely through a bilingual version adapted for use among K-12 students. The translated version of the CoI instrument in Filipino used in the study opens up possibilities of testing the Shared Metacognition Questionnaire or the CoI survey instrument with the proposed changes for the potential use in K-12 blended learning programs or

in other schools where technology has been integrated and corresponding constructivist pedagogies have been mainstreamed.

Therefore, this study justifies the CoI as a framework to examine learning communities and with corresponding tools to be applied in a wider setting. For example, this study foresees testing the revised CoI survey instrument among K-12 students. A complete revised version is included in Chapter 8. With this, the CoI framework becomes not only a potential measure of educational experiences at the K-12 but also as a self-reflection tool for teachers, as discussed further in Chapter 8. When tested, the tool has the potential to inform classroom practice and school-based professional development of teachers, whether in blended learning environments, alternative learning programs aided by technology or technology-enabled classrooms in the Philippines.

This study further proposes that the CoI framework for K-12 learning community building and the K-12 CoI survey instrument can be adopted for use among K-12 teachers and students in specific ways:

1) The bilingual version of CoI used in the study opens up possibilities of testing the Shared Metacognition Questionnaire for potential use in other K-12 blended learning and flexible options in the Philippines which are still unknown or emerging and in schools where ICT have been integrated in the classroom.

2) The proposed changes to the CoI framework, its categories and indicators as well as the instrument, be accommodated for further testing and validation for use among K-12 teachers and students. In the process, bilingual versions of the instrument may be developed thereafter to suit specific populations.

3) A version of the CoI instrument be adapted as a self-reflection tool or self-assessment instrument for K-12 teachers of blended learning to ascertain areas of strength and areas for professional development

Suggested adaption of the CoI as a self-reflection tool for teachers is discussed in the next section.

8.3.4.3 Proposed CoI self-reflection tool for teachers

This study found that learning communities were outcomes of the blended learning interactions. However, as to whether teachers see themselves and their experiences as indicative of them being part of the learning community was not explicitly revealed. The study only applied the CoI survey instrument to the students as an added measure to support the findings. However, the instrument was not designed for teachers to use as a mirror for their contribution to the learning community building process as a co-member. Though the dynamics of teacher-student relationships have a bearing on this, this study finds sense in proposing the CoI survey instrument as basis for a self-reflection of teachers. This is justified capitalizing on the multicultural argument of learning communities in this study's review of the literature. The study finds alignment in these arguments for learning communities as seen in Figure 8.1 and this study's practical contribution to apply the CoI as a framework for learning community building in other contexts. The following, as seen in Table 8.6, is an excerpt from the K-12 CoI Self-Reflection Tool for teachers being proposed by this study (see Appendix M):

Table 8. 5

Proposed Items for the K-12 CoI Self-Reflection Tool for Teachers: Sample SP Items

Current CoI SP Categories and Survey Items for students	**Proposed: SP Categories and Survey Items**
Affective expression	
I was able to form distinct impressions of some course participants.	1) I can form distinct impressions of some of my students.
Online or web-based communication is an excellent medium for social interaction.	2) I am comfortable expressing my emotions with my students through online or web-based communication.
(Item moved to Group cohesion)	3) I can trust my students' expressions and other communications while interacting online.

Interactive communication	
I felt comfortable conversing through the online medium.	4) I feel comfortable conversing with my students through online platforms such as Facebook/LMS/chat groups.
I felt comfortable interacting with other course participants.	5) I see our disagreements as part of communicating or interacting while teaching and learning with my students.
Group cohesion	
Getting to know other course participants gave me a sense of belonging in the course. (Item from Affective expression)	6) Getting to know other students through this class gives me a sense of belonging.
I felt comfortable disagreeing with other course participants while still maintaining a sense of trust	7) I feel comfortable with my students disagreeing while still maintaining a sense of trust in their process.
Online discussions help me to develop a sense of collaboration.	8) I feel a sense of connectedness with my class/students.
Shared regulation	
I felt that my point of view was acknowledged by other course participants. (Item from Group cohesion)	9) I encourage my students to listen to each other's ideas or points of view.
	10) I encourage my students to consider each other's feedback and contributions.
	11) I find ways for students to help each other learn.
	12) I allow students to monitor each other's behavior while learning.

Note. Adapted from survey items of the CoI instrument by Arbaugh et al. (2008) and Shared Metacognition Questionnaire by Garrison and Akyol (2015). *Based on the rewriting or rewording suggested by Lowenthal and Dunlap (2014)

Though the SP items are clear within the CoI framework and its coding protocols, items in the survey instrument are phrased in order for students to respond to. The above modifications to the items are being proposed and foreseen to highlight social presence as suggested in research. Most importantly, it affords teacher reflection on aspects which relate to explicit planning for learning community building through sense of community and shared regulation. These suggestions are being proposed to be accommodated and still in keeping with the integrity of the three presences.

8.3.4.4 Summary of proposed changes

While some studies will go as far as suggesting the inclusion of additional presences, this study instead argued for a better understanding and appreciation of the intersections of the presences which included setting the climate and supporting discourse as the space where self-regulation and co-regulation also take place, especially for the K-12 audience. As such, this study affirms the stance of Garrison (2017) to maintain the integrity of the three presences while recommending further research into the meanings that learning community members place on the intersections of the presences to assure the applicability of the CoI framework in other settings. This study's major contributions to the theory and research into the CoI have been justified. To reiterate, these are: accommodation of new categories and indictors to the CoI to fit other contexts, proposed changes at the level of the CoI instrument items which included realignment, rewording and merging or replacing items to resolve redundancies. The last proposal entailed rewording the CoI instrument for it to become a self-reflection tool for teachers of blended learning, as indicated in a sample found in Table 8.6.

8.4 Implications

The implications of this study include possible areas of application of the proposed changes. These implications also resulted from contributions of this study in the knowledge and practice of K-12 ODeL in the Philippines. It also discusses most importantly future research borne out of this study's contribution to research into the CoI framework and learning communities.

8.4.1 Implications for Policy Development

The study aligned with working models of K-12 blended learning abroad and supported by research within the K-12 from which the Philippine educational system can learn. Findings based on prior studies and this current study will most certainly inform the direction of blended learning in the local setting. This study therefore recommends that prior research on K-12 blended learning in other contexts which relate to elearning readiness, effective course and resource development and the use of platforms, may be useful once contextualized in the Philippine setting. Its application is recommended

particularly in schools where conditions predispose blended learning and technology use to succeed. Therefore policymaking for blended learning implementation in the Philippines must take into consideration existing conditions in schools which are supportive of blended learning. Policies related to program development and implementation must therefore consider the readiness and willingness of stakeholders. This would be informed by the CoI framework as well as models and practices of blended learning that are documented in this research. This study paved the way for one framework to be applied in the local context by placing learning community building at the forefront. This in turn can be one of the program goals and area of program evaluation when adopting blended learning in schools.

This study found that the use of technology, specifically a learning management LMS and FB Messenger were seen as practical means to access content anytime, anywhere. This however is dependent on the availability of a good internet connection, computers, or devices and enabling mechanisms. Key offices in the Department of Education may use this study in support of current and prospective policies and guidelines enabling blended learning and ICT integration in schools which are deemed ready to pilot, test or adapt blended learning programs given closely similar scenarios or conditions. Prospective policies and guidelines will certainly impact on program planning and funding requirements which can be justified based on the study's findings and future research recommended by this exploratory study.

This study may well be considered by the Department of Education given recent guidelines on the use of devices and social media in school and for education purposes. Perhaps current policies and guidelines may be selectively implemented if not relegated at the school or district level. As such, this will bear on current school-based processes and channels of communication to ensure that policies are formulated to give due consideration to the voices of parents, students, teachers and staff, and that take into consideration the realities of the local school context. This study therefore recommends that policies and guidelines be formulated based in

consultation with school community and through the mechanism of the Parent Teacher Association mandated in all schools. Findings in this study presented the CoI as a viable framework to examine and understand blended learning along with adjustments to the framework that make it more appropriate for the Philippine context. A concrete example is for the proposed K-12 CoI framework on learning community building to be utilized to frame the discussion of blended learning in orientation sessions for parents and students. The formation of learning communities to become part of the blended learning program goals and the assessment of positive learning experiences and student satisfaction would be a valuable feature within the blended learning programs.

Outcomes of the study may provide the basis to map the direction of future research in the area of policymaking related to the development of student support systems and open resources in districts where there are willing teachers, students and schools. This would require an open attitude to be disrupted by technologies to implement blended learning. Through the results of the study, the school district where blended learning programs are found, can continue to influence and lead the conversation in the school. This has the potential to be extended to the district level policy building body to include mandates that support professional development programs and pre-service teacher education programs for ODeL. In this way, the support for blended learning would have the ingredients to thrive within the K-12 system.

8.4.2 Implications for Professional Development

This study did not include examining the specific lesson planning and resource development practices, or the preparation that is required of teachers doing blended learning. However, it revealed what teachers and students found to be important in terms of online learning content and organization, as well as the use of technologies. This study therefore recommends teacher professional development in the area of pedagogy and practice, specifically to integrate explicit learning community building strategies based on the proposed Developmental Model of K-12 Blended

Learning Communities in Figure 8.1, the CoI framework for K-12 Learning Community Building in Figure 8.2. Strategies related to trust and rapport building, online and collective identity formation are areas for emphasis. Other professional development should be in the form of instructional design and course pack development which would be grounded on the development of the presences. In addition, teacher training workshops could be implemented for the course design team to revisit and improve current learning modules for a more enriched or engaging teaching and learning experience for both teachers and students.

Findings in the study show a shared advocacy among teachers for the use of technology and blended learning. Clearly, this research demonstrated that school advocacy coupled with a positive attitude and supported through advocacy with selected teachers can influence on their teaching and the students themselves. Thus, ways to advocate for blended learning may be included in the teacher training sessions learning community building would be used as a framework to inform the stakeholders on the direct and indirect benefits of these blended learning programs.

Within the interactions and experiences captured through this study, strategies for learning community building already in use may be emphasized in teacher training sessions. Meaningful learning community building through teaching presence and social presence and ways to establish setting climate for learning have been documented in this study. This study asserts that the construct and strategies of learning community building should be further examined within the context of K-12 local classrooms and in the everyday conditions that teachers and students encounter in schools. The study therefore has implications on the eventual planning for training which is required for assessment and to deliver the teacher professional development which is framed through the CoI.

The CoI framework presents itself not just as a potential measure of education experiences but also as a self-assessment tool for both teachers and students. Possibilities for the use of the CoI self-reflection tool (Appendix

being proposed by this study could be utilized, to include other measures of teaching, in school-based professional development of teachers, whether in blended learning environments or technology enabled classrooms in the Philippines. These can be included in training for needs assessment and for schools that are preparing for a school-wide blended learning implementation.

8.4.3 Implications for Prospective Linkages

This kind of study is timely as K-12 students have shifted to online learning and secondary level learners are expected to proceed to higher education settings which now view at online instruction as an integral and essential mode of delivery. Given this alignment, blended learning programs in the Philippines may benefit from research which have similarly informed blended learning pedagogy and practice in other settings, particularly in higher education programs offering post-secondary and undergraduate courses. In particular, the University of the Philippines Open University (UPOU) had been established as a tertiary level institution with blended and fully online tertiary level programs. It took an active role in the revision of its general education programs in preparation for the influx of newly graduated senior high school students, who were the products of the shift to the K-12 system. This scenario potentially links the UPOU and K-12 schools which offer senior high school and ADM, namely the OHSP and eLearning Programs doing ICT integration and blended learning. An unexplored area may be in the form of bridging blended or fully online courses from Year 12 to UPOU undergraduate programs, thus the potential of having course development projects for co-teaching and co-delivery. Pre-service preparatory courses could include teaching and fieldwork in blended learning environments. These are areas that are worthy for consideration to link teacher education programs in universities to K-12 programs. Placements in virtual professional work experience can also be explored.

Another area of possible partnership would be in continuing education, fieldwork and community service-learning opportunities for student-teachers under UPOU's university teacher education programs with schools that have

blended learning programs. Opportunities for knowledge sharing of pedagogy and practice may be forged through teacher training, certificate or continuing education programs for teachers in schools that are open to learning more about blended and online teaching and learning. The foreseen knowledge exchange fueled by this initial study on K-12 blended learning in the Philippines may lead to partnerships in the area of open resource co-development, instructional modules or courseware pilot testing and ICT integration projects.

8.4.4 Implications for Future Research

This study contributed findings based on the surveys, interviews, FGD, face-to-face class observations, virtual classroom stored data and the use of field notes being cognizant of classroom-based and school-based experiences in blended learning programs. The analysis involved the triangulation of data which increased rigor in the research undertaken. The qualitative methodology employed gave due attention to aspects of classroom teaching with the materiality of the physical environment and the use of technologies. Future qualitative studies are recommended to capitalize on these qualitative data collection methods to see the interplay of both face-to-face learning and online learning. This is the focal point where technologies are at work for learning communities to be examined while it is being experienced by the research participants. Templates for classroom observation based on the revised CoI may be developed for use in these types of research environments.

As mentioned, the schools included in this study were placed in a strategic position to influence other schools in the district, particularly in the areas of blended learning pedagogies, program practices and implementation. This implies that these environments could be prospective research sites to continue testing the proposed instruments from this study with students and teachers. For example, this study recommends further investigation of self-regulation and co-regulation. The K-12 setting serves as a robust space to pursue this further research. Given that this study affirmed the CoI as a valid framework for use among K-12 teachers and students, then it goes without

saying that the construct of Shared Metacognition proposed by Garrison and Akyol (2015) which subsumes self-regulation and co-regulation, can be likewise applied to K-12 blended learning communities. Its application as a future study along these lines has the potential to inform the ways that instructional approaches are to be designed and delivered within blended learning. The objective is to build learning communities that also develop the necessary skills for adolescent learners to succeed in blended learning environments and to embark on future flexible learning options at the higher education setting.

In terms of research related to prospective linkages with open universities, this study foresees studies related to pilot-testing and evaluation of course packages, and the co-development and administration of virtual community sites for K-12 teachers and students. These blended learning communities would function as a support mechanism for both students and teachers to purposely forge course level, or program level, sense of community. Another area is for proposed changes to the framework and instrument be statistically tested for the purposes of validation in K-12 environments.

8.5 Limitations of this Study

This research was an exploratory case study. Hence its findings and results are only generalizable to the specific population and context this study is situated in, particular, within the public-school system of the Philippines where blended learning classes and programs are in place. The researcher had to abide within the protocols of the Department of Education regarding use of school and class hours for data collection. These protocols included ethical guidelines for seeking consent from parents of minors. Thus, the research operated within the time constraints and the limited number of participants given consent. With these given limitations however, this research maintains that the results and its applicability in the context of the study remain valid. The validity is based on the triangulation of data afforded by the qualitative design and the methodology applied in this study.

The researcher was required to work within the boundaries of time accorded by the selected K-12 schools, teachers and students. Data collection during class and/or school hours was limited especially since student face-to-face sessions did not happen daily. The face-to-face class observations were likewise a challenge to schedule. This was due to major class activities, assessments and examinations which resulted in having only three class observations. The limited number of class observations implied that less opportunities were available to capture and closely examine the phases of practical inquiry. Thus, the manifestations of CP, TP and SP could only be determined based on data gathered through student FGD, field notes, questionnaires and interviews. In the future, for collaborations in the context of learning communities to be closely examined, this study recommends more time to immerse in the school classroom culture to discern the conditions which are most supportive of groupwork. Field notes and frequent student interviews could be maximized to reveal nuances and patterns within these collaborative activities. This would provide more opportunities to establish the quality of the collaborations taking place within the blended learning interactions.

In the process of the data analysis and interpretation of results, the study found that the stored data from online classes provided was limited, subject to what students or teachers were willing to share and discuss. Due to limitations in stored data, only a few results provided support for CP within the students' online work. In the future, researchers may rely on school or district level protocols and guidelines for data collection from school or teacher sanctioned social media, bearing in mind what may count as shared or public knowledge for data mining.

The study employed the CoI survey instrument initially developed for higher education. Though generally the students were able to cope with its length, there were a few items which may have been difficult to concretize or unpack such as the term 'disagreements' as it relates to the word 'trust'. A bilingual instrument was developed to suit the context of the participants. It entailed replacing some terms to fit the context of K-12 classrooms, making it more

accessible to the students. The items can be further reviewed to best fit the context of users in other K-12 schools.

The research involved more students than teachers as seen in the number of participants included in this study. Hence the data gathered are more representative of students taking part in the learning communities. The data gathered for this research is representative of students having a sense of community or feeling of connectedness and taking part as members of the learning communities. The research also involved more students than teachers as seen in the methodology chapter. The CoI survey items were meant for students not teachers. The researcher also found that particular survey responses indicated as 'Neutral', though few, could have been a cautious or a polite way for K-12 students to respond. These responses were interpreted as a way for students to keep themselves from being critical or negative and/or may affect their grades. Thus, during the FGDs, students were assured of their anonymity and that the study was primarily meant to understand their experiences rather than evaluate their program. In the future, it may be impressed on students that responding honestly to the CoI instrument could be seen as a way to examine and reflect on their BL interactions and also improve their experiences.

Similarly, the FGD questions were geared towards determining students as members of learning communities. However, it included questions related to teacher actions and the quality of interaction and support teachers provide. The interview questions for teachers was able to elicit discussions on teaching, assessment and student support. The teachers' ways of keeping connected with students were examined but their views of their own sense of belonging as learning community members remained unexplored.

8.6 Chapter Summary

This study sought to investigate the experiences and outcomes of K-12 blended learning classes through the research question, "In what ways do the experiences of teachers and students signify learning communities as outcomes of K-12 blended learning classes?". In response to the key research

question, this study presented and discussed evidence of learning communities as outcomes of blended learning experiences. These outcomes were examined through the manifestations of teaching presence, social presence and cognitive presence of the CoI framework. Learning community building as experienced by teachers and students in this study was found within the intersections of the presences, namely setting climate and regulating learning. Supporting discourse as part of learning communities have been found but minimally. Knowledge construction within the K-12 blended learning classes which typify socio-constructivist learning communities was not ascertained.

This study's major contributions a model and a framework to inform and guide blended learning practices at the K-12 setting in non-Western contexts or developing countries such as the Philippines. The proposed Developmental Model of K-12 Blended Learning Communities based on the study positioned educational programs which can potentially transition to a transformative kind of blended learning. Through the CoI framework for K-12 Learning Community Building drawn from this study, modifications to the categories and indicators and the K-12 CoI survey instrument have been proposed. This alternate framework highlights the intersections where learning community building among K-12 teachers and students may be realized. A self-reflection tool for K-12 teachers based on the CoI instrument is provided for teachers to assess their role as contributors to their learning communities. As such, the study recommends further application of the CoI to inform blended learning pedagogy and practice in the Philippines. This study also demonstrated findings which have implications for the implementation of blended learning programs and the professional development of teachers. The emphasis on learning community building is the focus to sustain the quality of educational experiences in blended learning programs and to provide access to alternative delivery programs in the Philippines.

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APPENDICES

Appendix A

Community of Inquiry Survey Instrument

Teaching Presence

Design & Organization

1) The instructor clearly communicated important course topics.
2) The instructor clearly communicated important course goals.
3) The instructor provided clear instructions on how to participate in course learning activities.
4) The instructor clearly communicated important due dates/time frames for learning activities.

Facilitation

5) The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
6) The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
7) The instructor helped to keep course participants engaged and participating in productive dialogue.
8) The instructor helped keep the course participants on task in a way that helped me to learn.
9) The instructor encouraged course participants to explore new concepts in this course.
10) Instructor actions reinforced the development of a sense of community among course participants.

Direct Instruction

11) The instructor helped to focus discussion on relevant issues in a way that helped me to learn.
12) The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.
13) The instructor provided feedback in a timely fashion.

Social Presence

Affective expression

14) Getting to know other course participants gave me a sense of belonging in the course.
15) I was able to form distinct impressions of some course participants.
16) Online or web-based communication is an excellent medium for social interaction.

Open communication

17) I felt comfortable conversing through the online medium.
18) I felt comfortable participating in the course discussions.
19) I felt comfortable interacting with other course participants.

Group cohesion

20) I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.
21) I felt that my point of view was acknowledged by other course participants.
22) Online discussions help me to develop a sense of collaboration.

Cognitive Presence

Triggering event

23) Problems posed increased my interest in course issues.
24) Course activities piqued my curiosity.
25) I felt motivated to explore content related questions.

Exploration

26) I utilized a variety of information sources to explore problems posed in this course.
27) Brainstorming and finding relevant information helped me resolve content related questions.
28) Online discussions were valuable in helping me appreciate different perspectives.

Integration

29) Combining new information helped me answer questions raised in course activities.
30) Learning activities helped me construct explanations/ solutions.
31) Reflection on course content and discussions helped me understand fundamental concepts in this class.

Resolution

32) I can describe ways to test and apply the knowledge created in this course.
33) I have developed solutions to course problems that can be applied in practice.
34) I can apply the knowledge created in this course to my work or other non-class related activities.

<u>5 point Likert scale</u>

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Appendix B

Part I Community of Inquiry Survey Instrument

Instructions:

1) Read each item below

2) Think about your response. Put a check in the proper space which matches your response.

1= Strongly Agree

2= Agree

3= Neutral

4= Disagree

5= Strongly Disagree

Survey Item	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1. The teacher clearly communicated important subject topics.					
2. The teacher clearly communicated important subject goals.					
3. The teacher provided clear instructions on how to participate in learning activities.					
4. The teacher clearly communicated important due dates/time frames for learning activities.					
5. The teacher was helpful in identifying areas of agreement and disagreement on subject topics that helped me to learn.					
6. The teacher was helpful in guiding the class towards understanding topics in a way that helped me clarify my thinking.					

Survey Item	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
7. The teacher helped to keep the class engaged and participating in productive dialogue.					
8. The teacher helped keep the class on task in a way that helped me to learn.					
9. The teacher encouraged the class to explore new concepts in this subject.					
10. Teacher actions reinforced the development of a sense of community among students in class.					
11. The teacher helped to focus discussion on relevant issues in a way that helped me to learn.					
13. The teacher provided feedback in a timely fashion.					
14. Getting to know other students through this subject gave me a sense of belonging in class.					
15. I was able to form distinct impressions of some of my classmates.					
16. Online or web-based communication is an excellent way to interact and learn at the same time.					
17. I felt comfortable conversing through the online platform on FB/ LMS/ Chat groups.					
18. I felt comfortable participating in the online discussions.					

Survey Item	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
19. I felt comfortable interacting online with other classmates.					
20. I felt comfortable disagreeing with other classmates while still maintaining a sense of trust.					
21. I felt that my point of view was acknowledged by other students in class.					
22. Online discussions help me to develop a sense of collaboration.					
23. Problems posed increased my interest in issues tackled in class.					
24. Online learning activities engaged my curiosity.					
25. I felt motivated to explore content related questions.					
26. I utilized a variety of information sources to explore problems posed in this subject.					
27. Brainstorming and finding relevant information helped me resolve content related questions.					
28. Online discussions were valuable in helping me appreciate different perspectives.					
29. Combining new information helped me answer questions raised in the class activities.					
30. Learning activities helped me construct explanations/solutions.					

Survey Item	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
31. Reflection on content and discussions helped me understand fundamental concepts in this subject.					
32. I can describe ways to test and apply the knowledge created in this subject.					
33. I have developed solutions to problems that can be applied in practice.					
34. I can apply the knowledge created in this subject to my other classes or other related activities in school.					

Appendix C

CoI Survey: Bilingual version for the K-12 (English and Filipino)

	Lubos na hindi suma-sang-ayon **1** Strongly disagree	Hindi sang-ayon **2** Disagree	Walang opinyon **3** Neutral	Sang-ayon **4** Agree	Lubos na suma-sang-ayon **5** Strongly agree
1) *Malinaw na inilahad ng guro ang mahahalagang nilalaman o paksa ng subject.* The teacher clearly communicated important subject topics.					
2) *Malinaw na ipinaalam ng guro ang layunin ng subject.* The teacher clearly communicated important subject goals.					
3) *Nagbigay ang guro nang malinaw na patakaran patungkol sa kung paano makilahok sa mga gawain sa klase.* The teacher provided clear instructions on how to participate in learning activities.					
4) *Malinaw na ipinaalam ng guro ang mahahalagang petsa o deadline para sa mga gawain.* The teacher clearly communicated important due dates/time frames for learning activities.					

	Lubos na hindi suma-sang-ayon **1** Strongly disagree	Hindi sang-ayon **2** Disagree	Walang opinyon **3** Neutral	Sang-ayon **4** Agree	Lubos na suma-sang-ayon **5** Strongly agree
5) *Matulungin ang guro sa pagtukoy ng mga aspeto ng mga paksa kung saan may pagsang-ayon o di pagsang-ayon, at nakatulong ito sa aking pagkatuto.* The teacher was helpful in identifying areas of agreement and disagreement on subject topics that helped me to learn.					
6) *Nakakatulong ang guro sa paggabay sa klase upang maunawaan ang mga topic sa paraaang nakapaglilinaw ito ng aking pag-iisip.* The teacher was helpful in guiding the class towards understanding topics in a way that helped me clarify my thinking.					
7) *Tumulong ang guro panatilihin ang pagtangkilik at paglahok sa mga talakayan.* The teacher helped to keep the class engaged and participating in discussions.					
8) *Tumulong ang guro upang patuloy ang paggawa s mga gawain sa klase sa paraang nakatulong ito sa aking pagkatuto.* The teacher helped keep the class on task in a way that helped me to learn.					
9) *Hinikayat ng guro ang klaseng magtuklas ng bagong konsepto sa subject.* The teacher encouraged the class to explore new concepts in this subject.					

	Lubos na hindi suma-sang-ayon **1** Strongly disagree	Hindi sang-ayon **2** Disagree	Walang opinyon **3** Neutral	Sang-ayon **4** Agree	Lubos na suma-sang-ayon **5** Strongly agree
10) *Ang mga kilos ng guro ay tungo sa pagpapalalim na samahan sa mga estudyante sa klase.* Teacher actions reinforced the development of a sense of community among students in class.					
11) *Nakatulong ang guro sa pagpokus ng talakayan tungkol sa mga makabuluhang isyu sa paraang nakatulong ito sa aking pagkatuto.* The teacher helped to focus discussion on relevant issues in a way that helped me to learn.					
12) *Nagbigay ng tugon o feedback ang guro upang lalo kong maunawaan ang aking galing at kahinaan ayon sa mga layunin ng subject.* The teacher provided feedback that helped me understand my strengths and weaknesses in relation to the subject's goals and objectives.					
13) *Nasa oras ang pagbigay ng tugon o feedback ang guro.* The teacher provided feedback in a timely fashion.					
14) *Dahil sa pagkilala ko sa kapwa estudyante, pakiramdam ko na kabahagi ako sa klaseng ito.* Getting to know other students through this subject gave me a sense of belonging in class.					
15) *Nagkaroon ako ng natatanging impresyon sa mga kaklase ko.* I was able to form distinct impressions of some of my classmates.					

	Lubos na hindi suma-sang-ayon **1** Strongly disagree	Hindi sang-ayon **2** Disagree	Walang opinyon **3** Neutral	Sang-ayon **4** Agree	Lubos na suma-sang-ayon **5** Strongly agree
16) *Ang paggamit ng online o web-based communication ay isang mahusay na paraang makisalimuha at matuto din nang lubusan.* Online or web-based communication is an excellent way to interact and learn at the same time.					
17) *Kumportable akong makipag-usap sa online platform tulad ng FB/ chat o virtual classroom ng klase.* I felt comfortable conversing through the online platform on FB/ LMS/ Chat groups.					
18) *Kumportable akong makilahok sa mga online na talakayan.* I felt comfortable participating in the online discussions.					
19) *Kumportable akong makipag-ugnayan online sa mga kaklase ko.* I felt comfortable interacting online with other classmates.					
20) *Kumportable akong di-sumang-ayon sa mga kaklase habang patuloy pa rin ang aming tiwala sa isa't isa.* I felt comfortable disagreeing with other classmates while still maintaining a sense of trust.					
21) *Pakiramdam ko na ang aking mga pananaw ay kinikilala ng ibang mga kaklase ko.* I felt that my point of view was acknowledged by other students in class.					
22) *Ang mga talakayang online ay nakakatulong na magkaroon ako ng pakiramdam ng pakikipagtulungan.* Online discussions help me to develop a sense of collaboration.					

	Lubos na hindi suma-sang-ayon **1** Strongly disagree	Hindi sang-ayon **2** Disagree	Walang opinyon **3** Neutral	Sang-ayon **4** Agree	Lubos na suma-sang-ayon **5** Strongly agree
23) *Ang mga problemang nabanggit ay nagdulot ng mas mataas na interes sa mga isyung tinalakay sa klase.* Problems posed increased my interest in issues tackled in class.					
24) *Ang mga online na gawain o activities ay nakapaghikayat ng aking pagkausisa.* Online learning activities engaged my curiosity.					
25) *Nahikayat akong galugarin ang mga tanong na kaugnay na sa mga nilalaman ng subject.* I felt motivated to explore content related questions.					
26) *Nakagamit ako ng iba't ibang mga mapagkukunan ng impormasyon upang matuklasan ang mga problemang binanggit sa subject na ito.* I utilized a variety of information sources to explore problems posed in this subject.					
27) *Ang brainstorming at paghanap ng makabuluhang impormasyon ay nakatulong upang malutas ko ang mga tanong na kaugnay sa nilalaman.* Brainstorming and finding relevant information helped me resolve content related questions.					
28) *Nakatulong ang mga diskusyong online upang mapahalagahan ko ang iba't ibang mga pananaw.* Online discussions were valuable in helping me appreciate different perspectives.					

	Lubos na hindi sumasang-ayon **1** Strongly disagree	Hindi sang-ayon **2** Disagree	Walang opinyon **3** Neutral	Sang-ayon **4** Agree	Lubos na suma-sang-ayon **5** Strongly agree
29) *Ang pagsasama-sama ng mga bagong impormasyon ay nakatulong sa aking sagutin ang mga tanong na lumabas sa mga gawain sa klase.* Combining new information helped me answer questions raised in the class activities.					
30) *Nakatulong sa akin ang mga aktibidad sa pag-aaral na bumuo ng mga paliwanag / solusyon.* Learning activities helped me construct explanations/solutions.					
31) *Ang pagmuni-muni sa nilalaman at talakayan ay nakatulong sa akin na maunawaan ang mga pangunahing konsepto sa paksang ito.* Reflection on content and discussions helped me understand fundamental concepts in this subject					
32) *Kaya kong ilarawan ang mga paraan upang masubukan at mailapat ang mga kaalamang nabuo sa subject na ito.* I can describe ways to test and apply the knowledge created in this subject.					
33) *Nakagawa ako ng mga solusyon sa mga problema na maaaring ilapat sa pagsasanay.* I have developed solutions to problems that can be applied in practice.					
34) *Kaya kong ilapat ang kaalaman na nilikha sa subject na ito sa iba pang mga klase o kaugnay na gawain sa paaralan.* I can apply the knowledge created in this subject to my other classes or other related activities in school.					

Appendix D

Blended Learning Survey

Grade Level: _____ Student: _____Female Student ____ Male Student

A. Access to Gadget/ Internet and Usage for Blended Learning

1. In what ways are you able to access the internet to engage in blended learning or elearning work? Put a ✓ on top 3 answers from the list below:

_____My own mobile phone
_____My own/ my family computer/ laptop at home
_____Computers at the internet shop/ cafe
_____School's computer lab
_____Gadgets shared by relatives or friends

2. How do you learn or study when online?
   Choose only which ones apply. Mark x No or ✓ Yes

☐ Do online work through the elearning platform ☐ Join discussion forum activities in the elearning platform ☐ Read or refer to websites when doing research ☐ By Facebook or another social media where we ask questions or give comments ☐ By Facebook through materials and readings uploaded/ shared ☐ Send emails to remember, ask or discuss ☐ By email to share or gain access to readings and other contents for readings or resources	☐ Engage in interactions or conversations by groupchat ☐ Engage in discussions by groupchats ☐ Do online quiz or exam ☐ Write blogs ☐ Do groupwork google doc ☐ Meet up outside of school to do groupwork or project while making use of the internet/gadget ☐ Most of the above while also using our books and notes/ readings ☐ Others (please state) _____

B. Views on interactions through elearning/blended learning

Put a check on the space in the column which corresponds to your response.

1. Compared to your face-to-face classwork, how does technology affect the quality of your online classwork, in terms of:	**Much worse**	**A little worse**	**Un-decided**	**A little better**	**Much better**
> interaction with classmates/peers					
> interaction with content/lessons					
> interaction with teachers					
> interactions with the use of ICTs					
	Definitely not	**Not possibly**	**Un-decided**	**Possibly**	**Definitely**
2. How satisfied are you satisfied with blended learning?					
3. If you were to choose, would you continue having blended learning classes over face to face classes only?					

Note. Adapted from the *Blended Learning Toolkit Survey Instrument* (n.d.)

Appendix E

Sample Approval Letter from the Department of Education

October 8, 2018

Ms. J. ALETA R. VILLANUEVA
Researcher
University of Southern Queensland
Assistant Professor
Faculty of Education
UP Open University

DIVISION OF CITY SCHOOLS
MARIKINA
RELEASED
OCT 18 2018
RECORDS UNIT 9:03

Dear Ms. Villanueva:

This has reference to your letter received by this office on October 4, 2018, requesting to administer data gathering relative to your research related to **Open High School Program** at [redacted]

This Office interposes no objection provided that the following are complied with:

1. necessary arrangements shall be made with the principal concerned so as not to interfere with the regular program of the school, in compliance with DepEd Order No. 9, s. 2005 entitled "*Instituting Measures to Increase Engaged Time-on-Task and Ensuring Compliance Therewith*";
2. no teacher nor student will be pulled out of their classes;
3. data gathered shall be used with utmost confidentiality;
4. no school materials will be used for the purpose; and
5. it is requested that an Accomplishment Report be submitted to the undersigned after the study.

Please make the necessary coordination with the school heads for their final approval.

Please be guided accordingly.

Truly yours,

Note. Image from the researcher's file copy

Appendix F

Sample Class Observation Template and Observation Notes

Level/ Subject: _____Date: _____ Start time: ___ End Time: _____

Teacher: _____Students: _____ Present _____ Absent

Areas of F2F Class Observations:

Interaction with Peers (SP)	Interaction with Content (CP)	Interaction with Teachers (TP)
Interaction with Technology		

Other notes: setting climate/selecting content/ supporting discourse

Note. From the researcher's file copy

School B Class: Grade 7 Teacher: Ms. Jessie [pseudonym] Topic for the Day: Environmental Awareness – conservation and good practices		Date: 11 February 2019 Time: 1:45-2:45 Students Present: 28
Flow of Lesson/ Activities: 10 mins – Intro: BINGO Game on terms/ labels related to past lesson on fossil fuels, energy, renewable, non-renewable, types and categories of resources 15 mins- Actual lesson – video & discussion 20 mins- Follow up activities – small group work 10 mins – Post group work - Demonstration of learning – formative assessment		
Teaching Presence **Student-Teacher interaction**	**Social Presence** **Peer- Peer Interaction**	**Cognitive Presence** **Interaction with Content**
Introduction & Review -seeking feedback re: instructions given "do you understand?' with trial sample run of the BINGO game – Teacher triggers thinking by listing bingo words. – When students indicated that they won based on a diagonal line pattern, Teacher accepted winning response (for now) though the team did not exactly follow 'straight' line as win requirement -students took initiative to correct the teacher response answers to the Bingo item and teacher willingly accepted the correction	Teacher expressed humor -"black out yata ito" -students clarified instructions among themselves in support of classmates/ groupmates -students ask questions to each other while doing/solving the BINGO to help each other discover the answer -students point out/correct each other's guesses/responses -students talk to seatmates to clarify -students review words already marked to make sure they are on track -students monitor/ check words on the board to match their BINGO board (refer to observation notes of small group work)	- students view/ point out contents of BINGO as if to recall what they know or have learned before -students in their groups actively participate in the game. -student pay attention to Power Point and visual aids as well as teachers attempts to discuss/ explain

Note. Image from the researcher's file copy

Teaching Presence	Cognitive Presence
Lesson Proper **Review** - teacher facilitates discussion and engages participation by calling out students to read/ recall or focus on summary of content/ ideas learned in the past	- questions were raised to engage critical thinking – What is the difference between/ among resources?
Pre-groupwork - teacher tried to manage tech glitch (no audio while video was being played) - teacher did a workaround by discussing further by raising questions: How can we protect? How can we conserve? What can we do on our own? - teacher demonstrates connecting ideas through dialogue – common practices/ current experiences to discovering new practices in conservation and protection of environment - teacher provides examples to elicit other examples - teacher puts emphasis on "We do not _____(create?) energy" (video still not playing) so teacher continued to engage students in discussion	- teacher gives examples of ideas to aid understanding. - students engage with buzz words – Reuse Reduce Recycle as common practices but what else? Or how else?
During Groupwork - teacher finally divided the class into their interest / ability groups: Managers, Artists, Techies and Advocates – showed expectations or instructions and expected outputs: a song, a post to promote, a 1 day plan, a poster - teacher gives time limit for each group- flashes timer on TV - teacher provides internet access - teacher brings out rubrics and moves to diff groups to start rating students (on performance task)	Focus of different small groups - - thinking/reinventing informative FB posts to advocate for the recycle, reduce, reuse to friends/followers. - composing/creating OPM song through language use; playing with word structures, rhymes and meanings - students in small groups engage in different activities - students were observed to access former PPT lesson; search for posters online - not all students in groups seem to actively or fully engage unlike those in the Techie group and Managers group
Post groupwork - teacher reminds students to start wrapping up- counts to re-center the whole class	

Note. Image from the researcher's file copy

Social Presence – peer to peer interaction per small group; other observations of small-group interactions			
Artists	**Techies**	**Advocates**	**Managers**
– Some students search posters in the internet – Few ones call out/ regulate other groupmate's behavior – Other groupmates do not seem to be doing anything or were not delegated tasks and just waiting though looking at the work – - only 2-3 girls are actively engaged doing the poster – To the dance group- teacher suggests how many dancers can dance or perform – Teacher reminds group – "make sure everyone contributes'	– Task is to inform other people to search for ways to help the environment – Teacher approached the small group who were quickly on task and have started to compose possible social media posts; – Teacher offered additional examples making sure expectations are met – Group members attention seemed sustained and most are actively engaged checking each other's examples – Teacher views sample posts and gave feedback	– Groupmates start to choreograph – Others start to put the lyrics of the song together – A member asks other members to choose whether to sing or dance – Some boys start to get rough or physical with each other while practicing; they seem to horse around for a while then they revert to task at hand	– a member (seems an appointed leader) start to give a guide to the groupmates while one starts to write – one starts to use the gadget to access content. – mostly the girls engage but the other boys are preoccupied with some online content not necessarily attuned to the task at hand

Notes – Intersections of the presences

Supporting Discourse	**Setting the Climate for Learning**	**Selecting Content**
– teacher discusses and give examples; asks questions to help students identify and describe; or encourage them to think/ discuss not necessarily to critically analyze but mostly to make sure that some ideas or facts have been understood, or recall prior knowledge and practices – teacher monitors group work and approaches students to make sure tasks get done, also to encourage engagement of all members	– divided class into prior groupings 5 mins b4 the start of the class – advocates, managers, techies, explorers – teacher reviewed number of members per group – teacher comes across as facilitative; at the same time also instructive to make sure students maximize time allotted to get the work done	– students themselves take it upon themselves to access content they need from their notes, past modules, the current ppt and looking at other websites

Note. Image from the researcher's file copy

Appendix G

Other Coding Protocols of the CoI Presences

Coding Protocol of Social Presence

CATEGORY	INDICATORS	CODE
Affective	**3 Indicators**	**SPA**
	• Expressions of emotions	**SPA-1 Emo**
	• Use of humor	**SPA-2 Humor**
	• Self-disclosure	**SPA-3 SelfD**
Interactive	**6 indicators**	**SPI**
	• Continuing a thread	**SPI - 1 Thread**
	• Quoting from others' messages	**SPI - 2 Quote**
	• Referring explicitly to others' messages	**SPI - 3 ExpM**
	• Asking questions	**SPI - 4 Quest**
	• Complimenting or contents of others' messages	**SPI - 5 Compli**
	• Expressing appreciation or agreement	**SPI – 6 Agree**
Cohesive	**3 Indicators**	**SPC**
	• Vocatives	**SPC - 1 Voc**
	• Addresses or refers to the group using inclusive pronouns	**SPC - 2 Grp**
	• Phatics and salutations	**SPC – 3 Greets**

Coding Protocol of Teaching Presence

CATEGORY	INDICATORS	CODE
Design and Organization	**6 Indicators**	
	• Setting curriculum	**TP-IDO 1**
	• Designing methods	**TP-IDO 2**
	• Establishing time parameters	**TP-IDO 3**
	• Utilizing medium effectively	**TP-IDO 4**
	• Establishing netiquette	**TP-IDO5**
	• Making macro-level comments about course content	**TP-IDO 6**
Facilitating Discourse	**6 Indicators**	
	• Identifying area of agreement/ disagreement	**TP-FD 1**
	• Seeking to reach consensus/ understanding	**TP-FD 2**
	• Encouraging, acknowledging or reinforcing student contributions	**TP-FD 3**
	• Setting climate for learning	**TP FD 4**
	• Drawing in participants, prompting discussion	**TP FD 5**
	• Assessing the efficacy of the process	**TP FD 6**

Direct Instruction	**7 indicators**	
	• Present content/questions	**TP DI 1**
	• Focus the discussion on specific issues	**TP DI 2**
	• Summarize the discussion	**TP DI 3**
	• Confirm the understanding through assessment and explanatory feedback	**TP DI 4**
	• Diagnose misconception	**TP DI 5**
	• Inject knowledge from diverse sources	**TP DI 6**
	• Responding to technical concerns	**TP DI 7**

Appendix H

Sample USQ Ethics form

University of Southern Queensland

Consent Form for USQ Research Project
Teacher Participant

Project Details

Title of Project:	**Investigating Experiences and Outcomes of K12 Blended Learning Classes through the Community of Inquiry Framework**
Human Research Ethics Approval Number:	**H18REA165**

Research Team Contact Details

Principal Investigator Details
Juliet Aleta R Villanueva
Email: j.aleta.villanueva@upou.edu.ph
Telephone: (02) 9419818
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Supervisor Details
Associate Professor Petrea Redmond
Email: Petrea.Redmond@usq.edu.au
Telephone: +61 7 4631 2318

Statement of Consent

By signing below, you are indicating that you:

- Have read and understood the information document regarding this project. ☐Yes / ☐No
- Have had any questions answered to your satisfaction. ☐Yes / ☐No
- Understand that if you have any additional questions you can contact the research team. ☐Yes / ☐No
- Understand that the interview and class observation will be audio recorded. ☐Yes / ☐No
    - Understand that you can participate in the class observation without being audio recorded. ☐Yes / ☐No
    - Understand that you can participate in the interview without being audio recorded. ☐Yes / ☐No
- Are over 18 years of age. ☐Yes / ☐No
- Understand that any anonymized data collected may be used in future research activities ☐Yes / ☐No
- Understand that you can contact the University of Southern Queensland Ethics Coordinator on (07) 4631 2690 or email ethics@usq.edu.au if you do have any concern or complaint about the ethical conduct of this project. ☐Yes / ☐No
- Agree to participate in the project. ☐Yes / ☐No

Participant Name _____

Participant Signature _____ Date _____

Note. Image from the researcher's file copy

Appendix I

Sample Approval from School Principals

s c i p l i n e G o o d T a s t e

FINAL APPROVAL TO UNDERTAKE RESEARCH

This is a final approval for **JULIET ALETA R VILLANUEVA**, USQ-PhD Candidate, to proceed with her research on blended learning at the [redacted]. Ms Villanueva can proceed with the needed data collection among selected **Gr 10 students, teachers and classes.**

The said study is under the supervision of the Doctor of Philosophy (Education) program of the University of Southern Queensland (USQ) with Ethics Approval H18REA165. The data gathered from concerned participants who have given consent/ assent will remain confidential.

With this approval, the researcher is enjoined to share the research output with the school after the completion of the project.

FINAL APPROVAL TO UNDERTAKE RESEARCH

This is a final approval for **JULIET ALETA R VILLANUEVA**, USQ-PhD Candidate, to undertake research on blended learning at the **Open High School Program** [redacted] **sy 2018 and 2019**. Ms Villanueva can proceed with the needed data collection among selected **Gr 10 students and teachers.**

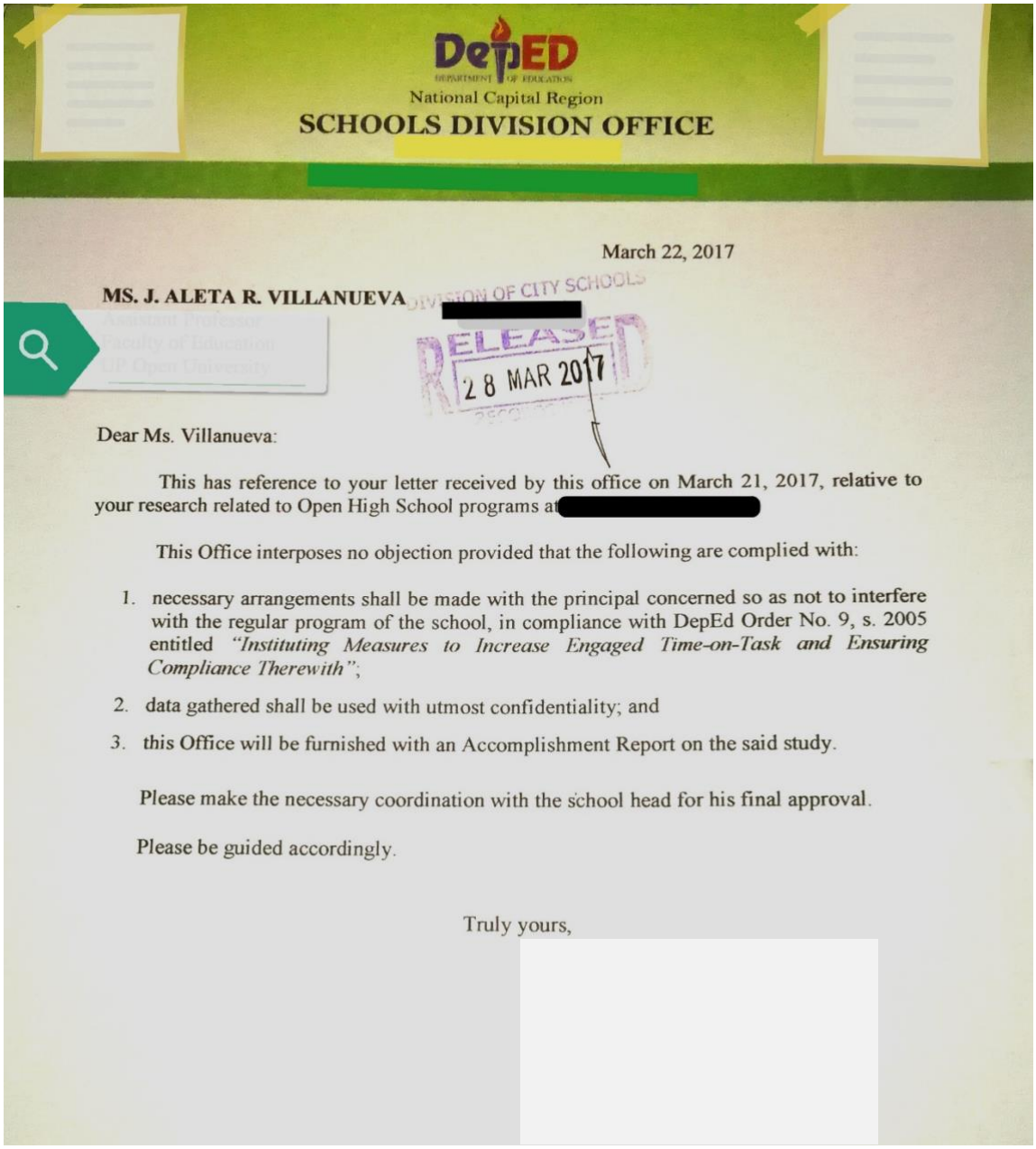
The said study is under the supervision of the Doctor of Philosophy (Education) program of the University of Southern Queensland (USQ) with Ethics Approval H18REA165. The data gathered from concerned participants who have given consent/ assent will remain confidential.

With this approval, the researcher is enjoined to share the research output with the school after the completion of the project.

Note. Image from the researcher's file copy

Appendix J

Sample Approval of Initial Site Visits



DepED
DEPARTMENT OF EDUCATION
National Capital Region
SCHOOLS DIVISION OFFICE

March 22, 2017

MS. J. ALETA R. VILLANUEVA
[redacted]

DIVISION OF CITY SCHOOLS
RELEASED
28 MAR 2017

Dear Ms. Villanueva:

This has reference to your letter received by this office on March 21, 2017, relative to your research related to Open High School programs at [redacted]

This Office interposes no objection provided that the following are complied with:

1. necessary arrangements shall be made with the principal concerned so as not to interfere with the regular program of the school, in compliance with DepEd Order No. 9, s. 2005 entitled *"Instituting Measures to Increase Engaged Time-on-Task and Ensuring Compliance Therewith"*;
2. data gathered shall be used with utmost confidentiality; and
3. this Office will be furnished with an Accomplishment Report on the said study.

Please make the necessary coordination with the school head for his final approval.

Please be guided accordingly.

Truly yours,

Note. Image from the researcher's file copy

Appendix K

Data Collection Questions for Students and Teachers: Items pertaining to Blended Learning and Social Presence (SP)

CoI Survey Part 2: Open-ended question portion for Students	Teacher Questionnaire
➢ What do you like about your blended learning experiences? Feel free to mention positive experiences with having blended learning ➢ What don't you like about your blended learning experiences? You may mention not-so-good experiences of doing blended learning.	✸ Do students of blended learning have the following even if they do not meet daily as a class? If so, describe further, give examples or share anecdotes based on your experiences with them: a) trust and mutual respect; b) sense of connectedness/ community; c) open communication.
➢ Are you comfortably more able to express yourself online while engaged in learning activities and/ or interactions with your classmates? If so, please explain why or in what ways. ➢ Are there instances when you need to monitor or co-regulate each other's online work and behavior as classmates? If so, in what ways?	✸ Do students of blended learning engage in the following even if they do not meet daily as a class? a) peer support; b) collaboration; c) regulation of each other's responses or behavior. If so, describe further or give concrete examples from experience.
➢ Do you feel your classmates' trust and support while doing online work and interaction? In what ways? ➢ Are you able to provide support to your classmates or peers while engaged in online work or interaction (by email, group chat, LMS., FB Messenger and/ or other online means)? If so, in what ways?	✸ Do you also connect or interact online with students of your blended learning class beyond the usual class activities? If so, please describe further. ✸ Describe your experiences of interacting with your students whether socially or whether related to your part of class lesson/ activity.

	✸ In what ways do you think these online social interactions such as the above help you (or not help you) and your students? If so, please explain further.

Appendix L

Field Notes from Class Observations

Field Notes: School A

I noticed when it was Mr. Wilfred's class, the seating arrangements change. The students move all the chairs on each side of the wall, rows parallel to each other, seats facing each other leaving a large space in between, but still with the teacher's table at the front and central part near the whiteboard. It was clear that in front is where the teacher can be found while at the sides and facing each other were the students. In these seating positions, students are able to participate seeing each other's faces and the teacher is able to call their attention strategically addressing both sides of the room. Students are able to find ways to conveniently express themselves to their classmates and the teacher without having their backs against the teacher nor their peers, save for the 1-2 rows behind them.

I am a teacher who has been used to U shaped room arrangements, as well as having small tables surrounding the room which allow me to move and sit with different groups at a given time or do a 1-1 within the classroom. I am able to do all these in my small school because of the nature of the classroom size, the class size and furniture made available. Mr. Wilfred is clearly making do with the 'givens' of being in a public school where the norm is individual chairs in rows facing the teacher. With these givens, I feel that he has worked on the best. classroom arrangement to allow for peer to peer and teacher-peer interactions. The teacher draws attention to the front only for the reminders and transition activities to manage the day's activities. Most of the time he let the students do their writing and consulting with each other, or freely express themselves whether they volunteered to respond or not.

Occasionally, Mr. Wilfred stood up to draw nearer to students, for example a small group of males towards the back part of the room and the ones closer to his area. Approaching the students was his signal to provide more assistance or clarification to specific groups or directed to individual students who may need extra help. I noticed also that at any time, students are able to approach his table to show their work, and this happened midway in their writing activity and also towards the end of the class.

Mr. Wilfred spoke in clear English. Sometimes he would inject humour or sarcasm using the vernacular and you see students either laugh or smile in response, as if hearing these have been part of their usual class sessions. The session's focus seems to be on the oral and written expression of ideas related to poll topics and questions raised in their GC or group chats. At no point did the teacher do any direct instruction or correction of student's expressions.

And students seem to be relaxed with him around and engaged with the task at hand. There was no attempt for any kind of disruption nor boredom with work as they were mostly working on the expected task, pen on paper. You can see a few students waiting for a seat mate to start their work and they look on. Some reading their work as they write.

The teacher's movements, instructions and location I can only interpret as his way of establishing presence in terms of how he wants students to communicate with each other, how he wants them to communicate back to him and how he also wants to communicate with them either as a whole group, as a small group or as individual students.

Field Notes: School B

I notice that the big TV was in fact set up, and on its screen is a video with the triangular icon of 'play' frozen. The students' chairs are set up differently on that day. These were arranged on opposite sides of the room, 2-3 rows each against the left side and right side wall, leaving a large space in between where students are already seated this time on the floor. They are in 4 groups but still seated in rows and there's much space in between in each group as the teacher is able to move forward and across the room. She stays not exactly in the very front but her movement occupies the 1/3 front space of the room. She uses a voice loud enough to be heard by the students seated with their groups. She moves toward the center and looks back to other groups behind her as she starts to hold her props to start the session with a game. The game went on as planned, and all throughout she moves and uses the space in her room. This time she uses the board to jot down important terms for students to remember before she proceeds to start playing the video.

This is not the first time I've seen her play a game or move across the room to be draw attention from her students. During the earlier days of my school visits, I usually see her holding a laptop or in front by the blackboard and her table still with her laptop. This is usually when she is about to start her class. Twice I've witnessed the teacher and hear students a buzz in the middle of a game which seems like a group quiz bee. At least half of the class are huddled in one spot of the room, encircled closely around her as if the students were checking on something with her. There was also a time when I caught the class with a group of students in front about to finish their presentation.

Once I also saw her about to dismiss her students but insisting that they clean up the room, calling on the assigned students. Another time the class was about to start and she entered, laptop in hand but this time with a

commanding voice for everyone to check the floors reminding them that they have been amiss of their tidying up duties.

In all those times, the teacher seems to draw her students' attention and engage them without having to use a very loud voice, nor a lecturing tone. The video doesn't seem to work though it was clearly connected as something was flashing on the 3ft by 4ft screen. The students waited quietly. Some fixed their sitting positions, still on the floor as if to gain a better view or a better chance to hear the audio. Finally, the video starts but still the audio wasn't working. The video shows an animation of some sort. The teacher apologizes shortly and tried to fix it. The students were still waiting quietly for around 4 minutes. The teacher decides to call a student, so the student leaves the room. The class still waits, and the student comes back after 1 minute holding a cord and helps the teacher replace the cords connected. The teacher tries again. The class waits for 2 more minutes. The teacher stops with the cord connectors, looks at the screen then goes at the center of the room to continue with the class. She goes on with her discussions, raising 1-2 questions to engage students, calling one student to express her response, then another. She asked the students about specific terms related to eco-waste and waste management. The students in their groups look to her and listen. It seems like the class hardly got distracted with the wait time and teacher didn't look worried about not being able to play the supposedly 5 minute video. She was clearly on top of the situation and her students recognize that.

Field Notes: School C

The teacher came in and seem to be well prepared. Her LMS classroom page is flashed on the large LCD screen ready to be played or used in class. She stated that her class will run for just about 30 minutes in all.

Since the class was in the computer lab, relatively a small space than their usual classrooms but with 5- 6 rows of working computers, the flat-type screen type. Even from the back, one can hear the teacher's audible and well-modulated voice as she established her presence in front of the class. She was holding a set of cardboard pieces with Q-codes. And students seem to know asap how the class would start. They brought out their phones. The teacher goes "to start, we will play with these clickers" and with a few additional instructions, the students respond.

The students directed their eyes to the front while they are seated with their usual seat mates (perhaps classmate-friends they are mostly grouped with) as how they mostly are whenever I visit them in the classroom during their

break time and once when I observed the class with another teacher (in the Analytical Geometry, termed otherwise by students as Analytical Geometry). They quickly decided who was going to test the use of their mobile phones, one from each group to signify the answer for the group. The different small group chatter can be heard in the room, but the teacher continued to give initial instructions as she likewise moved the slides on the screen to start with the first item question which she also read to the class. The slides showed a picture at the center which relates to the question item to provide more context and on the slide are 4 response answers for students to choose from.

As the teachers signaled for students to respond, she flashed her Q=card and rotated it one side a time as A, B, C, D. Students indicated the answers of their group mates and feedback was immediately given by the teacher through the Q-code cards. The students were able to know right away whether their answers were correct or not. From a distance, it was clear that game drew and kept the students' attention. They were moving their heads as if to consult their group mates from where they were seated. The students showed engagement either by looking back and forth the screen and each other. As the game went on, I noticed that the questions were not necessarily related to the Filipino subject and the novel they were currently tackling, Rizal's "El Filibusterismo." However, the students didn't seem to mind and continued with the game.

As the game came to an end, the teacher then showed the LMS class page once again, to signal that the short lesson proper is about to begin. She went on to click the portion which seemed be a module on the chapter assigned reading. As she clicked, the screen showed an animated image of a few characters in the story. The teacher proceeded with her discussion guide questions which she said in class which similarly appeared on the screen with the module. This time however, as she went on with her discussion, students started to look into their sheets/ photocopies of the text, some have their notebooks in hand. Some students were reading their text quietly, others turning the pages, others looking to the front.

The teacher while discussing, rephrased her questions as if to draw more hands to be raised in response. The questions all throughout triggered responses but largely directed to the teacher driving the discussion rather than to the class/ their peers for further engagement. Hence the discussion largely took place as student-teacher interaction, likewise student-content, to be able to continue exchanging ideas with the teacher, though not with their classmates. The questions given either sought students' opinions or for given comprehension checks for understanding, questions to engage critical thinking and interpretation of the text, symbolisms and hidden meanings. The facilitation was largely meant for students to arrive at already known

answers or responses which the teacher needed to validate understanding of the context, characters and dialogues in the chapter reading. Only a few hands were raised at a time to respond to direct questions, while in some instances a few or a group would answer in unison. In one occasion, the teacher engaged the class to respond/ build on/ express their thoughts on another classmate's response. The teacher also used a bit of humor or broke her serious face with a smile while interjecting her brand of humor.

All in all, the students seem largely satisfied with the class that went on while seated from where they were and with the movement of the slides in presentation of the varied content/portions of the module assigned.

The class in general was reminiscent of how my Filipino class also took place way back in my high school years, only that there seems to be some visual content which drew each and everyone's attention every now and then. Back then, the attention we have to muster was always directed towards the front and mostly on the teacher, the embodiment of knowledge-bearer, the one who validates the correct interpretation of the text. For us to demonstrate our learnings, we do the quizzes, the usual HW or sometimes perform a monologue or a dialogue or an act based on the chosen or assigned text.

So much so that one can actually go through the months not reading the actual text and by simply listening to what the teacher will say, after all, she will provide the interpretation, nonetheless. Even if one makes an attempt to interpret, in the end the teacher will in fact say the proper interpretation of the text. I could not recall any kind of literary criticism we needed to do in the same way for example my daughter needed to do hers as she went through her HS English or Filipino language class. Back then, it was as if the teacher's discussion served as the proper literary criticism to be accepted by all.

In the case of this Filipino language class, there was time for student exchange of opinions and interpretations as there were questions which required reinterpretation of the text in modern day scenarios. As the teacher tackled this, I was able to likewise recall the character from the novel.

The process didn't seem to signify an active search for knowledge as it was known to everyone that this book has been covered over generations of students in time. There are films and comic book version published on the same. And by HS, there was no longer an element of surprise one feels while in grade school, with the teacher holding a book and turning the pages as she read aloud and the story unfolding before your eyes. This begs the question, is there any other creative way to teaching this novel?

Appendix M

K-12 CoI Self-Reflection Tool for Teachers of Blended Learning Classes

I. Kindly rate your actions/ behavior as teacher of a blended learning class. Refer to the scale below. Mark the space which corresponds to your self-rating.

1 = Strongly disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly agree

Teaching Presence	**1**	**2**	**3**	**4**	**5**
Design and organization					
1. I clearly communicate important subject goals or content/topics to my students.					
2. I provide clear instructions on how to participate in learning activities.					
3. I clearly communicate important due dates/time frames for learning activities.					
Facilitating discourse					
4. I am helpful in identifying areas of agreement and disagreement on content/ topics that helps my students learn.					
5. I guide the class towards understanding topics in a way that helps them clarify their thinking.					
6. I keep the class engaged and on task in a way that helps us learn.					
7. I make an effort to develop a sense of community among students in the class.					

Direct instruction	**1**	**2**	**3**	**4**	**5**
8. I help to focus the discussion on relevant issues in a way that helps my students learn.					
9. I provide feedback that helps my students understand their strengths and weaknesses in relation to the subject's goals and objectives.					
10. I provide feedback to my students in a timely fashion.					
Self-direction					
11. I help my students to be aware of their existing knowledge					
12. I provide opportunities for students to assess their understanding					
13. I encourage my students to make judgments on the difficulty of the problem they encounter.					
14. I encourage my students to change their strategy when they need to.					

Reminder:
1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

Social Presence	**1**	**2**	**3**	**4**	**5**
Affective expression					
15. I can form distinct impressions of some of my students.					
16. I am comfortable expressing my emotions with my students through online or web-based communication.					
17. I can trust my students' expressions and other communications while interacting online.					

Interactive communication	**1**	**2**	**3**	**4**	**5**
18. I feel comfortable conversing with my students through online platforms such as FB/ LMS/ chat groups.					
19. I feel comfortable engaging in the online discussions as a way to build rapport or provide support to my students.					
20. I see our disagreements as part of communicating or interacting while teaching and learning with my students.					
Group cohesion					
21. Getting to know other students through this class gives me a sense of belonging.					
22. I feel comfortable with my students disagreeing while still maintaining a sense of trust in their process.					
23. I feel a sense of connectedness with my class/ students.					
Shared regulation					
24. I encourage my students to listen to each other's ideas or points of view.					
25. I encourage my students to consider each other's feedback and contributions.					
26. I find ways for students to help each other learn.					
27. I allow students to monitor each other's behavior while learning.					

Reminder:

1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

Cognitive Presence	**1**	**2**	**3**	**4**	**5**
Self- and Co-regulation					
28. My students are encouraged to be aware of their effort and motivation.					
29. Opportunities are provided to my students to assess how they approach the problem.					
30. My students are allowed to look for confirmation of their understanding from others.					
31. My students are encouraged to challenge the perspectives of others, including mine.					
Reflection					
32. I encourage my students to reflect upon the comments of others.					
33. I encourage my students to reflect on the content and discussion to help them understand concepts in the subject.					
Critical thinking and dialogue					
34. My students' curiosities are engaged with online learning activities.					
35. Opportunities are provided for brainstorming and finding relevant information which helps my students resolve content related questions.					
36. New concepts are sufficiently explored by my students in this subject.					
37. Group interactions and discussions in class are valuable in helping my students to appreciate different perspectives.					

38. My students are allowed to combine new information to help them answer questions raised in the class activities.					
39. The learning activities in class help my students construct explanations or solutions.					
40. My students will be able to apply the knowledge created in this subject to their other subjects/ classes or other related activities in school.					

II. Kindly reflect and respond to the questions as best as you can.

1) What do I like best about my teaching experiences in my blended learning classes?

2) Which areas do I need to work on to improve teaching and learning in my blended learning classes?

3) In what ways do I feel/sense that my students and I are part of a learning community? What else can I do to build our learning community?

4) Which teacher training topics/content will I be interested in learning about to help improve my blended learning experiences?

5) Which teacher training topics/content will I be interested in sharing about to help improve a fellow teacher's blended learning experiences?

6) Describe ways the school leadership team can help develop or enrich our blended learning experiences.