The Perceptions of Online Community College Instructors Regarding the Most Effective Collaborative Instructional, Content Specific, and Social Interaction Learning Strategies to Help Online Students Succeed

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The Perceptions of Online Community College Instructors Regarding the Most Effective Collaborative Instructional, Content Specific, and Social Interaction Learning Strategies to Help Online Students Succeed

A Dissertation by

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Irvine, California
School of Education
Submitted in partial fulfillment of the requirements for the degree of
Doctor of Education in Organizational Leadership
July 2019

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July 2019
The Perceptions of Online Community College Instructors Regarding the Most Effective Collaborative Instructional, Content Specific, and Social Interaction Learning Strategies to Help Online Students Succeed

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by Maureen Curry
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Thank you to my chair and committee members, Dr. Pendley, Dr. Giokaris, and Dr. Burnett. I am grateful to Dr. Pendley for keeping me focused. To Dr. Giokaris, who was my cohort mentor and committee member, thank you for encouraging leadership and showing faith in your students. To Dr. Burnett, I am very grateful for your supportive contributions and expertise on the community colleges system.

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A great thank you to the community college instructors who willingly took the time to be interviewed for this study and share their enthusiasm for online teaching and the many valuable techniques they found effective in helping students be successful.

With great gratitude I acknowledge my husband, Tom, for pitching in as cook, bottle washer, gardener, grocery shopper, cleaner, and planner for holiday celebrations, and for putting up with the voluminous copies of research and books stacked everywhere. I am forever grateful for him being my sounding board, organizer, and editor.

To my entire family, children and grandchildren, who respected I had taken on this research study which meant I could not visit often, I am grateful for your willingness to wait for the process to be completed.

To the neighbors who knew I had to decline invitations because of my research and who remained true throughout, thank you.
DEDICATION

In memory of my son, James Curry, whose greatest joy was to see others happy.

He left early in this dissertation journey, but his spirit remained to help me through.
ABSTRACT

The Perceptions of Online Community College Instructors Regarding the Most Effective Collaborative Instructional, Content Specific, and Social Interaction Learning Strategies to Help Online Students Succeed

by Maureen Curry

Purpose. The purpose of this phenomenological study was to discover what collaborative instructional, content specific, and social interaction learning strategies online community college instructors perceive to be most effective in helping students succeed.

Methodology. Data were collected through interviews and review of artifacts. The target population consisted of online community college instructors in southern California. Twelve participants from three community colleges were chosen using both criterion and convenience sampling procedures.

Findings. Most online community college instructors apply a variety of collaborative instructional strategies through shared discussions, relevant group projects for content specific learning, and community building interaction between instructor and students and among students aiming to effectively increase student success.

Conclusions. The participants in this study concurred that collaborative instructional, content-specific learning, and instructor-student and student-student collaboration were effective tools to increase student success. Although participants reported using various methods of collaboration, data collected demonstrated collaboration beyond personal introductions and discussions of content was constrained by student preparedness, limited motivation to work with others, and lack of experience using collaborative technology.
Recommendations. Although the research revealed online faculty used collaborative instructional strategies and perceived them to be an effective tool to help students succeed, it was apparent more work needs to be done to facilitate collaboration and strengthen the concept of learning communities. Faculty training for online instructors should no longer be left to trial and error, but formal training programs on the value and implementation of collaboration need to be strengthened. Study data showed facilitating collaboration, particularly in group projects and content discussions, was a challenge for most faculty due to varying degrees of student preparedness and the need for better collaboration technology tools.
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CHAPTER I: INTRODUCTION

In the last decade, globalization and the information technology revolution eliminated some jobs, created new ones in whole new industries, and changed the composition of virtually all work. Work today is more complex and more demanding of critical thinking skills, requiring everyone to be better educated to secure and keep a well-paying job (Friedman & Mandelbaum, 2011). Nearly every American job is under pressure. More individuals than ever are seeking an education beyond high school; skills training, certificates, 2-year degrees, 4-year degrees, and beyond (Kovacs, 2016). Many of these students are looking for more efficient and flexible ways to achieve their higher education goals (Fishman, Ludgate, & Tutak, 2017; H. Johnson, Cook, & Mejia, 2017; Regier, 2014). As a result, the American education landscape is being transformed.

Colleges and universities do all they can to address increased and different demands to assist today’s students in gaining the skills they need to compete. Even in an era of tighter budgets, many public institutions embraced a policy of open access and equity, and employed information technologies (e.g., computers, cell phones, the internet, social media, learning software) in online programs to increase capacity and cost effectiveness (Public Policy Institute of California [PPIC], 2014). Students, particularly those in community colleges, often attend college part-time and juggle school, work, and family (Kern, 2010). The flexibility of learning in an any place, any time setting enables these students to pursue the education they need (J. Johnson, 2003).

Distance education courses, where students are not physically present with the course instructor, have been around for decades. With the development of the Internet, online learning as a form of distance education became the new norm for many
institutions (Betts, 2017). The availability of online programs increased rapidly over the last 15 years. Online courses are proliferating; students taking at least one online class increased from approximately 1.6 million in 2002 to over 6 million in 2016 (Seaman, Allen, & Seaman, 2018). Although the growth rate for those taking at least one online course slowed recently due to an overall decline of college enrollments (National Center for Education Statistics [NCES], 2018), online course enrollment continues to rise (Lederman, 2013). Table 1 presents the overall and online enrollment for the 2016-17 and 2017-18 school years.

Table 1

*All Enrollments and Online Enrollments, 2016 and 2017*

<table>
<thead>
<tr>
<th></th>
<th>2016-17</th>
<th></th>
<th>2017-18</th>
<th></th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>All Students</td>
<td>20,224,069</td>
<td>14.71</td>
<td>20,135,159</td>
<td>15.42</td>
<td>-0.44</td>
</tr>
<tr>
<td>Exclusively Online</td>
<td>2,974,836</td>
<td>14.71</td>
<td>3,104,879</td>
<td>15.42</td>
<td>4.19</td>
</tr>
<tr>
<td>Exclusively On-Campus</td>
<td>13,923,483</td>
<td>68.85</td>
<td>13,477,699</td>
<td>66.94</td>
<td>-3.31</td>
</tr>
<tr>
<td>Both Online and On-Campus</td>
<td>3,325,750</td>
<td>16.44</td>
<td>3,552,581</td>
<td>17.64</td>
<td>6.38</td>
</tr>
</tbody>
</table>


As a result, both public and private educational institutions realize online programs are critical to their long-term strategies to meet student demand (Lapovsky, 2015). In a Lumina Foundation report surveying the diverse needs of post-secondary students, various characteristics and motivations for online learning were revealed (Ladd, Reynolds, & Selingo, 2014). Older students returning to complete a college degree (often thought of as nontraditional students) or those with some college and job experience
interested in improving their career advancement chose online courses for the flexibility to manage work, family, and school (Figure 1).

Figure 1. 2018 Trends in Education. Source: Best Colleges (2018).

The 18–24 year-olds traditionally found in public institutions were also using a combination of online and face-to-face classes as many were exposure to online learning in high school. What was previously considered nontraditional in public institutions is now traditional with brick and mortar classroom learning losing its monopoly.

Despite the strong desire of most online students to succeed, many do not when success is measured by course completion and program persistence. Typically, online success rates are less than those of in-classroom students (Allen & Seaman, 2016; Barshay, 2015; Bawa, 2016; Diaz, 2002; National Center for Distance Education and Technology [DETA], 2016). This is a serious problem for both students and institutions committed to access and equity and responsible for quality programs that ensure success;
in some cases, institutional accreditation and funding is tied to completion rates. Increasing online success and retention rates, for both institutions and students, is now necessary.

Many factors contribute to online student success and retention; the topic is complex. Dozens of variables, from student preparation, motivation, and self-regulation to the assimilation of the latest interactive technology, instructor preparedness, course design and delivery, and student support services need to be considered (Eom, Wen, & Ashill, 2006). Among all these variables, research is indicating active participation in a collaborative learning community is a critical potential source for improving online student satisfaction and performance (Anderson, 2008; Boston et al., 2009; Garrison, 2007; Shea, Pickett, & Pelz, 2003).

Collaborative learning in the online setting encourages students to work together to explore research, create knowledge, and innovate in problem solving activities. According Harasim (2012), author of Online Collaborative Learning (OCL), the theory incorporates constructivist instruction for group learning online that serves to lessen the sense of isolation in a text-based curriculum by increasing conversational learning for knowledge construction.

Although the emphasis on collaboration in online education is recent, an appreciation for group interaction and a hands-on learning environment with others existed for many years. Swan and Shih (2005) associated this to the cognitive constructivist model of learning by theorist Piaget in that individuals learning through interaction as critical for technology-mediated learning. Jonassen, Peck, and Wilson (1999) maintained collaborative processes promoted creativity and critical thinking on
the part of learners. They asserted “exchanges between collaborators separated by space and time in an online class provided skill development useful for the global economy where many corporations have offices distributed around the world requiring employees to asynchronously interact to meet market demands” (Jonassen et al., 1999, p. 41).
Palloff and Pratt (2007) likewise conveyed interaction and collaboration were “critical to online community development where groups work together to actively create knowledge” (p. 18). These authors expressed the opinion that virtual teamwork provides opportunities for students to collaborate online, develop technology skills, and experience interactions likely to occur in their future jobs (Palloff & Pratt, 2005).

The application of OCL, like many other online teaching models, is operated in an asynchronous environment where instructor and students are place and time independent (Harasim, 2012). In the OCL model, discussion is central to learning and textbooks and other print materials are supplementary, which is different than in traditional online courses where readings are the primary learning source. Educators appreciate OCL techniques increase critical thinking and problem-solving while teaching analysis and organization skills important for many contemporary forms of employment (Harasim, 2012). According to many online instruction theorists, OCL serves to help overcome the common barrier of isolation for students in distance education programs today (Croft, Dalton, & Grant, 2010).

**Background**

Distance education is not a new concept (Barnes, Preziosi, & Alexakis, 2008). Plato declared long ago “learning occurs in the mind, independent of time and place” (University of Guelph, 2002, as cited in Tesone, Alexakis, & Platt, 2003, p. 1). Formal
distance education, in some form, existed since the invention of the printing press and the establishment of reliable postal service. Distance education in the form of correspondence courses began at the end of the 19th century and usually consisted of instructors mailing printed lessons to students who completed the work on their own and returned it for evaluation and grading. The 20th century’s expansion of audio and visual learning occurred with the advent of radio, cinema, television, computers, the Internet, and programmed learning as tools for new methods of teaching and learning at a distance. Distance education increased the number of people with access to some form of education beyond what was available to them otherwise (Bakia, Shear, Toyama, & Lasseter, 2012).

Educational television programming coming into American homes in the 1950s led many to acquire information and participate in distance education and enrichment for the first time (Gensler, 2014). In the 1960s, colleges and universities began to add Intranet services for students to give them access to course materials and to allow for listening to recorded lectures. The 1980s brought computer labs that offered student tutoring services. In 2008, the open university concept was launched with the Massive Open Online Courses (MOOC) programs. These programs impacted the public through education-focused technology using the Internet. MOOCs offered large-scale, interactive participation and open access through the Internet and other network technologies (Gensler, 2014). In this environment, the Internet became the printing press of distance education (Rosen, 2012). Coursera and EdX distance programs, supported by elite universities such as Stanford and MIT, hosted online university-level courses, including some courses at no charge, in a wide range of disciplines for a worldwide student body.
According to Wilson and Gruzd (2014), these online programs offered at a variety of college campuses created a phenomenon never seen in the history of higher education. An explosion of online programs followed.

Distance education and technology continue as major contributors to current and expected changes in postsecondary education (J. Johnson, 2003). J. Johnson (2003) quoted Peter Drucker, modern business management visionary, as saying “Universities won’t survive in their current state with distance learning coming on very fast. The future is outside the traditional campus, outside the traditional classroom” (p. 7).

Technology as a new medium allowed for the worldwide democratization of education. As computing power continues to multiply, new media are offered to consumers of higher education. With the continued expansion of the Internet in the past two decades, the introduction of electronic learning technologies led to dynamic growth of distance education, now commonly termed online learning (A. Bates, 2005; Garrison, 2011). College courses are now possible anytime, anywhere. Single mothers, caregivers, adults working full-time, and others unable to gain access to a traditional institution became consumers of higher-education online programs. Convenience, flexibility, and lower cost for online students led to increased demand; this expansion made online learning the new norm for many institutions of higher education (Betts, 2017).

According to Betts (2017), online learning, initially considered nontraditional, is the new traditional.

**Status of Online Education**

Online learning is the most significant phenomenon occurring in higher education today. Rick Reis (n.d.) stated everywhere one looks, whether in community colleges, 4-
year institutions, Ivy League colleges, research institutions, or technical colleges, distance education programs and online classes are on the rise. Distance learning, often interchangeably referred to as online education, online learning, distributed learning, e-learning, and virtual learning, has a bright future (Schroeder, 2017; Yu & Hu, 2016). Online education involves taking courses presented over the Internet, which can occur synchronously (i.e., in real-time with professors and other students) through webcams and chat rooms, or asynchronously (i.e., individually, through recorded lectures, text resources, videos, e-mail, and discussion boards at any time). Asynchronous students experience online lectures and e-learning activities at their own pace. They can stop, rewind, and go back to review and learn the material with flexibility (Timm, 2017).

Many public and private colleges and universities offer online courses and degree programs to students in a variety of formats including blended (face-to-face class with online assignments and projects), hybrid (51% of time in class, usually on a fixed schedule), and fully online classes. Approximately half of all students taking any online courses are now fully online (Allen & Seaman, 2017). Hybrid and blended programs combine some in-class work with online coursework, making these formats a popular choice. By taking courses over the Internet, students save money on typical college costs (e.g., room, board, transportation), have a flexible schedule, work at their own pace, and appreciate taking classes they cannot physically attend (Green, 2017). E-learning became the primary form of distance education and through its expansion is transforming instruction on all levels of higher education (Sener, 2015).
Expansion of Online Learning

Online courses in higher education expanded rapidly and continue to evolve, but at a slowing rate. the survey of online learning conducted in 2017 by Allen and Seaman for the Online Learning Consortium (OLC) revealed the number of higher education students taking at least one distance-education course in some form rose by 5.6% between fall 2015 and fall 2016. The study’s findings highlight a 15th consecutive year of growth in the number of students taking distance courses (Allen & Seaman, 2017).

Growth of online learning was attributed to the use of more modern technology to enhance curricula, more health-related online degrees and courses, and a greater push to teach specific job skills (Friedman, 2018). This growth makes it important for both public and private educational institutions to focus on their online programs. Distance learning is coming on fast as the “most significant phenomenon that is transforming higher education today” (J. Johnson, 2003, p. 7).

Community College Online Programs

Statistics from the Education Department’s Integrated Postsecondary Education Data System report that public institutions command the largest portion of online students (Lederman, 2013). Community college students (30.9%) were more likely than undergraduates at four-year public institutions (29%) and four-year private colleges (25.6%) to be enrolled in at least one online course (Lederman, 2013). The California Community Colleges system, which is the largest system of higher education in the nation with approximately 2 million students attending 115 colleges, saw a dramatic increase in online enrollment over a 10-year period (California Community Colleges Chancellor’s Office [CCCCO], 2017). The system offers the large community college
student population open access and lower cost for degrees and training. Students often attend community college part-time and juggle school, work, and family commitments (Kern, 2010). These students often choose online classes for the flexibility they offer to be able to learn remotely, maintain a work schedule, and obtain courses to finish an academic program.

Many community colleges have expanded their online programs (Golod, 2014). The Sloan Foundation’s OLC, founded in 1999 to assist higher education with implementation and quality online programs, reported 69% of academic leaders in community colleges state online learning is critical to their institution’s long-term strategy to meet current student demand (OLC, 2016). Colleges are rapidly adding online classes to meet the demand. In California alone, the number of students taking online courses increased by approximately 94,000 (18%) from 2012 to 2015 (Allen & Seaman, 2017). According to Aud et al. (2013), 50% of U.S. students are expected to use the online medium by 2020.

As online learning becomes more dynamic and relevant for students, demand for online programs continues to grow, motivating community college administrators to expand online programs to ensure student satisfaction. Budget-conscious community colleges freely approve online offerings because there is little need for costly facilities (Haynie, 2014; H. Johnson et al., 2017). California’s community colleges offer more online options than any other public education institution in the U.S. (Kucher, 2014). In fact, CCCCO (2016) provided grant funding for an Online Education Initiative (OEI) to ensure significantly more students could complete their education goals by increasing access to and success in high-quality online courses. CCCCO (2018) also proposed the
creation of an independent, fully online, 115th community college to provide fully online programs and credentials. Although the present system offers online programs, the new fully online college would address many of the system-wide barriers such as availability of classes and provisions for competency-based credits to effectively serve working Californians (CCCCO, 2018; Savidge, 2018).

The current community college online programs offer working adults additional access to higher education opportunities in a flexible and supportive environment to help prepare them for the labor market at a cost-effective price (CCCCO, 2018). However, students still must overcome online learning barriers such as the need for motivation and self-regulation, as well as the sense of learning in isolation (Friedman, 2016).

**Online Student Success**

Despite the growth in demand for online programs and the willingness of institutions to add online programs, serious concerns for online student success exist. Kucher (2014), education writer for *The San Diego Union-Tribune*, reported California allocated millions of dollars to expand online courses. At the same time, PPIC (2012) reported online course success rates were between 11 and 14 percentage points lower than face-to-face course success rates. However, the gap appears to be narrowing as improved faculty development and learning management tools improve. Jenkins (2012), Barshay (2015), and Fredericksen (2015) questioned the comparison of online success rates with those of in-classroom students as comparing apples to oranges, arguing non-traditional students of many online classes were fundamentally different than traditional students. PPIC (2014) also revealed online learning did little to overcome achievement gaps for underrepresented student groups; for some, gaps were larger in online classes.
However, long term outcomes for online students look brighter as those who take at least some online courses are more likely to earn an associate degree or transfer to a 4-year institution than those who take only traditional courses (PPIC, 2014). For some students, online courses offer a useful tool to help them to reach their academic goals.

Although college administrators are motivated by growth in demand for online courses to increase enrollment and revenue, the expansion of online programs without examination of the success and retention rates of these online programs, and subsequent action plans to improve student success, could jeopardize accreditation and funding (H. Johnson et al., 2017). Many competing initiatives measure student success in the community college system based on student characteristics such as ethnicity, gender, and grade point average (GPA), all of which are beyond the control of the institution. These initiatives resulted in few action plans to address policies, practices, and procedures that influence student success and are under the control of the institution. The institution’s perspective is one of retention, helping students to completion within the institution. The student’s perspective is one of persistence, completing their academic goals wherever possible (Tinto, 1975). Variables specific to online learners include competency with technology, isolation in the learning environment, and the ability to interact in a virtual setting; institutional retention programs must consider these factors to improve student success (Bawa, 2016).

Theoretical Framework for Online Learning

As online learning, technology-based teaching, and informal digital networks of learners evolved, new theories of learning emerged (T. Bates, 2014). Within the literature on online education there seems to be a consensus online instruction needs to
move away from traditional teacher-centered models toward more learner-centered ones in which student collaboration is encouraged (An, Kim, & Kim, 2008). Schell and Janicki (2013), proponents of the constructivist learning model, believed students learned more effectively when they discovered knowledge for themselves. That said, student success and retention solutions for online learning must begin with examining the theoretical concepts and context in which online learning occurs (Bawa, 2016).

**Behaviorism.** According to T. Bates (2014), behaviorism still dominates teaching, particularly in the U.S. The theory asserts a stimulus evokes a response and rewards or punishments reinforce behavior and drive learning (particularly rote facts or standard procedures). In teaching, this leads to the idea that immediate feedback for an activity is desirable. Pre-defined, measurable learning objectives, computer-assisted instruction, and multiple-choice tests resulted from behavioral theory, which also served as the basis for work on automated learning (T. Bates, 2014).

The emphasis of behaviorists on inputs and outputs seemingly ignored human ability for conscious thought, decision-making, emotions, and expression through discourse, all of which play an important role in learning (Schell & Janicki, 2013). The behaviorist theory keeps the instructor in control of the learning process and limits interaction, particularly in the online setting, limiting the students’ ability to construct knowledge and formulate processes for learning new material (Schell & Janicki, 2013).

**Cognitivists.** Cognitivists are interested in the mental processes people use to represent the world in response to experiences and consider this essential for human learning (McLeod, 2018). Swiss psychologist Jean Piaget defined the theory of cognitive development as he identified cognitive learning as a progressive development of mental
processes based on environmental experiences (McLeod, 2018). Cognitivists stress the environment and how people interpret it; they are an active agent in the learning process and search for rules, principles, and relationships in processing new information (T. Bates, 2014). Many cognitivists viewed the mind as a hard-wired computer that could be modified by new experiences. Cognitivists design teaching to assure achievement of pre-determined learning outcomes through structured lectures and reading assignments leaving little room for interaction in an online setting (T. Bates, 2014).

**Constructivists.** According to T. Bates (2014), constructivists believe mental processes are not fixed but constantly evolving as new information is integrated with prior knowledge, and individuals develop new strategies to seek meaning through reflection, analysis, and social contact with others. For them, reality is dynamic. Constructivists see individuals as unique and evolving (due to their experiences) and thus not predictable. Each learner is seeking meaning by integrating past experiences with the current environment. For them, learning is essentially a social process requiring communication between learner, teacher, and others. Being part of a community of learners is helpful in courses taught in-person, and the same holds true for online classes (Roper, 2007). According to An et al. (2008), learning through collaboration compared to competitive or individual learning usually results in higher achievement, better psychological connections (e.g., caring, support, commitment), greater psychological health, improved social competence, and higher self-esteem.

Student interactions mostly occur though online threaded discussions that allow students and instructors to interact in asynchronous time. For example, in an online discussion board assignment, instructor pose questions to students that encourages
students to learn the course material by contemplating and researching the topic, as well as sharing posts with others to gain further ideas. Online posts provide opportunities for richer discourse through written discussion that allows students to spend time crafting their response (Roper, 2007). The application of the constructivist model at the college level can be advantageous to the online learning process (Schell & Janicki, 2013). This type of education is applicable to the environment students face after their university experience. In the corporate world, someone may not be available or able to provide an immediate answer. As the constructivist model of learning requires the student to be more active and take control of the learning process, in online learning the model aids in the development of the student’s ability to learn and develop needed skills for lifelong learning (Schell & Janicki, 2013).

**Connectivism.** One of the newest and somewhat more controversial learning theories is connectivism, which applied to MOOCs. Downes (2014) described MOOC design principles as (1) openness (access to the course, content, activities, and methods of assessment); (2) diversity (varied content, multiple tools, and individual perspectives for dialogue and discussion); and (3) interactivity (massive communication and cooperation between learners). Several criticisms arose associated with the connectivist approach that separate it from other theories examined in support of improving online success rates in community colleges (Downes, 2007).

The connectivist theory emphasizes an awareness of new learning tools and environmental changes in what it means to learn. Connectivism provides insight into learning skills and tasks needed for learners to flourish in a digital age. The theory points to how learners need the ability to plug into multiple sources to gather data. The theory is
built upon the concept of connecting information and maintaining connections to facilitate learning (Siemens, 2005).

The connectivist model of learning acknowledges the tectonic shifts in society where learning is no longer an internal, individualist activity but one tapping into multiple sources (Siemens, 2005). Possessing skills to find multiple sources is important, but students need to collaborate and critically evaluate information to logically order it for useful purposes. Being part of a community of learners helps for in-person courses and the same holds true for online classes, marking a need for more research on social interaction and collaboration in online learning (Roper, 2007).

**Online Collaborative Learning**

OCL is the result of a merger of constructivist theory with the Internet (Harasim, 2012) and represents the evolution of what was originally referred to as computer-mediated communication by Garrison, Anderson, and Archer in 2000. In OCL, students are “encouraged and supported to work together to create knowledge: to invent, to explore ways to innovate…seek the conceptual knowledge needed to solve problems” (Harasim, 2012, p. 90). Harasim (2012) further noted, “in OCL theory, the teacher plays a key role… as a link to the knowledge community and state of the art of the discipline. Learning is defined as conceptual change and is key to building knowledge” (p. 90).

According to T. Bates (2014), this approach differed from those attempting to use computing to replace some activities performed by teachers. In OCL, technology is used to “increase and improve communication between teacher and learners, with… learning based on knowledge construction assisted and developed through social discourse” (T. Bates, 2014, p. 6). Discourse is managed in such a way as to scaffold learning and reflect
the values and norms of the discipline. Learners are active participants in the
construction of knowledge. For example, with interaction and collaboration in an online
learning environment, the isolating factor of online learning is alleviated.

Most of the current research on the online learning process is built on the
community of inquiry (COI) framework developed by Garrison, Anderson, and Archer
(2000). Unlike other theories such as behaviorism and constructivism, COI was
developed in the context of the computer environment for education. The framework
highlights interdependence of learning activities in three presences, social, cognitive, and
instructional, as they exist within a learning community mediated by communication
technologies (Garrison & Akyol, 2011). The framework also provided a “methodology
for studying the potential and effective use of building an online learning community”
(Garrison & Akyol, 2011, p. 4). COI was grounded in historic theories of teaching and
learning in higher education and serves as a generic framework not limited to a theory of
online learning, but can be significant to research in factors contributing to student
success.

**Critical Student Success Factors**

Most institutions, and California community colleges in particular, are concerned
with the success rate of online students (Jaschik, 2015; H. Johnson, Mejia, & Cook, 2015;
PPIC, 2014). Numerous interacting variables must be considered when addressing online
student success, including demographics, student preparation and motivation, comfort
with technology, social interaction in the course, and the role of instructors in course
design and as facilitators of learning communities. PPIC (2014) estimated a performance
gap of 11-14 percentage points in which online students were less likely to successfully
complete a course than traditional students; the performance gap was attributed to several factors (Figure 2). However, since the release of the PPIC report, awareness of the need to improve online student success increased and faculty training programs for online teaching were introduced in most community colleges; these programs and the increased awareness contributed to narrowing the gap in student success (CCCEO, 2017).

![Figure 2](image)

*Figure 2. Performance gap between online & traditional courses. Source: PPIC (2014).*

Eom and Ashill (2016) suggested course design, instructor behavior, and dialogue with and among students were the strongest predictors of user satisfaction, learning outcomes, and successful course completion. These factors must be studied to understand how students learn online and effective teaching methods needed to ensure student success. Specific design variables for online instruction must be examined considering how technology is used and content presented, and which components lessen the isolation factor for online students.

Pacansky-Brock (2007), Conrad and Donaldson (2011), and Palloff and Pratt (2007) pointed to the importance of course design for student interaction and
collaboration and the role of faculty instructors in building and maintaining a learning community. These authors promoted the development of a learning community to involve students with the instructor and peers. They purported interactivity was the heart and soul of online learning and as students interact with one another and the professor, their presence is validated, thus encouraging them to share in the community learning experience (Conrad & Donaldson, 2011; Pacansky-Brock, 2007; Palloff & Pratt, 2007). Professor Bill Pelz (2003) designed a set of principles for effective online pedagogy that promoted specific examples of learning activities, in particular those allowing students in an online class to interact over course content in discussion forums and research in groups to help each other learn. He viewed interaction and collaboration as central to building an online learning community and 21st century skills (Pelz, 2003).

Pacansky-Brock (2017) and Palloff and Pratt (2007) referred to instructors as the cornerstone of college online education. They promoted instructor presence as important to quality learning and the cultivation of collaboration in an online environment. They highlighted the interconnectedness of faculty-student and student-student interactions that develop collaboration. They viewed collaboration as important to online course design and related student cooperation and group effort to student satisfaction and course completion (Pacansky-Brock, 2017; Palloff & Pratt, 2007).

Shea, Fredericksen, Pickett, and Pelz (2003) also advocated for professional development to provide instructors with skills to create and sustain quality online teaching and learning. They believed it was important to aid faculty in designing courses that incorporate time and space for online collaboration. They viewed knowledge as a social construct and the instructor key to the facilitation and direction of cognitive and
social processes that lead to personally meaningful and educationally worthwhile learning for student success (Shea et al., 2003).

**Collaboration and Student Success**

Students who communicate and collaborate seamlessly in both physical and virtual spaces globally demonstrate important 21st century skills. Through collaborative opportunities in online classes, students practice critical thinking skills to solve complex problems working with others while being creative and innovative (Watanabe-Crockett & Churches, 2018). Collaborative learning teams attain higher-level thinking and preserve information for longer times than students working individually (Kelly, as cited in Ahlefeldt, 2017). Clifford (2012) found as students work in collaboration online, they learn to relate to others, be open-minded, gain cultural awareness, and remain accountable while using technology. According to learning theories that promote social learning, the integration of interaction and collaboration in the learning environment contributes to higher student satisfaction as well (Jung, Choi, Lim, & Leem, 2002).

In higher education online programs, learning to communicate and collaborate using all forms of technology with integrity and respect is important for students to become effective and responsible digital global citizens (Watanabe-Crockett & Churches, 2018). Given the strong predictors of student satisfaction in online courses with collaborative activities, colleges would benefit from examining policy for faculty development and teaching that could serve to enhance the persistence and retention of online students (Kuo, Walker, Belland, & Schroder, 2013).
Statement of the Research Problem

Countries around the world must develop an educated populace to compete globally. Employers in the United States reported they could not find the right people with the skills needed to fill jobs (Mauer, 2016; Swartz, 2017). Federal and state governments created initiatives to increase educational opportunities, especially for underrepresented and lower-income students. This allowed more students to afford a higher education, especially in public colleges such as the community college system. Community colleges are crucial for many people seeking college degrees necessary for jobs paying a living wage in the current economy (Bailey, 2012).

Although public and private institutions spent a decade increasing access and equity, and college enrollments increased, the cost of higher education also increased as graduation rates declined (Cooper, 2017). Many colleges found a need to bring students up to speed with remedial courses in preparation for college work (Foderaro, 2011). Despite that and other costs associated with increasing enrollment, Bailey (2012) reported fewer than two-fifths of students who start in community colleges go on to complete degrees or certificates within six years.

Institutions of higher education, assumed able to tackle the challenge of increasing enrollments and greater diversity, are in a crisis of their own (Christensen, Horn, Soares, & Caldera, 2011). One strategy to improve graduation rates was the expansion of online education. Many college administrators see online education as a solution to serve more students. Whereas results vary, online education is not always producing the outcomes educators and students sought (Christensen et al., 2011).
When student success was measured by course completion and program persistence, online success rates were often lower than those of in-classroom students (Allen & Seaman, 2016; Barshay, 2015; DETA, 2016; Diaz, 2002; Haynie, 2015). California community college statistics tracked over several years indicated online students were 11% less likely to succeed (DETA, 2016; PPIC, 2014).

However, examples where online education proved successful also exist. A 2009 U.S. Department of Education review of more than 1,000 online learning studies conducted between 1996 and 2008 revealed online students performed better than those in the classroom (Feintuch, 2010). A follow-up study found online students performed modestly better than those receiving face-to-face instruction (Fredericksen, 2015). Many other studies found otherwise, noting either no significant difference between the environments or that online students were not as successful (Barshay, 2015; Lederman, 2013).

A 2011 study by the Community College Research Center (CCRC) found community college students were more likely to get lower grades or drop out of an online version of a course. Barshay (2015) quoted David Figlio of Northwestern University regarding lower-achieving and Hispanic students who were worse off with the online versions of his classes. Figlio (as cited by Barshay, 2015) indicated online education might come at some sacrifice to student learning.

Others tried to understand why these studies produce different results. Derek Wu (2015) conducted a meta-analysis of research papers published between 2012 and 2014 and found most focused on characteristics of online students and components in the online environment, but few studies addressed student perceptions of their successful
outcomes. Wu (2015) promoted the need for more qualified research to determine what kind of online learning works, which types of students learn better online, and whether online instruction saves money and time to degree. Jaggers and Bailey (2010) pointed out only 28 of 99 studies examined by the U.S. Department of Education focused on fully online courses. Only seven looked at semester-long courses as opposed to short-term online programs on narrow topics, and most studies were conducted at midsize or large universities rated as selective or highly selective by U.S. News & World Report, not typical community colleges (Jenkins, 2012). These inconsistencies support the need for further research to gain insights from online students and faculty.

With the exponential growth of online courses in the past decade, and the need to evaluate the effectiveness of online education, numerous researchers continued to study a variety of topics related to the development of online courses, student success, and retention. Long (2014) suggested using theory and literature that traditionally informs student collegiate success as a guide to research to improve online student success. Although much research was conducted on student characteristics, including statistical references to age, gender, and ethnicity, researchers also need to address causes of the problem and, in particular, best practices that could be implemented in the online learning environment that aid in successful course completion (Conrad & Donaldson 2011; Garrison & Akyol, 2011; Harasim, 2012; Pacansky-Brock, 2007; Palloff & Pratt, 2007; Sadera, Robertson, Song, & Midon, 2009). In particular, Long (2014) promoted research into student experience in online courses and their perceptions of what contributes to their satisfaction and retention, and went on to say continued assessment is important to
understanding factors that impact student success and areas still need additional attention and research.

Garrison (2016), renowned for his foundational work on COI learning theory, stated no comprehensive explanation exists for the lack of success of online students to date. His work suggested success was “associated with teaching presence and particularly with a collaborative thinking and learning experience that academically engages students” (Garrison, 2016, p. 39).

Most of the major conventional learning theories suggest social presence, social interaction, collaborative learning, and satisfaction are important to successful online learning. Future research needs to address the instructional methods and learning constructs that contribute to student completion rates. Although many educators advocate for online learning as a promising means to increase access to college and improve student progression through higher-education programs, further research is needed to fully understand the connection between online collaborative learning theory and student success.

**Purpose Statement**

The purpose of this phenomenological study was to discover what collaborative instructional, content specific, and social interaction learning strategies online community college instructors perceive to be most effective in helping students succeed.

**Research Questions**

This study was guided by one central research question and three sub-questions designed to explore online community college learning.
Central Question

What collaborative instructional, content specific, and social interaction learning strategies do online community college instructors perceive to be most effective in helping online students succeed?

Sub-Questions

1. What instructional strategies do online community college instructors perceive to be most effective to foster collaborative learning for student success?
2. What content specific learning strategies do online community college instructors perceive to be most effective in helping students succeed?
3. What social interaction instructional strategies do online community college instructors perceive to be most effective to help students succeed?

Significance of the Problem

The role of higher education to keep the nation competitive in the dynamic and highly technical global economy is more significant than ever before. Colleges and universities are responsible for providing ways to prepare people with skills needed for 21st century jobs. The changing role of colleges and universities necessitated expansion of online education programs to offer flexible, efficient, and cost-effective ways for students to attain degrees and be prepared for the global marketplace. (Bakia et al., 2012; Office of Education Technology, 2017).

The exponential growth of online education programs shows a dynamic change in higher education as student demand for flexibility and speed to degree increases (Friedman, 2018). At the same time, the cost of higher education continues to rise and more students are turning to public institutions for open access and cost-effective
programs. Students who utilize public colleges, such as the community college system, for cost effectiveness and ease of access are also changing. No longer are most students in public colleges traditional students who enter from high school and proceed to 4-year degrees (U.S. Department of Education, 2014; Westervelt, 2016). Many nontraditional students, diverse in age and background, are returning for retraining in rapidly changing technological advancements to make them more employable. These students see the online degree option as opening opportunities for them (Chen, 2017; Ritter, 2017).

However, success and program completion rates for online classes in community colleges missed expected retention. (Barshay, 2015; DETA, 2016; Diaz, 2002; H. Johnson et al., 2015; Kucher, 2014).

A CCRC (2011) study tracking approximately 50,000 students found community college students taking online courses are more likely to drop out or fail than their counterparts who attend traditional classes. CCRC (2011) reported as community colleges increasingly make use of online learning, institutions need to provide for quality pedagogy and support structures to ensure the success of students who avail themselves to online learning options. Michael Herbert (2006), in a study examining online student satisfaction and retention, pointed out with the exponential growth of online courses, teacher quality, student engagement, and retention were areas of great concern.

The research into online learning during the past decade focused on student characteristics, including references to age, gender, and ethnicity (Aragon & Johnson, 2008; Ashong & Commander, 2012; Diaz, 2002). Researchers also need to address the causes of the problem and best practices that could be implemented in the online learning environment (Conrad & Donaldson, 2011; Garrison & Akyol, 2011; Harasim, 2012;
Pacansky-Brock, 2007; Palloff & Pratt, 2007; Sadera et al., 2009). As the popularity of online programs grows and enrollment continues to increase, studies are needed that offer insight into the effectiveness and quality of online learning, student success and persistence, and new ways to improve student retention in online programs (Bawa, 2016).

This study was designed to identify factors contributing to online student success and add to the body of knowledge regarding online course environments and how collaboration contributes to increased learning. Online students, particularly those in community colleges, would benefit from improvements in the learning environment this study sought to define using traditional learning theories. Much research made a compelling case for the value of an engaging, collaborative learning environment. COI theory promotes the interaction of social, cognitive, and teaching presence to affect student success online (T. Bates, 2014; Picciano, 2002). Additionally, colleges and universities could benefit from this research as they expand online programs, train faculty and instructional designers, and build support systems for online students. By increasing student success and retention rates, colleges enhance their reputations as institutions that provide quality programs and train students to make an impact in the global job market.

**Definitions**

The following are terms and phrases specific to online education used throughout this study.

**Asynchronous instruction.** In a course delivered asynchronously, instruction is delivered at one time and students can participate at another time. Students use technology to communicate and perform tasks independently of the instructor or other students at a time convenient to them (J. Johnson, 2003).
**Blended/hybrid course.** Courses that integrate both online and face-to-face instruction (Allen, Seaman, & Garrett, 2007).

**Cognitive presence.** The extent to which the professor and students construct and confirm meaning through sustained discourse (Pelz, 2003).

**Community of Inquiry.** A theoretical framework representing a process of creating a deep and meaningful (collaborative-constructivist) learning experience through the development of three interdependent elements – social, cognitive, and teaching presence (Garrison et al., 2000).

**Distance education.** Instruction in which the instructor and student are separated by distance and interact through the assistance of communication technology (CCCEO, 2013).

**Distance learning.** A type of education in which the instructor and learner are in different locations, and in which instruction and learning may occur asynchronously (Moore, Dickson-Deane, & Galyen, 2011).

**e-Learning.** A form online learning utilizing electronic technologies to access educational curriculum outside a traditional classroom.

**Face-to-face or traditional classroom.** A classroom in which instruction is taught synchronously with the instructor and students physically present in the classroom together (Jones, 2011). The term face-to-face is used to stand in contrast with computer-mediated communication.

**Nontraditional student.** Postsecondary students 25 years and older (NCES, 2018).
**Online course.** An educational course taught asynchronously and at a distance, allowing an innovative approach to both technology and pedagogy. All course activity is done online with no required face-to-face sessions within the course and no requirements for on-campus activity. Online courses eliminate geography as a factor in the relationship between the student, instructor, content, and other students.

**Online education.** A subset of distance education where content, instruction, and supplementary materials are delivered over the Internet (Moore et al., 2011).

**Online instructors.** Faculty teaching web-based courses.

**Online students.** Leaners enrolled in web-based courses.

**Online teaching.** Instruction involving course design and delivery of learning activities over the Internet asynchronously to students, which typically includes provisions for interaction in the form of discussions, group work, and email.

**Pedagogy.** The method and practice of teaching, especially as an academic subject or theoretical concept.

**Social presence.** When participants in an online course help establish a community of learning by projecting their personal characteristics into the discussions (Pelz, 2003).

**Student success.** A measure of student achievement assessed by the grade earned upon completion of the course, program retention, and favorable or desirable outcomes for the student.

**Teaching presence.** Facilitation and direction by the instructor of cognitive and social processes for the realization of personally meaningful and educationally worthwhile learning outcomes (Jones, 2011).
Delimitations

This study was delimited to instructors in online programs at community colleges in Orange and San Diego Counties in southern California.

Organization of the Study

Chapter I presented an overview of the study through description of the history and background of growth in online education, and the significance to the community college system with its low cost and open access for students desiring the flexibility of online learning. Chapter II constructs the theoretical framework of the study supported by a review of literature related to the research questions. A comprehensive synthesis of published research linking student success to online course design and specific online pedagogies guide execution of the study. Chapter III describes the methodological approach used in data collection and data analysis procedures. Chapter IV presents the study results. Chapter V discusses conclusions from the study related to the research questions and literature reviewed. The dissertation concludes with a summary of implications for practice and recommendations for future research in online teaching and student success. A list of cited references and appendices follow the final chapter.
CHAPTER II: REVIEW OF THE LITERATURE

A review of literature was conducted to provide a global perspective on the transformation of higher education through the expansion of online programs and to examine how this transformation affected student success, retention, and graduation rates. Although providing education online has become a strategic necessity for many institutions, particularly community colleges, research reported online students experience lower success rates than their classroom peers (DETA, 2016; Kumar & Skrocki, 2016; Lederman, 2013; Shea & Bidjerano, 2016). The dynamic expansion of distance education makes increasing the success rate critical. Even as historic learning theory provided a foundation for understanding how students learn online, more recent research specific to the online environment led to a new emphasis on the importance of exploiting student engagement and learning community collaboration to improve online student success (Angelino, Williams, & Natvig, 2007; H. Johnson et al., 2015).

The literature review is divided into three parts covering relevant published studies included in the synthesis matrix (Appendix A), which provided background from the research of seminal authors. Part I of the review investigates research into the current landscape of American higher education and basic drivers and challenges in enabling the U.S. to remain competitive in the global economy while serving an increasingly diverse population. Institutional strategies, with an emphasis on public community colleges, are explored to understand how colleges plan to grow and add more online programs and increase retention and graduation rates. How online programs transformed the higher education landscape in recent years is included. Research provided insight into the
effectiveness of online learning programs and success rates of some online community college students relative to in-classroom peers.

Part II explores the theoretical background and complexities of learning, the history of relevant learning theories, and studies on collaborative learning methods as applied to online student success. Research into the effectiveness of the community of inquiry (COI) theory with emphasis on community, discourse, and reflection for effective online teaching is also reviewed.

Part III categorizes and evaluates the critical success factors for online learners and points to the importance of student-centered learning approaches to online education. The literature review also includes recommendations for faculty development related to applying a social-constructivist collaborative learning theory for effective online teaching and learning to increase student success.

Higher Education Landscape

Change Drivers

In today’s information age, successful attainment of postsecondary degrees and technical skills are more essential than ever before (Lumina Foundation, 2017). The U.S. system of higher education urgently needs to address the demand for more (and better-educated) human capital for the country to remain competitive in an increasingly knowledge-intense world (Bowen & Lack, 2013; Christensen et al., 2011; Jenkins, 2012). According to the Organization for Economic Cooperation and Development (OECD; 2013), the U.S. now ranks 12th among 37 OECD countries in the number of people aged 25-34 with higher education; only 40% of our young adults (25-34) completed their education beyond high school compared to 64% in Korea and 60% in Japan and Canada.
Rapid developments in technology increased the need for understanding how information and knowledge are utilized to produce new discoveries and inventions to remain competitive in the global marketplace (Gredley, 2005).

H. Johnson et al. (2017) indicated California alone needs 1.1 million more workers with bachelor’s degrees by 2030 to keep up with economic demand. These authors reported more college graduates would mean higher incomes, greater economic mobility, more tax revenue, and less demand for social services. Higher education for many individuals is a necessity for increasing economic opportunity and, collectively, to remain competitive in the global economy (Sawhill, 2013).

**Declining Enrollments**

Whereas interest in increasing the number of adults who hold a high-quality post-secondary credential is at an all-time high (Kinzie & Kuh, 2016), undergraduate enrollment is down for the sixth straight year (Nadworny, 2018). This is true despite a higher percentage of high school graduates going on to college with 70% in 2017 compared to 63% in 2000 (National Center for Education Statistics [NCES], 2018). College enrollment since a peak in 2010, remained essentially flat for 4-year programs and slightly down for 2-year programs. By 2027, total undergraduate enrollment (now 16.9 million) is projected to be only 17.4 million students, reflecting a continued slow growth rate. The data showed in 2016, approximately 64% of students were in 4-year programs and 36% in 2-year programs with little proportional change expected over the next 10 years (Figure 3).
Figure 3. Actual and projected undergraduate enrollment in degree-granting postsecondary institutions by attendance status. Source: NCES (2018, p. 161).

Time to degree, usefulness of degree, cost, alternative job market opportunities, and demographic shifts are some of the causes for these trends (Marcus, 2017; Shaw, 2018). According to Jason DeWitt (as cited by Nadworny, 2018), flat high school graduation rates, are expected to decline in the next few years due to lower birth rates. The current strong job market is luring students away from their studies, particularly working adults who attend community college part time (Nadworny, 2018). In addition, the government crackdown on some for-profit colleges also affected the low growth rates reported (Marcus, 2017).

For analysis, colleges and universities are organized into three categories based on their method of control; public; private for-profit, and private non-profit. These institutions can be further separated into those with 2-year and 4-year programs. Flat enrollment rates put pressure on all school budgets, but especially small private colleges where enrollments are down. A number closed or merged in recent years (Shaw, 2018). Private for-profit universities experienced the biggest problem with declining enrollment, but large public universities (4-year) and community colleges (2-year) were also
impacted (Nadworny, 2018). Declining enrollment rates had a significant impact on how colleges and universities look at recruitment, the programs they offer, and their costs (Marcus, 2017). For example, private schools like Ohio Wesleyan University now recruit in China, India, and Pakistan, introduced new majors in high demand areas like data analytics and neuroscience, added two sports and a marching band, increased financial aid, made transferring-in easier, and planned to freeze tuition and fees (Marcus, 2017). The literature further revealed public and private schools used all these strategies to various degrees and in different combinations to address shrinking enrollments (Shaw, 2018).

**Postsecondary Education Ethnic Composition**

Another characteristic of the post-secondary education landscape is its changing composition (O. Liu, 2011; NCES, 2015). Minorities comprised 47% of the 16.9 million students enrolled in 2016 (NCES, 2017). White enrollment and Black enrollment both declined by 17% between 2010 and 2016, trends expected to continue in favor of Hispanic and Asian increases. The recent upturn in the economy, however, drew some adult learners back into the work force from community colleges or encouraged community college students to go from full time to part time (Juszkiewicz, 2015; Shaw, 2018). For more than a decade, public 2-year community colleges grew and then maintained their enrollments, primarily with open access and equity policies, and through the introduction of flexible online education programs (Bowen & Lack, 2013). As intended, open access at community colleges particularly helped increase college opportunities for minorities, first generation students, and those from lower socioeconomic status families (Bailey, 2012). In a further attempt to maintain
enrollments, many public institutions, especially community colleges, expanded programs and credentialing specific to career development in high-demand industry segments like healthcare and information technology (Juszkiewicz, 2015).

**Success and Retention is the New Higher Education Focus**

In addition to intensified recruiting, new programs better matched to specific employment needs and opportunities, and open access programs, post-secondary schools also placed more emphasis on improving success, retention, and graduation rates for current students (Jenkins, 2012; Nadworny, 2018). Student success and retention is now an important strategy to maintain enrollments in many institutions. More than one in five full time freshmen nationwide fail to return for a second year (Barshay, 2015). Levin (2017), opinion contributor for *U.S. News and World Report*, stated, “We need to drastically improve the rate of college completion for moral, societal and economic reasons” (para. 10). Besides lowering fees, adding programs, and making admittance easier, the bigger issue is how to make people feel college is worth paying for (Marcus, 2017).

The mission of colleges, especially community colleges, is to help as many students succeed as possible. Because tuition and funding are tied to student retention and completion, colleges utilize multiple strategies to attract and retain students. Schools are increasing data tracking of student characteristics to better identify student needs, especially those considered at-risk at the time of enrollment. Data are used to learn the profiles of persisters and what can be done to help more students navigate the system and succeed (Bailey, 2017). The introduction of support programs, such as Guided Pathways and the Promise Program for first-generation college students, direct students to
programs, tutoring, student services, and other supports based on competency skills to accelerate time to degree (Bailey, 2017). Such programs were intended to increase retention and student success.

**Online Learning**

Enrollments of students taking online courses in higher education showed a continued pattern of growth between 2002 and 2012 (Allen & Seaman, 2013). In fall 2015, more than 6 million students took at least one online course, which was an increase of 3.9% over the previous year (Allen & Seaman, 2017). Students taking at least one online course comprised approximately 30% of all higher education enrollments as of fall 2015, a significant increase compared to under 10% in fall 2002 (NCES, 2017). Christensen et al. (2011) cited similar growth statistics. The trend of increasing online enrollments in the face of overall higher education declining enrollments suggested a major shift in the American higher education landscape (Online Learning Consortium [OLC], 2016).

Figure 4 displays the growth in percentage rates for students taking exclusively online courses or some online courses (a combination of on-ground and online courses) from 2012-2015. Although the split between some and exclusively online enrollment remained nominally 50-50, the total number of students participating online continued to grow.
Approximately 72% of online undergraduates are in public institutions (Allen & Seaman, 2016). Figure 5 shows the percentage of undergraduate students at degree-granting postsecondary institutions enrolled exclusively in online courses by level and type of institution in fall 2016.

Figure 4. Percentage of students taking distance courses. Source: Allen & Seaman (2017, p. 11).

Figure 5. Undergraduate students exclusively in online programs. Source: NCES (2018, p. 162).
Community college students comprised the largest percentage (22%) of students enrolled in online postsecondary courses (Long, 2014). In addition to offering academic coursework to earn a degree, occupational education, and training, community colleges help students transfer to public 4-year postsecondary institutions (Cohen & Brawer, 2003; Vaughn, 2006). Compared with students attending 4-year colleges and universities, community colleges offer educational opportunities to a greater percentage of non-traditional and minority students (Horn & Nevill, 2006).

The California Community College System (CCCS) is the largest system of higher education in the nation, with over 2 million students attending 114 colleges (Foundation of California Community Colleges, 2017). The system attracts students because it offers low cost and open access to degrees and training. The CCCS also saw a dramatic increase in online enrollment over the last decade prior to a recent downturn due primarily to the loss of adult learners to the strong job market (Smith, 2016; Stevick, 2018). Many community college students gravitated to online classes because they see the mode of delivery as a better fit for their busy lives (Stoltz-Loike, 2017). Online classes offer tremendous convenience and flexibility, which learners tailor to their education and learning preferences (Ruffalo Noel Levitz, 2015-16). The trend led many community colleges to expand their online programs. Many academic leaders in community colleges stated online learning was critical to their institution’s long-term strategy (OLC, 2015). The continued growth and acceptance of online programs in post-secondary education allowed online learning to become mainstream and is considered the new normal (Betts, 2017).
Growth of online education showed the demand from students for flexible alternatives to traditional on-campus courses. This trend was fueled by the changing employment market where students 25-years and older, formerly considered non-traditional and now considered the new traditional students, find they need more modern technological skills to compete in the job market (Donovan, 2014). These students must overcome barriers as they often juggle school, jobs, family, finances, and other pressures that challenge their success, and as a result, many choose the flexible, any-time-any-place learning provided by online programs (Fishman et al., 2017).

Cost for online programs can be another advantage for schools and students. Many students enrolled in online classes found the convenience more economical and the reduction in transportation time and cost notable (Green, 2017). Bowen and Lack (2013) originally questioned whether using technology saved colleges money because of the need to budget salaries for support staff, equipment, and software licenses. However, their opinion changed to support online learning. They stated,

With greater access to the Internet, improvements in Internet speed, reduction in storage costs, the proliferation of mobile devices and other advances have combined with changing mindsets to suggest that online learning can … lead to at least comparable learning outcomes relative to face-to-face-instruction at lower cost. (Bowen & Lack, 2013, p. 45)

The demand for online programs is expected to continue (Friedman, 2018). As growth continues, institutions of higher education made changes related to online programs, adding more technology credentialing, science, and other programs related to
job skill development. In addition, colleges, both public and private, evaluated the quality of their online programs to help students be successful (Friedman, 2018).

**Online Program Retention and Completion**

Many institutions recognized the value of online learning to improve retention and graduation rates, and to attract new, previously underserved students and lower the cost of instruction. Christensen et al. (2011) called online learning a disruptive innovation to deliver quality and affordability to postsecondary education. Levin (2017) said introducing online learning into core curricula was a cost effective, innovative means to increase college completion.

Although online programs became the foremost means postsecondary institutions offered to assist students who desire more flexible and efficient ways of learning (Smith, Lang, & Huston, 2012), a concern remains, students in these programs have specific needs and may be at-risk of failure (Jenkins, 2012; Laackman, 2018). Institutions of higher education, focused on retention and graduation rates, seek ways to understand how the online learning environment affects student learning.

**Online Student Success Rates**

Research showed some online students were not as successful as those in traditional face-to-face classrooms (Bettinger & Loeb, 2014; Dynarski, 2017). In general, success and retention rates for online students lag behind those of face-to-faces classes by 6-11% (Barshay, 2015; DETA, 2016; H. Johnson & Mejia, 2014; H. Johnson et al., 2015). This was particularly the case for students enrolled in community colleges across the nation.
Many students drop out of online courses because they feel overwhelmed and sometimes frustrated with how information is presented in programs (Kumar & Skrocki, 2016). Institutions of higher education tried to find ways to help students address the barriers they face to learning online. Through understanding the learning needs of online students, colleges attempted to add academic support to facilitate student learning for successful program completion and increase retention and graduation rates. Researchers highlighted many variables contributing to student success online, including the importance of online course design, faculty training, and support in best practices for online teaching and learning, as well as student preparation, motivation, and self-regulation (Adkins, 2011; Allen & Seaman, 2005; H. Johnson et al., 2015; Yukselturk & Bulut, 2007). All these areas hold merit and initiatives designed to focus on them individually and collectively could impact student success. However, research into the evolution of learning theory leads to the need for an emphasis on collaboration.

**Theoretical Background**

**Learning Theory for the 21st Century**

Understanding the complexities of how people learn continues to be of importance today for colleges and universities to increase the number of students who graduate. The wide body of research on learning reflects the belief of scholars that advances within the field of education are essential to make transformative improvements to meet the nation’s pressing educational needs (Wilcox, Sarma, & Lippel, 2016).

Learning in the 21st century is more important than ever. Globalization transformed the nature of work using information technology and created what is now known as the Knowledge Age (Harasim, 2017). As a result, the need for workers to learn
new technologies and be skilled in the ability to acquire and use knowledge at a rapid pace drove the demand for better educated employees. The mobility of learners and widespread expansion of distance education challenged scholars to better understand the nature of learning to be equipped to effectively and efficiently prepare people for 21st century knowledge-based jobs (Ashworth, Brennan, Egan, Hamilton, & Saenz, 2004; Harasim, 2017). As education transformed, so did learning theories.

**Historic Learning Theory**

Darling-Hammond, Austin, Orcutt, and Rosso (2015) reviewed the history of learning and how learning was understood by philosophers and theorists from a variety of fields for over 2,000 years. They described contemporary learning theory in the context of understanding the evolution of historic learning theories and how they can be applied to effective instructional strategies. Based on their review of learning throughout history, the authors framed their recommended instructional practices in terms of “organizing the environment; organizing knowledge, information, and activities; and organizing people” (Darling-Hammond et al., 2015, p. 17).

Darling-Hammond et al. (2015) found throughout history, philosophers, psychologists, and educators debated the nature of knowledge and the learning process. Greek philosophers Socrates (469-399 B.C.), Plato (427-347 B.C.), and Aristotle (384-322 B.C.) reflected on the meaning of knowledge and learning process. Socrates promoted the idea learning occurred through thought-processes or rationalism as understood in conversations with others; Plato and his pupil, Aristotle, added to the theory with the interpretation knowledge could be gained through self-reflection and gathering data from one’s senses (empiricism). These philosophers provided the
foundation for learning theories that looked to cognitive processes of the mind in conjunction with collaboration and reflection with others (Darling-Hammond et al., 2015).

Many online learning researchers utilized historic collaboration and reflection theories and applied them to promote online student success (Harrell, 2013; Palloff & Pratt, 2007; Sadera et al., 2009). Current trends in the field of online learning showed a shift in teaching perspectives and theoretical frameworks focused on direct interaction in a learner-centered, collaborative, and constructivist environment (Beldarrain, 2006; Budhai & Skipwith, 2017). A review of research into the evolution of learning theories demonstrated, to some degree, elements in each theory were translated into online education to enhance learning and increase student success.

Learning theories continued to be examined and debated throughout history. After the Greeks, the Romans continued with the classical model (Dhesi, 2015). In the medieval period, orthodox scholastic teaching became the responsibility of the early Christian church but was restricted; the focus was primarily on theology and education was limited to royal and elite males (Havlidis, 2015). Monks, scholastic philosophers and clergy used logic to weigh and debate different viewpoints (J. Scott, 2006). French philosopher Descartes (1596-1650) declared how specific environments influenced and initiated behavior, whereas German scientist Kant (1724-1804) espoused knowledge and cognition existed prior to experience (Darling-Hammond et al., 2015). During the Enlightenment (1715-1789), scientific inquiry led to learning theories that promoted the use of intellect to acquire knowledge through what one could sense, discuss, study, and improve (Harasim, 2017).
Expansion of Learning Theories

The 19th century brought about further expansion of scientific study into learning. Working from the thoughts of Descartes and Kant, along with theories of Charles Darwin, scholars in psychology conducted studies into how people learn with the purpose of applying findings to how best to approach teaching (Darling-Hammond et al., 2015). Studies into the psychology of mind and teaching were utilized to understand the learning process. Most of the resulting theories focused largely on behaviorist versus cognitive psychology. More contemporary learning theories considered the humanist view and importance of social interaction and construction of meaning in the learning experience (Darling-Hammond et al., 2015). Table 2 presents some of the classical conditioning behaviorist learning theories and the cognitivist, humanist, and social constructivist approaches to learning highlighting key 20th century research theorists and their views of learning.

Table 2

Twentieth Century Learning Theory

<table>
<thead>
<tr>
<th>Theories</th>
<th>Behaviorist</th>
<th>Cognitivist</th>
<th>Humanist</th>
<th>Social Learning</th>
<th>Constructivist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proponents</td>
<td>Pavlov</td>
<td>Lewin</td>
<td>Maslow</td>
<td>Bandura</td>
<td>Dewey</td>
</tr>
<tr>
<td></td>
<td>Skinner</td>
<td></td>
<td></td>
<td>Vygotsky Piaget</td>
<td>Piaget</td>
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<tr>
<td></td>
<td>Thorndike</td>
<td></td>
<td></td>
<td></td>
<td>Vygotsky</td>
</tr>
<tr>
<td></td>
<td>Watson</td>
<td></td>
<td></td>
<td></td>
<td>Lewin</td>
</tr>
<tr>
<td></td>
<td>Change in behavior</td>
<td>Internal mental processes</td>
<td>Personal act to fulfill potential</td>
<td>Interaction social context; communities of practice; distributed cognition</td>
<td>Construct meaning from experience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(insight, information, memory, perception)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Learning</td>
<td>Stimuli in external environment</td>
<td>Internal cognitive structuring</td>
<td>Affective, cognitive needs</td>
<td>Interaction of person’s behavior and environment</td>
<td>Internal construction of reality by individual</td>
</tr>
<tr>
<td>Education Results</td>
<td>Behavior change in desired direction</td>
<td>Develop capacity and skills to learn better</td>
<td>Student take responsibility for learning</td>
<td>Model new roles and behavior</td>
<td>Construct Knowledge</td>
</tr>
</tbody>
</table>

Note. Adapted from Ashworth et al. (2004).
Behaviorist Learning Theory

Studies in the 20th century continued with exploration of a variety of behaviorist theories (McLeod, 2018). Russian researcher Pavlov (1849-1936) observed the reflex of dogs to salivate when they saw food, but also found the response was triggered by the presence of those who fed the dogs (Darling-Hammond et al., 2015). Pavlov’s work showed how learning occurs in reaction to changes in the environment. Thorndike (1874-1949), considered by many to be the first modern educational psychologist, sought to bring a scientific approach to the study of learning. He believed people learned through trial and error. Thorndike carried the behaviorist theory into how mental connections formed through positive responses to sense stimuli that drove impulse to act (Darling-Hammond et al., 2015). Watson (1878-1958) popularized the scientific theory of behaviorism through examination of observed external reactions to stimuli (McLeod, 2018). Skinner (1904-1990), a behavioral theorist, presented the theory of operant conditioning (McLeod, 2018). Darling-Hammond et al. (2015) termed Skinner the father of modern behaviorism because he was responsible for developing programmed learning based on his stimulus-response research. Bandura agreed with classical and operant conditioning theories and added the concept that behavior was learned from observation of the social environment (McLeod, 2018).

Behaviorist theory had a substantial influence on the field of education and was used in early computer learning systems (Ally, 2004). The theory guided development of highly sequenced and structured curricula (Darling-Hammond, 2015). Behaviorist theory proved useful for some types of skills development, especially those learned through rote memorization drills and practice (Schunk, as cited in Darling-Hammond et al., 2015).
Reinforcement to correct behavior was used as a tool to increase learning as grades for assignments were seen as motivational.

Behaviorist learning as scientific theory exhibited the importance of how learning results from a change in behavior through a connection between stimulus and response. The main principles of behaviorism had a visible impact on teaching in higher education with the appearance of learning objectives and outcomes, along with constructive alignment of content, emphasis on the importance of feedback to skill development, and modifications of teaching methods and assessment (Ashworth et al., 2004). Understanding how students learn and apply past learning theories was equally important to teaching and learning in all environments, on-ground and online (T. Bates, 2014).

**Cognitive Theory**

In many online classes, especially in community colleges, students return as adult learners with unique motivations and past educational experiences making them desire cognitive connections for deeper learning (Milheim, 2012). Cognitive information processing is used when the learner plays an active role in seeking ways to understand and process information received and relates it to what is already personally known and stored within memory (Darling-Hammond et al., 2015). Cognitive learning theories are credited to Lewin (1890-1947), Jean Piaget (1896-1980), and especially to Maslow (1908-1970) with his humanist approach to encourage learners to take responsibility for their learning. Piaget was the first to state learning is a developmental cognitive process. His child development observations demonstrated learning was built on past experiences and intelligence grew as people reacted to new experiences. On the other hand, Maslow’s premise was learning could only occur if one’s physiological needs were first
met. His hierarchy of needs theory was more humanist in nature (Darling-Hammond et al., 2015). Maslow’s theory identified how food, water, shelter, safety, love, belonging, and a solid self-esteem had to be satisfied to allow learners to be in a better position to learn (Burleson & Thoron, 2014). According to Pappas (2015), Maslow’s hierarchy of needs was a natural fit for eLearning, thanks to the fact learners must first have their lower needs addressed before they become active and engaged participants in an online class.

To understand learning in the online environment, it is essential to consider the emotional and psychological impact of the student experience (Cleveland-Innes & Campbell, 2012). Lewin, Piaget, and Maslow believed that in cognitive processing, learners use intellect and emotion to problem-solve and creatively merge and construct information. For online learners, who often work in isolation, the internal processing of information occurs when they cognitively link concepts to their own knowledge base. In online courses, real-world examples, problem-solving, and discussion activities are important to provide students with opportunities to link concepts and comprehension to their intellectual and psychological framework (Cleveland-Innes & Campbell, 2012).

**Social Constructivism**

Social constructivist learning theories were also influenced by the work of Lewin and Piaget who observed education through the lens of experiential learning. Lewin pioneered the philosophy of group communication and group dynamics as important to experiential learning for knowledge acquisition. D. Johnson and R. Johnson (2014) described interactive activities such as cooperative reading of the same or related material online, reflections on a discussion board, writing and interaction via Google Docs, virtual meetings, and creation of multi-media presentations to promote social interdependence.
online. Both Lewin and Piaget’s theories encompassed observation of behavioral change through social experiences (Cherry, 2018). Online interaction influences behavior changes and development of a learning community.

Darling-Hammond et al. (2015) noted Russian scientist Vygotsky (1896-1934) extended Piaget’s developmental theory of cognitive abilities of the individual to include the notion of social-cultural cognition. Vygotsky’s main tenant was all learning existed within a cultural context and involved social interactions (Darling-Hammond et al., 2015). Vygotsky emphasized the role instructors and peers play in assisting learners in developing new skills thereby reinforcing the interactionist theory (Schunk, 1996, as cited in Darling-Hammond et al., 2015).

In 1938, philosopher John Dewey (1859-1952) declared education should equip students to take a full and active part in shaping the future society. Dewey promoted learning by doing rather than learning passively. His theory focused on the importance of reflection, mutual interaction, and active experimentation in learning (Dewey, 1938). In 1984, Kolb combined the action research of Lewin and experiential learning of Dewey to develop the concept of allowing students to be reflective and use their experiences to integrate new concepts with past knowledge (Cherry, 2018; McLeod, 2017). Recently a move toward constructivist learning emerged as it allowed for interactive learning and collaboration, two key concepts important for building an online learning community (T. Bates, 2014).

With the development of the Internet and expansion of distance education and networked learning, the incorporation of social constructivist theory became important for online teaching and learning (T. Bates, 2014). Two important contemporary online
learning theories recognized the importance of collaboration and knowledge construction for successful online learning, online collaborative learning theory (OCL) and the community of inquiry (COI) model. Harasim (2012) developed OCL as online learning theory designed where students were encouraged and supported to work together to be innovative, problem-solve, and create knowledge collaboratively. In OCL theory, the instructor plays a key role as facilitator and link to the knowledge community (Harasim, 2017). COI incorporated presence where students constructed knowledge through interaction and sustained reflection under the guidance of the instructor mediated through technology (Garrison et al., 2000).

**Technology and Learning**

Behaviorism, cognitivism, and constructivism are the three theories most often utilized to create instructional environments. Siemens (2005) stated these theories were developed in a time when learning was not impacted by technology. Over the last 25 years, technology reorganized how people live, communicate, and learn. Modern learning theories need to describe these contemporary social environments (Siemens, 2005). Knowledge in many fields continues to grow exponentially and, at the same time, much knowledge rapidly becomes obsolete (Gonzalez, 2004). Due to rapid changes in available information, learning in contemporary society occurs in a variety of ways both informally and formally in the connections of communities of practice, personal networks, and work-related tasks.

Technology altered people’s brains through the tools used to shape thinking and learning acquired through the connections made (Siemens, 2005). The digital information society transformed the skills necessary to live a successful life. Twenty-
first century citizens must be able to search for and evaluate digital information (e.g., webpages, images, video), synthesize ideas, and construct sound judgments. Learning is now a continual process, lasting for a lifetime, and the skills gained in learning with emerging technologies are critical (Pacansky-Brock, 2017). Educators now recognize traditional learning theories must be re-evaluated for students to be taught knowledge management. Many processes in the past were handled by learning theories, especially cognitive information processing, which are now off-loaded or supported by technology (Siemens, 2005). As an alternative theory, Siemens (2005) promoted, “It is forming connections that moves learning into the digital age; and the ability to synthesize and recognize connections and patterns is a valuable skill” (p. 3).

**Connectivism**

Connectivism as a learning theory defines how Internet technologies created new opportunities for people to learn and share information across the World Wide Web and among themselves. Informal learning is now a significant aspect of one’s education. Formal education no longer comprises most learning. Much knowledge is gained from connections with other people’s experiences and other sources of knowledge. Information is obtained from Web browsers, email, wikis, online discussion forums, social networks, YouTube, and many other online tools where people share information (Downes, 2010).

In consideration of how technology transformed the ability to learn, connectivism serves as a beneficial alternative educational theory for teaching and learning in the digital age (Siemens, 2005). Wicks (2009) put forward, “The rate at which information is doubling and becoming obsolete has created the need for developing new ways of
providing instruction” (p. 2). Siemens (2005) originally recognized how acquisition of knowledge is changing from what is known to how to find the information when it is needed. Connectivism theory ties into the realization that as knowledge continues to increase at such a rapid pace, it is now important to teach learners to know how to find pertinent information. The theory points to the fact nurturing and maintaining connections is needed to facilitate continual learning. Teaching students to see connections between fields, ideas, and concepts is a core skill needed for future employment. To be effective, corporations depend on the flow of information within their organization and on people who recognize the importance of connections to maintain knowledge flow. Connectivism theory relies on communication, interaction, and reflection, and therefore is important as a learning theory for distance education (Siemens, 2005). Given the importance of interaction, collaboration, and knowledge acquisition to learning, instructors must recognize how these components increase the effectiveness of online courses (Wicks, 2009).

**Adult Learning and Blooms Taxonomy**

In evaluating learning theories in relation to online learning and student success, additional consideration must be given to Knowles (1913-1997) theory of andragogy (also referred to as adult learning theory) and Bloom’s taxonomy or domains of learning. Knowles theory of andragogy is a wide-ranging learning theory with important implications for online learning because many online learners are non-traditional students; these students are often mature adults (24 years and older) returning to complete their formal education or enhance skills for future career plans (Donovan, 2014; Fishman et al., 2017). Knowles’ theory identified adult learners as having a reservoir of life
experience as a resource for learning, a readiness to learn based on their current social roles, an orientation to self-directed learning through problem-solving, and an internal motivation and design to learning subjects with immediate relevance to impact their job or personal life (Chametzky, 2014).

Mancuso (2018) proposed Bloom’s taxonomy (Figure 6) as a method to improve computer-based curriculum by “blending the framework with experiential constructivist practice and the current best understanding of andragogy” (p. 3). Bloom’s taxonomy incorporates “three main domains of learning, namely cognitive (knowledge), affective (the learner’s attitude or self-concept) and the psychomotor” (Mancuso, 2018, p. 5).

![Bloom's Taxonomy](image)

**Figure 6.** Bloom’s taxonomy.

The pyramidal structure of Bloom’s taxonomy considers the steps to knowledge acquisition, comprehension, application, analysis, and evaluation through collaboration and the creation of solutions/projects (Armstrong, 2010). Chametzky (2014) stated for a learner to be able to function in an andragogic learning environment, four characteristics must exist; students must be “self-directed or self-guided, encouraged, accustomed to learning in an andragogic manner, and ready to learn in an andragogic style” (p. 816).
With the increase in post-secondary online learning and the nature of non-traditional students who choose online learning for flexibility, convenience, and low cost (Allen & Seaman, 2013), college administrators who wish to increase enrollment and revenues through student persistence and retention must ensure online faculty training includes concepts of andragogy, including the importance of interaction, engagement, and awareness of the effects of isolation in the online learning environment (Chametzky, 2014).

Integration of Theory into Online Learning

Authentic Learning

T. Bates (2014) examined traditional learning theories as related to online learning. His research reinforced that humans have the ability for conscious thought, decision-making, emotions, and expression of ideas through social discourse. He believed these abilities should be considered in online course design to include more opportunities for students to use cognition to assimilate content. T. Bates (2014) stressed understanding the cognitive processes of how humans make sense of new information and organize and manage knowledge while working together with technology in an online setting. He emphasized the importance of reflection. His approaches to online learning focused on comprehension, analysis, evaluation, and creative thinking. T. Bates (2014) noted the reflective experience was a better fit with online higher education than behaviorism techniques.

In keeping with Siemens theory of connectivism, Lombardi (2007) endorsed authentic learning through the Internet and emerging communication, visualization, and simulation technologies to provide real-world experimentation and problem-solving.
Herrington, Oliver, and Reeves (2003) stated use of authentic activities within online learning environments had many benefits for learners because,

- Assignments have real-world relevance, require students to initiate activities that require complex tasks to be investigated over a sustained period of time, require the use of a variety of resources and provide many opportunities to collaborate, assess and create polished products as required in the business world. (p. 61)

Authentic activities are used successfully across a wide variety of disciplines. For example, in a health and physical fitness course students used a virtual laboratory to carry out fitness testing on muscular strength, aerobic power, and lung function in the same manner as the procedure would be conducted with a real person (Rice et al., 1999, as cited in Herrington, Oliver, & Reeves, 2003). Students in a mechanical engineering course designed and constructed a race car, a project that allowed students to transcend a design concept into a product (Challis, 2003, as cited in Herrington et al., 2003).

The movement toward creating authentic learning environments is essential as research found when the learning process is separated from its applications, knowledge remains inert and unused beyond the classroom (Driscoll, 2005). Authentic tasks and assessments avert the limitations of traditional lecture-based teaching, which limits student growth in independent thinking. This fact was echoed in complaints of employers who found new college graduates sorely lacked workplace skills and attitudes (Lombardi, 2007). Authentic activities within online learning environments help students practice skills to evaluate information and complete tasks where they become immersed in problem-solving individually and in groups within realistic situations resembling the
context where the knowledge learned can be realistically applied (Herrington et al., 2003). Online courses with authentic activities could effectively comprise the entire student’s commitment to the course and increase their persistence (Herrington et al., 2003; Lombardi, 2007).

**Student-centered Approaches**

Cognitivist learning theories created a shift away from teacher-centered methods of course delivery toward more freedom for students to choose how to learn. The theories enabled students to use problem-solving and decision-making, which are particularly important in online course navigation and peer interaction. Higher education learning theorists encouraged flexible curriculum design allowing for continuous assessment, group-based learning, and applied practice as part of the learning experience. This is especially important in online courses where students often find themselves in an isolating environment and must use problem solving and interact with others (R. Scott, 2017; Walker, 2016).

Contemporary theories endorse a student-centered approach with the teacher in the role of facilitator whereby students are guided through the process of problem-solving and interaction. Student-centered approaches to teaching are more humanist in nature. The humanist approach and social learning theories serve to advance socialization, social roles, group work, and team projects to enhance collaborative and experiential learning (Ekblaw, 2016).

**Humanist and Social Context**

Vygotsky and Dewey recognized learning could not be separated from social context (Reis, n.d.). Their work advanced the idea of learning in a social environment
whereby sharing ideas help students improve their learning. They believed interaction was a necessary part of cognitive development and asserted that through the help of the instructor or peers in group work, learners could better understand concepts and ideas they could not understand on their own (Reis, n.d.). In addition, further benefits to group work included development of teamwork skills, improvement of critical thinking, and insight from multiple cultural perspectives, all proficiencies needed for the working world (Ekblaw, 2016; Payne, Monk-Turner, Smith, & Sumter, 2006).

Most theories consider how cultural background and social contexts influence learning. Associations students make and understandings they develop are dependent upon what is valued and past experiences. Emotions and feelings factor into learning whether face-to-face or online (Cleveland-Innes & Campbell, 2012). Kolb (1974, as cited in Miettinen, 2000) described the different kinds of abilities learners need to be successful; they must be able to involve themselves fully, openly, and without bias in new experiences and reflect on and observe their experiences from many perspectives. In addition, they must create concepts that integrate their observations into logically sound theories to make decisions and solve problems (Kolb, 1984, as cited in Miettinen, 2000).

Humanist and social perspectives advanced the idea learning is no longer a spectator sport, promoting active modes of learning help students take responsibility for their own learning (Eison, 2010; Rea, 2015). When learners interact with content and collaborate with peers, they achieve a deeper learning and, in the process, develop skills such as writing, communication techniques, and cultural awareness (Light, 2001, as cited in Burke, 2011). According to Darling-Hammond et al. (2015), active collaborative learning should be integral to designing learning environments for both face-to-face and
online classes. Burke (2011) positioned many advantages of working in groups, including capturing the backgrounds and experiences of others, the stimulation of creativity, and the tendency to learn more of what is taught and retain it longer than when the material is presented in other instructional formats. Education became transformative when teacher and students synthesized information across subjects and experiences, critically weighed significantly different perspectives, and incorporated various inquiries (Sun & Chen, 2016). In this regard, group work could effectively serve as a bridge between the academic community and business world (Payne et al., 2006).

**Online Learning and Persistence Theories**

Study of learning theories continues to be vital in the 21st century as education is transforming through the Internet and online learning. The change in delivery of education through technology made it more important to understand the nature of learning and what contributes to student success. The notion that higher education must take a proactive stance in understanding how students learn best was impacted by the expansion of online education. College administrators, instructional designers, and faculty currently realized the more that becomes known about student preferences, instructional strategies, effectiveness of online teaching, and assessment methodologies, the online classroom experience will continue to improve (Milheim, 2012). Due to the skepticism of some traditional educators about the effectiveness of online education and a concern some instructors are unable to replicate many elements of the live classroom in an online environment, more research is needed to emphasize what components in an online course contribute to effective learning (Casey 2008, as cited in Milheim, 2012). This is particularly important because some research emphasized students participating in
distance education programs often experience dissatisfaction for numerous reasons, including the lack of interaction between students or student and instructor, inadequate course design, absence of a supportive learning environment, lack of motivation, and unfamiliarity with technology (Bolliger & Wasilik, 2009; Milheim, 2012; Picciano, 2002; Rovai & Downey, 2010). Awareness of barriers to student success in online courses is momentous if instructors respond appropriately and design courses that create a more satisfying learning environment and experience for students (Milheim, 2012).

**Student Motivation Theory**

Some researchers believe Maslow’s Hierarchy of Needs could be used as a framework to understand how to increase student satisfaction in the online setting. The research that used Maslow’s theory included examining motivation of online learners (Burleson & Thoron, 2017; Milheim, 2012). Maslow’s Hierarchy of Needs (Figure 7) as a motivational theory in psychology was built on a five-tier pyramid model that lays out how lower tier physical, psychological, safety, and self-esteem needs must be satisfied in the educational environment to increase the potential for learning (McLeod, 2018).

![Figure 7. Maslow’s Hierarchy of Needs. Source: McLeod (2018).](image)

According to McLeod (2018), when lower tiers of the model are met, students grow in motivation to learn. Indicators from Maslow’s theory important to online student success suggest students must be shown they are valued and respected in the class, and
the instructor should work to create a supportive environment (McLeod, 2018). Pappas (2015) delved into each of the levels of the pyramid. As far as the physiological and security/safety needs, online learners already have basic needs met, but some learners chose online classes for a more flexible schedule because most have busy lives. Safety or security needs in the online environment relate to meeting the social needs of learners. Pappas (2015) recommended instructors incorporate social learning activities and resources that fulfill the need to make the learning experience more interactive and engaging. He suggested with ample opportunities to connect and communicate with other online learners, there would be fewer feelings of isolation. Pappas (2015) merged love and belonging with self-esteem and recommended allowing students to choose which online exercise they complete and when, and give praise when students successfully complete a task (Pappas, 2015). The effort to give students choices serves to move students to Maslow’s self-actualization tier where they become less concerned with opinions of others and more motivated to fulfill their own potential (Cherry, 2018).

In line with Maslow’s theory, further cognitive research conducted in the 1980s led to the development of Gardner’s theory of multiple intelligences (Edutopia, 2016). Gardner’s theory showed people learn in different ways, such as verbal linguistic, mathematical and logical, visual spatial, bodily-kinesthetic, and interpersonal by working in a group. In consideration of Gardner’s theory, online course design would offer a variety of learning activities to meet the needs of multiple learning styles. For example, video and online lectures would meet the visual verbal and linguistic learners’ style. Collaborative activities, screen sharing, texting, discussions, and private chats would support interpersonal and intrapersonal learners (Herndon, 2018). Social media platforms
such as Facebook and Twitter, along with videos created with images, text, and audio are some teaching technologies that would provide other sources of communication and participatory environments for learners (Pacansky-Brock, 2017).

**Methodology of Online Instruction**

**Role of the Instructor**

Instructors in an online class play an important role in ensuring basic student needs are met prior to the course start date (Riggs & Linder, 2016). Contact with students prior to the first day of class via email, video, or announcement on the course website should provide information and guidelines on how to access and navigate the course, and provide a preview of student expectations such as number of assignments, exams, and reading requirements. Interaction should be built into online course design allowing communication with the instructor to continue during the course with announcements, direct instruction, concept model presentations, and feedback (Riggs & Linder, 2016).

Behaviorist, cognitivist, and constructivist learning theories contributed in many forms to the design and facilitation of online materials. Active involvement of instructors as facilitators of the learning environment is crucial to the feeling of course satisfaction (Brunet, 2011). For online education to maintain a highly effective virtual learning space, instructor-learner interaction is the most important ingredient. Brunet (2011) stated “to maintain high standards in online education, highly facilitated interaction is essential” (p. 40). This again highlights the importance of the social aspects of learning.
Regulation of Online Learning

The Federal Student Aid Office (FSA, 2014) and the Higher Learning Commission (HLC, 2009) define online and describe the required instructor-student contact for college accreditation and grant funding. Regulation include definitions for online education where certain technologies are used to deliver instruction to students separated from the instructor. The law requires provisions to support regular and substantive interaction between students and the instructor. The interaction may be synchronous or asynchronous (FSA, 2014).

The definition also notes the interaction cannot be primarily initiated by the student. The instructor must initiate interactions. Simply posting recorded lectures or textual materials online, along with exams or quizzes, does not meet the federal guidelines and would be classified as a correspondence course. Lieberman (2017) noted online courses, for which students may use financial aid programs, must have significant faculty-student interaction built into course design. Definitions for funding for online courses continues to require regular and substantive interaction between students and the instructor to qualify for aid, accreditation, and federal approvals (Toppo, 2018).

York and Richardson (2012) examined perceptions of six experienced online instructors to determine factors they believed increased interaction among students and between the students and instructor. These authors defined instructional interaction as meaningful communication that challenged learner thinking, shaped the acquisition of knowledge in meaningful ways, and changed learners, moving them toward achieving goals (York & Richardson, 2012). Introductions, announcements, threaded discussions,
personal videos, emails, social media pages, and other interactive activity offer opportunities to increase instructor-student interaction.

**Instructor-Student Interaction**

In keeping with Maslow’s principles of meeting the safety and emotional needs of students, the tone of the information conveyed through instructor-student online interaction should be friendly in nature to put students at ease to make them feel supported. Though neglected in the past, the importance of emotions in learning is gaining significance (Lehman & Conceicao, 2010). Research studies on the role of faculty-student interaction in virtual classes indicated students who perceived they had high levels of interaction with the instructor also had high levels of satisfaction with the course and reported higher levels of learning (Swan, 2001). According to Shea, Li, and Pickett (2006), an active presence from the instructor in which they guide students and coordinate discourse created a sense of connectedness and learning. Arbaugh (2008) and Eom et al. (2006) believed the role of the instructor was among the most critical for student success in online courses. Instructors who design online courses that enable interaction and teach students in meaningful ways help move students toward course learning goals and toward thinking in new and more profound ways (York & Richardson, 2012).

**Student Satisfaction and Success**

Online interaction was a significant predictor of student success (Arbaugh, 2008; Eom et al., 2006). Eom and Ashill (2016), in an updated study on the determinants of student learning outcomes and satisfaction with online education, noted a need to send a strong message to administrators that instructors are a “cornerstone of university online
education” (p. 204). They promoted re-educating instructors to continuously improve their skills to perform better as course designers, discussion/technology facilitators, and motivators to students (Eom & Ashill, 2016). Given the continued popularity for online learning within the broader contemporary higher education landscape, many educators must rethink pedagogical techniques used in face-to-face environments and recognize they must re-design courses to provide active engagement for online students (Riggs & Linder, 2016). An active presence on the part of the instructor where they guide and coordinate discourse relates positively to both a student’s sense of connectedness and learning (Shea et al., 2006). Riggs and Linder (2016) encouraged instructors to create an architecture of engagement in online courses so they themselves inhabit those spaces throughout the course along with students. Within this architecture, instructors must continuously “guide student learning, provide feedback, serve up reminders, double back to reinforce concepts and actively facilitate the learning community” (Riggs & Linder, 2016, p. 4). Interaction and presence in an online course, vibrancy of discussion, student willingness to share ideas, amount of participation, and enthusiasm in collaborative activities and group projects all support productive learning environments and must be measured to recognize what makes online students successful (Akcaoglu & Lee, 2016).

**Online Community**

Although many students appreciate the flexibility to work or study from anywhere at any time when enrolled in online programs, the drawbacks of feelings of isolation can be a challenge (Gillett-Swan, 2017; Lineberger, 2016). Such a challenge can hinder student success. Much research was conducted on the importance of building a community in an online class through designing engaging materials, interactive
instructional methods, and collaborative learning opportunities for students to get to know members of the group.

Research studies showed formation of a learning community through which knowledge is imparted and meaning is co-created sets the stage for successful learning outcomes (Palloff & Pratt, 2007). Numerous researchers found the role of community in online learning contributed to students’ sense of connectiveness and satisfaction (T. Bates, 2014; Brindley, Wait, & Blaschke, 2009; Sadera et al., 2009).

The understanding of how creating a community in the online setting can support student success is significant for all faculty, instructional designers, and college administrators who wish to sustain distance education programs. Rovai (2002) developed an instrument to measure online community. The intent was to gain insight into feelings of connectedness, cohesion, spirit, trust, and interdependence, as well as effectiveness of course design. His study focused on gender and ethnic makeup and how these factors affected student perceptions of community. Results indicated students with low sense of community felt more isolated and were at risk for dropping the class (Rovai, 2002).

**Community and Retention**

Current concern for the statistics on college completion in the U.S. makes understanding what instructional components contribute to online student success critical. According to Hess (2018), writing about the college dropout problem using 2016 statistics, 48% of first-time, full time students who started at a four-year college six years earlier had not yet earned a degree. The picture from community colleges was no better with only about 26% of full-time, first time students completing their degree within three years (Hess, 2018). Hess (2018) argued these poor statistics left many with student loan
debt and few jobs skills to repay loans, and taxpayers were then left with bearing the unpaid subsidies and federal loans.

Tinto (2016) stated that although institutions of higher education focus on how to retain students, students are more intent on how they can persist. The institution’s interest is to increase enrollment, revenue, and a reputation for program completion. Students on the other hand use persistence to motivate them to complete degrees. Tinto (2016) noted colleges would do well to look at retention from the student perspective. He noted colleges are comprised of social and academic communities involving students, faculty, and staff. Tinto’s (1987) theory was one of social integration, promoting “when students feel valued and a sense of engagement with the community both academically and within departments, their motivation to persist increases” (p. 123).

Community of Inquiry Framework

In consideration of the complexities of learning and historic theories developed to identify how students learn best, the premise of collaboration within a learning community stood out as important for the current knowledge-based, technology-dependent society (Garrison, 2016). The community of inquiry (COI) model developed by Garrison et al. (2000) using the cognitive-behaviorist, social constructivist, and connectivist traditions in learning theory created a framework emphasizing the social constructivist dimensions of online learning. Online learning now represents the post-industrial era of distance education and new models are needed to focus on designing context-specific collaborative education experiences to enrich teaching and learning (Garrison & Cleveland-Innes, 2005). COI was developed to directly address the importance of social interaction and collaboration
online to promote successful outcomes. The COI framework emphasizes social construction and representation, multiple perspectives, and awareness of how knowledge is socially constructed. The theory is particularly important for online education where learning becomes a social activity with the development of a cohort as opposed to individual study (Anderson & Dron, 2011).

**Community of Inquiry Model**

COI as an educational model consists of a community or group of individuals who collaboratively engage in purposeful, critical discourse and reflection to construct personal meaning and confirm mutual understanding (Garrison et al., 2000). COI encompasses a process of creating a deep and meaningful learning experience through the presence of three interdependent components, social presence, cognitive presence, and teaching presence (Figure 8).

![Figure 8. Community of inquiry. Source: Garrison et al., 2000.](image)

The COI framework is grounded in philosophical learning theories that promote collaborative-constructivist learning experience to create and sustain communities of learners at a distance (Garrison, 2011). The development of new asynchronous and
synchronous communication technology made it possible to expand collaborative
distance educational experiences to increase effectiveness in an online setting.

Establishing Presence

COI defines how learning occurs for a group of students through educational
experiences at the intersection of social, cognitive, and teaching presence. Palloff and
Pratt (2011) stated “establishing presence as the first order of business in an online class
is one measure of instructor excellence online” (p. 7). Picciano (2002) emphasized
establishing presence was needed as the online setting had a greater possibility for a sense
of loss among learners through limited contact and connection, resulting in a sense of
isolation. Consequently, attention should be paid to the intentional development of
presence (Palloff & Pratt, 2007). The intent of establishing presence is to create a
community of inquiry through a sense of connection among learners separated by time
and space.

Social presence includes the ability of participants to project their individual
personalities to identify and communicate with the community and develop inter-personal
relationships (Garrison, 2007). Cognitive presence is the extent to which learners
construct meaning through sustained reflection and discourse (Garrison, Anderson, &
Archer, 2004). Teaching presence includes the design, facilitation, and direct instruction
of social and cognitive processes for achieving relevant learning outcomes (Anderson,
Rourke, Garrison, & Archer, 2001).

Critical Thinking

COI presents the significance of the operationalization of reflective thinking as an
educational philosophy. This kept with the educational philosophy of Dewey (1938) who
promoted higher-order thinking processes as developed through interaction and reflection for problem-solving to confirm personal meaning and mutual understanding in learning.

Both independence and interaction exist in a community of inquiry as learning experience is conducted through the three interdependent elements of social, cognitive, and teaching presence (Garrison & Akyol, 2011). According to Akyol and Garrison (2008), all three presences must be developed in balanced proportions.

**Interdependent Presences**

The interdependence of the three COI presences works to create an integrated learning experience (Anderson et al., 2001). Cognitive presence includes connecting with content, exchanging information through connecting with others, and sharing of ideas in discussions and group projects. Social presence includes the ability of participants to identify with the community and feel comfortable portraying oneself as real. Teaching presence includes the design, facilitation, and direction of the learning activities to guide students to realize personally meaningful and educationally worthwhile learning outcomes (Anderson et al., 2001).

Garrison (2007) focused on social presence as essential in creating a community of inquiry and in designing learning activities that direct higher-order thinking. He stated, “This is not a simple task as it requires balancing socio-emotional interaction, build group cohesion and modeling respectful discourse on the part of the instructor” (Garrison, 2007, p. 69). Garrison (2007) viewed social presence as valuable to establishing effective communication and social bonds. Swan and Shih (2005) emphasized the significance of the group developing trust and respect to pursue intellectual research in a risk-free environment. Garrison (2007) promoted “care must be
taken to encourage social interaction and to provide instructional support early on” (p. 64). Through reflective and threaded discussions encouraged by instructor feedback and student-student interaction, the conditions for inquiry and collaboration led to purposeful educational growth.

In keeping with COI theory and the importance of teaching presence, Riggs and Linder (2016) suggested faculty consider building an architecture of engagement and collaboration in the online class. They recommended the instructor show students what to expect and how to navigate, interact, and use digital materials to become active in the learning community. The authors advocated the instructor model behaviors through open communication about the syllabus and course requirements. Riggs and Linder (2016) said instructors should explain the course was built on an architecture of engagement and all students must share in supporting the learning. O’Malley (2017) agreed that instructors should let students know interaction and other strategies are required. The support provided through the flow of communication and collaboration contributed to whether students persisted in an online course (Rovai & Barnum, 2003).

**Retention in Online Courses**

Boston et al. (2009) conducted a study based on COI model in terms of interaction between the three overlapping presences (teaching, social, and cognitive). The study focused on social presence as the basis for collaborative learning and the foundation for meaningful, constructivist learning online (Boston et al., 2009). This study and another conducted by S. Liu, Gomez, and Yen (2009) addressed whether social presence was a significant predictor of course retention and final grade in the community
college online environment. Results showed students who felt more like insiders in the learning community were more likely to achieve success. Accordingly, Picciano (2017) suggested the adoption of an integrated theory blending content, reflection, collaboration, and the elements of COI to improve instruction and increase online success and retention.

Research showed to create a strong sense of community and help students engage with learning in an online course, instructors must help students feel more strongly connected with each other (Young & Bruce, 2011). Instructors who purposefully designed learning activities to create opportunities for students to learn about each other decreased transaction distance and increased social presence. These opportunities improved learners’ sense of community and as a result, their sense of engagement was elevated to support their ability to persist and experience success (Young & Bruce, 2011).

**Critical Success Factors**

Data on the type of students attracted to online learning varied. It was assumed online students were predominantly adult learners who took online courses because they allowed them to continue working full time and attend to their family and other obligations while learning in a flexible manner (Jaggars, 2014). However, recent statistics published by the National Center for Education Statistics found interest and enrollment in online courses spanned all age groups (Palloff & Pratt, 2003). Palloff and Pratt (2003) outlined critical success factors for online learning as communication, commitment, collaboration, reflection, and flexibility. Online students must be self-regulating to login each week and stay motivated throughout the courses (Roper, 2007). They must be open-minded about sharing personal details about their lives, work, and academic goals (Cicco, 2014). This was particularly important when online learners were
asked to participate in a virtual learning community to explore course material (Cicco, 2014). The ability to collaborate in a group on learning activities required critical analysis of data and cooperation to arrive at a group consensus (Palloff & Pratt, 2003).

Online student success was influenced by course design and instructional methods. Online instructors must create a clear structure to the courses with guidelines for discussions, interactions, and requirements for research and assignments (Su, Bonk, Magjuka, Liu, & Lee, 2005). Knowing who the online student is and what his or her needs are assists the instructor in designing a course responsive to those needs (Palloff & Pratt, 2003).

Summary

In consideration of the continued expansion of online learning and the concern of higher education institutions for increasing online student success and retention rates, literature in this study provided an examination of historic learning theory and theoretical frameworks as relevant to application to contemporary online instruction. The examination of historic learning theory demonstrated the complexities of learning and how learning in higher education is being transformed by the connections of communication technology and student demand for flexible online programs. Studies into the popular learning theories of behaviorism, cognitivism, and social-constructivism demonstrate traditional instructional methods are being replaced by collaborative-constructivist instructional designs to engage students in a more meaningful and satisfying educational experience. Chapter III presents the methodology used to conduct this study.
CHAPTER III: METHODOLOGY

This chapter describes the methodology used for the study. The purpose statement and research questions are presented to establish the basis for the study. This qualitative study used a phenomenological approach to examine the perceptions of community college online instructors regarding how collaborative strategies influence online student success. Data were collected through faculty interviews. Human subject considerations for ethical research is included along with a discussion of data collection. The population studied, sample selection, and instrumentation sections follow. The chapter concludes with a description of data analysis and coding procedures, study limitations, and a summary.

Purpose Statement

The purpose of this phenomenological study was to discover what collaborative instructional, content specific, and social interaction learning strategies online community college instructors perceive to be most effective in helping students succeed.

Research Questions

This study was guided by one central research question and three sub-questions designed to explore online community college learning.

Central Question

What collaborative instructional, content specific, and social interaction learning strategies do online community college instructors perceive to be most effective in helping online students succeed?
Sub-Questions

1. What instructional strategies do online community college instructors perceive to be most effective to foster collaborative learning for student success?

2. What content specific learning strategies do online community college instructors perceive to be most effective in helping students succeed?

3. What social interaction instructional strategies do online community college instructors perceive to be most effective to help students succeed?

Research Design

A phenomenological research design was employed to examine the lived experiences of online faculty regarding effective collaborative learning strategies. A primary objective of qualitative research is to understand the meanings study participants make of their experiences (Patton, 2015). Qualitative analysis allows for data collection procedures to gain narrative explanations from interviews and unrestricted surveys (Patton, 2015). The semi-structured interview method of data collection utilized in this study was consistent with the accepted practice for qualitative research.

Qualitative researchers typically gather multiple forms of data, such as interviews, open-ended survey items, observations, and documents rather than rely on a single data source to make interpretations of the participant views (Patton, 2015). In the process, the researcher gathers significant perspectives on what people experience and how they interpret the phenomenon (Patton, 2015). In this study, the researcher gathered data from multiple interviews of volunteer community college instructors from a variety of disciplines who taught online courses for at least three years.
In qualitative research, the researcher’s personal experiences and insights play a key role in understanding the issues discussed in the study (Patton, 2015). However, the researcher remained mindful and reflective about her own perspectives and bracketed any assumptions and biases brought to the study. The techniques of qualitative research identified by Roller and Lavrakas (2015) and presented in Table 3 guided the study and allowed the researcher to obtain participant stories. Using these techniques, the researcher gathered multiple forms of data to develop multiple themes.

Table 3

**Techniques in Qualitative Research**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Applicable to Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher as instrument</td>
<td>Researcher as the tool by which data are gathered. The researcher gets close to participants and the subject matter allowing for an in-depth understanding that can prove beneficial for a thorough analysis and interpretation of data.</td>
</tr>
<tr>
<td>Emphasis on Context</td>
<td>Context central to the study gained from in-depth interviews, observations, discussions, and surveys.</td>
</tr>
<tr>
<td>Influence of Setting</td>
<td>Natural to the participants to set them at ease. Conversational techniques allow for expansion of perspectives from the participant.</td>
</tr>
<tr>
<td>Participant-researcher relationships</td>
<td>Participants and researcher share the research space in which communication shapes reality captured as data. Researcher builds rapport with participants through active listening and asking questions to clarify meanings. Awareness of social and psychological forces that influences behaviors.</td>
</tr>
<tr>
<td>Data Collection</td>
<td>Researcher uses organization, attention to detail, and analytical abilities necessary for dimensional perspectives.</td>
</tr>
<tr>
<td>Structured Process</td>
<td>Systematic investigation through purposeful questioning, clarifications, and record keeping.</td>
</tr>
<tr>
<td>Importance of Meaning</td>
<td>Drawing meaning from data derived from multiple sources evaluating context, language, and impact of the participant-researcher relationship.</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>Awareness of the potential for participant and researcher bias. Researcher mindful and objective in evaluating data. Inductive methods used to investigate tiers of data to find interconnections and inconsistencies to develop meaningful and verifiable interpretations.</td>
</tr>
<tr>
<td>Technology – Qualitative Surveys</td>
<td>Online surveys offer unique methods to control the research process with more flexibility and convenience. Allows participants ways to respond in greater detail and depth to the researcher’s questions. Use of software to manage and organize data.</td>
</tr>
</tbody>
</table>
Phenomenology

The phenomenological approach within a qualitative study seeks to analyze how individuals experience phenomena, make meaning, and interpret their lived experiences (Patton, 2015). In the process, the researcher gains rich data and discovers core meanings. The value of phenomenology is it prioritizes and investigates the human experience of the world (Patton, 2015). This study investigated and prioritized how the instructor and students experienced collaboration in an online class. The phenomenological method explained commonalities experienced by participants to capture their experience in the online setting.

Phenomenology was a relevant methodology to describe and interpret the phenomena of online learning to determine factors that contribute to online student success. Phenomenology seeks clarification and understanding of people’s perceptions and experiences, especially the meanings they ascribe to their role in the phenomenon (McMillan & Schumacher, 2010). The process examines data collection through in-depth, unstructured interviews as well as “open-ended survey questions to discover the experience of each participant and capture the essence of the experience as perceived by the participants” (McMillan & Schumacher, 2010, p. 346).

The phenomenological focuses on exploring how human beings make sense of experience and transform experience into consciousness, both individually and as shared meaning (Patton, 2015). The aim of phenomenology is to transform lived experience into a description of its essence, allowing for reflection and analysis (McMillan & Schumacher, 2010). Data collection, coding, and further observation from past studies and artifacts allow for inductive analysis of significant categories and themes, which are
then used to write a description of how participants experienced the phenomenon (Creswell, 2007).

Population

According to McMillan and Schumacher (2010), “a population is a group of individuals that conform to specific criteria and to which researchers intend to generalize the results of a study” (p. 129). The population for this study was all California community college online instructors. Many of the 115 community colleges in California provide online programs. Data from the California Community Colleges Chancellor’s Office (CCCCO) from 2015-2016 showed over 13,000 online courses were available to students and roughly 800,000 students enrolled in online courses in that calendar period (CCCCO, 2015-2016). CCCCO (2015-2016) also reported there were close to 20,000 online instructors in the state.

Target Population

A target population is a subset of the population that conforms to specific criteria to which the researcher intends to generalize the results of the research (McMillan & Schumacher, 2010). For this study, the target population was community college campuses in the counties of Orange and San Diego in southern California. The target population included 21 such campuses in southern California serving over 42,000 online students with over 400 instructors (CCCCO, 2018).

Sample

A sample is a finite part of a population whose properties are studied to gain information about the whole (Patton, 2015). Samples referred to the group of participants selected from the target population from whom the researcher could generalize results to
the overall population (Creswell & Poth, 2018). This study required the selection of online faculty for interviews from three community colleges in Southern California.

The researcher used a combination of strategies (criterion-based and convenience) to construct the sample to achieve the purpose of the research. Criterion-based sampling procedures were used based on the criteria that all participants had experience with teaching online in southern California. The criterion sampling method allowed the researcher to select participants based on specific criteria (Patton, 2015). Participants were identified as meeting the study criteria from email invitations to faculty.

For planning, budgetary, and convenience purposes, faculty participants were selected from colleges in a geographic region that allowed ease of availability (i.e., convenience). The convenience sampling strategy allows researchers to establish an accessible sample based on location and time (Patton, 2015). As a result, faculty from online classes at Saddleback College, Southwestern College, and San Diego Mesa College were invited to participate in the study.

The selection of the research participants was based on the populations and characteristics of the colleges and their demographic characteristics. All the colleges were typical of large 2-year community colleges in California that offer associate degrees, transfer requirements, certificates, and occupational training. The colleges varied in size with Southwestern College serving over 19,000 students, Saddleback College serving over 24,000 students, and San Diego Mesa College serving approximately 22,000 students. Of the total population at each college, most faculty had some exposure to online teaching through blended or hybrid formats.
Selection of study participants resulted from volunteers from each college who met the criteria of experience with online classes. The intent of the sample selection process was to generate a set of participants who would voluntarily provide in-depth data to describe the phenomena of the online teaching and learning experience.

The sample consisted of 12 online instructors (4 from each college). Informal information was collected as an introduction to the interviews to gather the characteristics and experiences of each participant. The intent of the data collection process was to gain a broader insight into the perceptions of the participants to expand on the significance to the research results. Given the time restrictions and ability to obtain volunteers, the sample size of 12 faculty was reasonable in gaining rich data given the purpose of the study and participant interests.

**Sampling Criteria**

The criterion-based sampling method allowed the researcher to select participants based on the following eligibility criteria:

1. Online faculty in the selected colleges who taught online courses for at least three years
2. Online faculty in the selected colleges who currently taught at least one online course
3. Online instructors familiar with teaching and learning on an electronic learning management system (LMS)

Convenience sampling allowed for participants and researchers to establish an accessible location and time in an efficient and cost-effective manner (Patton, 2015). Criterion-based sampling in conjunction with convenience sampling allowed for the
collection of data that provided meaningful results applicable to understanding the phenomena of online learning.

**Instrumentation**

Instruments are measurement devices; instrumentation is the action taken to develop, use, and test the devices (Patton, 2015). In qualitative studies, the researcher is the main instrument for data collection. During interviews, the researcher gets close to participants, set them at ease by building rapport with active listening and probing questioning, and analyzes and interprets the data. As such, qualitative researchers must be sensitive to the psychological needs of participants and aware of the potential for bias during data collection and analysis; care must be taken to remain objective (Patton, 2015).

The study involved interviews with 12 online faculty. The researcher developed an interview protocol (Appendix B) based on the literature review, learning theories, and purpose of the study. The interview included some background information, although most questions were designed to acquire perceptions about what contributes to online student success. The questions were intended to gain input on the specific components related to online student collaborative activities. All questions were clearly written in language for participants to easily understand, and a script of introductory notes for the interviewee was prepared so the interviews would be consistent across participants and all notes, dates, and comments would be meaningful and reliable.

Part of the interview script included obtaining some general demographic information (e.g., discipline, number of years teaching online, number of online courses currently taught). The purpose of the scripted questions was intended to set participants
at ease and ready them for more in-depth questioning. Moreover, the script provided for consistency in the interviewing process and adequate time for conversation to give participants ample opportunity to think of their experiences and what worked best in their online classes.

The researcher strived to ensure questions were not leading or biased. No compound questions were created so faculty could concentrate on a single experience. Questions focused on course content and organization, class interaction, instructor communication, collaborative learning assignments, instructional materials, and opinions on social interaction in an online learning community. In this open-ended survey method, relevant topics, dimensions, and categories could be obtained. The open-ended method of questioning was designed to gain insight into the faculty perceptions of what makes students successful in an online setting. Data gathered from interviews allowed the researcher to begin coding and analysis.

Reliability and Validity

The reliability and validity of findings and interpretations in a research study depends on careful attention by the researcher. Lincoln and Guba (1985, as cited by Patton, 2015) emphasized the internal and external validity of the research process. They pointed to the researcher’s competent use of authenticating procedures and co-construction research findings with the participants. Methodological validity involves asking how well-matched the logic of the method is to the kinds of research questions posed and explanation the research is attempting to develop (Bloomberg & Volpe, 2012). The interview instrument was reviewed by a group of experts including a professional researcher, an instructional designer for online learning, and a statistician. Their
feedback indicated the research program and interview questions were appropriate to gather insights on instructor perceptions of the online phenomenon.

In the study, the researcher led all face-to-face interviews. Introductions were provided and the study purpose was explained. Participants were audio and video recorded during interviews to ensure accurate data were captured, and participants reviewed the transcripts to ensure the information reflected their perceptions. In addition to the recordings, field notes were taken to record body language and non-verbal data.

Self-reflection on the part of the researcher as to how her background may influence the analysis was important. Negative and positive responses were included to offer different perspectives. By spending a long time conducting field research, the researcher developed an in-depth understanding of the phenomenon. In the process, the researcher acquired a rich description of the participants and the context that could be transferable to future studies in some broader context.

**Expert Panel Review and Field Test**

Prior to initiating the study, the faculty interview questions were submitted to an expert panel of two educators and one researcher to check for clarity and reliability of the questions. Expert reviews provide an opportunity for revisions to the questions and planned schedule for actual collection of data (Creswell, 2007; McMillan & Schumacher, 2010). The review process served to safeguard the neutrality of the researcher and increase reliability in the study by ensuring the questions accurately aligned to the research question and to challenge any potential bias.

The instruments were also field-tested with non-participants who met the study criteria. The researcher conducted a field test interview with online community college
faculty members to assess the clarity of the questions and length of the interview. Feedback gained from the field test provided information on improving the clarity, order, and alignment of the questions. Based on the field test and input from the expert panel, questions were revised and grouped into instructional strategies, content specific collaborative strategies, and social interaction in an online community.

Data Collection

Process for Approval of the Study and Human Subject Considerations

Prior to collecting data, approval to conduct the study was obtained from Brandman University’s institutional review board (IRB). Conducting research required ethical protections, including informed consent and ensuring confidentiality for participants. Additionally, permission to conduct the research required multiple steps and approval of each college’s IRB. Before data collection could commence, various meetings with college administrators, institutional research planning analysts, instructional designers and faculty were conducted to explain the purpose of the study and discuss the benefits to each college. When approvals were secured, formal descriptions of the study and process for obtaining participants and data collection methods were presented to each college. Each college required approval from its IRB to protect participants. The conditions of approval required the researcher comply with all federal and state regulations to conduct ethical research in protection of the rights and welfare of the subjects and to be in strict adherence to all IRB requirements. This involved the acquisition of written informed consent from participants defining the purpose and risks of the study. In addition, confidentiality and proper handling of data were required.
**Data Collection Procedures**

The phenomenological approach was chosen as it allowed for faculty interviews to obtain perceptions on the online teaching experience. The study was structured to collect data through interviews with 12 online faculty members. The interview questions were carefully designed and reviewed by experts in online education to ensure they were unbiased, not leading, and aligned with the study research questions. The researcher also made a conscious effort to keep follow-up questions during the faculty interviews unbiased and non-leading. The objective was to gather data on the perceptions of online faculty regarding collaborative learning in the online environment. The interviews and surveys were conducted during a typical 16-week online semester.

**Faculty interviews.** An informed consent form and *Participant Bill of Rights* (Appendix B) was emailed to each instructor who volunteered to participate for the interviews. The researcher advised the participant to review the form carefully and return it at the time of the interview. The face-to-face interviews were conducted by appointment at the individual colleges or via virtual conferencing software. The interviews were a combination of structured and unstructured questions to allow for further probing into instructor perceptions of what contributes to online student success. According to Merriam (2009), there should be no concern for the structure of the interview or the order of questions in the interview. Much depends upon the study’s objectives, time allotted for the interview, the person being interviewed, and sensitivity of some questions. Interviews started with a researcher introduction and some informal questions to set the participant at ease. As participants answer simple background
questions, they begin to be invested in the process and become more likely to see it through (Cox & Cox, 2008).

At the beginning of each interview, the purpose of the study was reiterated and the informed consent request form (Appendix B) was checked for completion. Interviews were kept conversational to allow for the flow and freedom of ideas. Notes were recorded in a diary-like fashion. As the interview progressed, the researcher took the opportunity to probe deeper and actively listen and engage respondents to project their perceptions and inform subsequent questions. In addition, the researcher’s presence as observer allowed for examination of gestures, postures, and body language to add subtle reactions and gain insight into instructors’ viewpoints. The researcher gave participants time to ask questions or express any underlying concerns. Participants were reminded they could refuse to answer any question or stop the interview at any time. If no concerns arose, the researcher started the recorders (audio and video) and began asking questions, watching reactions, repeatedly reviewing participant input data and looking for recurring themes. Notes were taken in case follow-up contact was needed. The researcher often asked the participants to use examples from their online courses that would further elaborate on their course design and teaching techniques. To ensure confidentiality, the researcher informed participants any reference to their names would be removed from the transcripts.

**Data Analysis**

In qualitative inquiry, the researcher is the instrument of data collection (Creswell, 2007). The qualitative researcher utilizes interview questions for data collection. The success of the entire inquiry rests on the clarity and relevance of the
questions and the systematic collection, coding, and categorizing of emerging themes (Cox & Cox, 2008).

The researcher designed open-ended questions, examined responses, and began developing categories and themes for coding. The goal of instructor interviews was to capture the perceptions of participants; the goal of coding interview data was to develop themes about collaboration in an online class and student success as seen by the faculty. The researcher was looking at what instructors thought contributed to online student success and how collaborative learning supported community development and student success. The intent of the face-to-face faculty interview phase was to gather in-depth and rich qualitative data to address the research questions.

Data collected from the faculty interviews helped to discover individual perspectives; coding was meant to develop individual perspectives into common themes. Data analysis and theme development began during the interview to inform subsequent questions. Notes were taken about perceptions and reactions while fresh in the researcher’s mind. The recordings and detailed notes were used for coding upon completion of the interviews. All interviews were recorded using two recording devices and video conferencing software. Verbatim transcriptions were developed based on video captioning. Copies of the transcripts were sent to each participant for review to ensure the narrative was accurate and reflective of their thoughts and opinions.

Coding in qualitative research involves breaking down data into smaller units, identifying concepts within these units, and reframing the data in new ways (Strauss & Corbin, 1998). Thus, coding was the central process to developing results. Coding procedures began early in the data collection process. The procedures included
organizing the data through an open coding technique to identify themes and then through axial coding to narrow the data to repeated themes. A selective coding process continued to narrow categories into final themes that were translated into findings.

In the early open coding stages as data were gathered, the researcher attempted to identify meanings conveyed by participants. As the researcher is the primary instrument for data collection in a qualitative study, an awareness the data would be filtered through her theoretical position was a concern. The researcher took care in bracketing out bias to ensure results from the data were accurate and credible. The surveys and interviews were designed to provide multiple perspectives to gather participant perceptions, which were later merged in the final coding selections. Later in the study, as data analysis continued, axial coding was used to narrow the instructor and student perceptions and make links to similar views reported in responses.

**Inter-Coder Reliability**

Qualitative research usually does not cover enough of an expanse of subjects and experiences to provide a reasonable degree of reliability, but if all participants are asked the same questions in the same order and data are coded at the end of the data collection period, results provide consistent and dependable insights into a phenomenon (Patton, 2015). Moreover, when coding decisions include the use of an additional independent member on the coding team, then corroboration of data reliability can be attained. Hence, intercoder-reliability was a critical component in the faculty interviews, which added to the reliability of the results in this study.

In the data coding process for faculty interviews, the researcher ensured the definition of codes were accurate by consistently making comparisons in the data with
codes and written memos about the codes, their definitions, and occurring themes. For inter-coder reliability, a second researcher double-coded 10% of the data. Alignment between the two researchers needed a minimum of 80% agreement to be considered acceptable and 90% to be ideal.

To address the central question and three sub-questions all data from instructor interviews were placed into a summary table to identify the common themes and codes revealed in the data. Additionally, a colleague provided inter-coder reliability by reviewing the tables to compare the results with the researcher.

**Limitations**

Despite efforts on the part of the researcher to establish validity in this study, several methodological limitations are apparent. First, the findings of this study are context-bound given only 3 of 115 community colleges were involved. Therefore, the findings cannot be generalized to other institutions. The limitation of the geographical location restricted the number of participants. The study was delimited to California community college faculty in San Diego Mesa College, Saddleback College, and Southwestern College who taught online for three or more years. The locations for the study were chosen as a convenience to the researcher to allow for data collection. In addition, in-depth, face-to-face interviews required a considerable amount of time on the part of the participants, which limited the number of people willing to participate. In addition, instructors were from different disciplines and representative of both full- and part-time faculty because most community colleges employ a larger percentage of part-time instructors.
An unavoidable limitation in qualitative research is the interpretation of other persons’ thoughts, experiences, and perspectives. Participant checks were used to confirm and challenge the researcher’s interpretations of the responses. However, another researcher’s interpretations would likely differ in some respects depending on context and researcher background.

Summary

This chapter provided an explanation of the design and methodology used in this study to carry out an exploration of the perceptions of online faculty regarding student success. Rationale for the use of a qualitative phenomenological approach was provided. The population and sample were defined, as well as the ethical procedures taken to protect participants. The data collection methods and instrumentation used in the study were provided for insight into the context for gaining perceptions of online faculty. The data analysis procedures utilized were described. An explanation of what was done to analyze themes, develop codes, and corroborate across independent coders was given. The purpose of defining the coding process was to create and incorporate procedures to make the study more reliable and valid. In Chapter IV, results of the data analysis are presented. The research findings are analyzed and discussed, and conclusions from the study are presented in Chapter V.
CHAPTER IV: RESEARCH, DATA COLLECTION, AND FINDINGS

A review of literature pertaining to historic learning theories emphasized the need to understand the implications of employing collaborative and constructivist learning strategies in education. The extent of the learning theories and research in online learning, and in particular the online collaborative learning (OCL) theory and community of inquiry (COI), emphasized how collaborative learning strategies contribute to the effectiveness of online courses and benefit student success (Garrison & Akyol, 2011; Garrison et al., 2000; Harasim, 2012). Accordingly, this study focused on collecting data to describe how experienced online community college faculty perceived the effectiveness of collaboration as critical to helping students persist to course completion. To develop a deeper understanding of effective online teaching methods, the researcher interviewed 12 experienced online faculty from three California community colleges (Saddleback College, San Diego Mesa College, and Southwestern College) about the practices they employed to encourage effective collaboration, content learning, and social interaction in an online course. This chapter serves to review the purpose of the study, research questions, methodology, population, and sample, and concludes with a presentation of the findings.

Purpose

The purpose of this phenomenological study was to discover what collaborative instructional, content specific, and social interaction learning strategies online community college instructors perceive to be most effective in helping students succeed.
Research Questions

This study was guided by one central research question and three sub-questions designed to explore online community college learning. The central research question was: What collaborative instructional, content specific, and social interaction learning strategies do online community college instructors perceive to be most effective in helping online students succeed? The research sub-questions were:

1. What instructional strategies do online community college instructors perceive to be most effective to foster collaborative learning for student success?
2. What content specific learning strategies do online community college instructors perceive to be most effective in helping students succeed?
3. What social interaction instructional strategies do online community college instructors perceive to be most effective to help students succeed?

Methodology

A qualitative, phenomenological methodology was selected for this study to gain first-hand understanding of the perceptions of experienced online community college faculty regarding the collaborative instructional methods, content specific, and social interaction teaching practices they considered most effective. To capture participant lived experiences, the researcher designed a semi-structured interview process that included open-ended questions created to collect relevant data. One-on-one interviews were conducted with 12 online faculty members. The interview protocol included carefully designed questions based on the literature review to discover how online faculty utilized collaboration and built community in an online class.
The researcher initiated the interview process by gaining cooperation and permissions from the community colleges approached for the study. After providing assurances there was minimal risks to faculty, approvals from the institutional research boards of each college were obtained. Recommendations of 12 online faculty were provided by college administrators. Faculty participants voluntarily agreed to be part of the interview process.

Data Collection Procedures

The faculty interviews were conducted in April and May 2019 at Saddleback College in Orange County, CA, and at San Diego Mesa College and Southwestern College, both in San Diego County, CA. A semi-structured interview process was consistently used to capture in-depth information on instructor demographics, personal teaching experiences, and judgments on the most effective methods for online teaching. Twelve faculty members participated in the semi-structured interviews, with six taking place face-to-face and six conducted virtually. All interviews were recorded and the recordings were transcribed verbatim. Additionally, the faculty members provided artifacts that were documented and analyzed.

An initial review of responses provided insight into how faculty perceived their role in online teaching. Multiple reviews of the transcripts and further separation of responses into the research sub-questions was conducted. The initial coding process from the transcripts was conducted by repeated reading and reviewing for comparisons and to make connections to the central research question and sub-questions. A re-examination of data provided a wide variety of applicable codes related to the three research sub-
questions. The data were listed in charts based on frequency of statements and subthemes related to the purpose of the study.

**Population**

The population for this study was California community college online instructors. Information from the California Community Colleges Chancellor’s Office (CCCCO; 2015-16) showed over 63,000 online courses were available to roughly 800,000 students enrolled in online courses. The report also showed close to 20,000 online instructors in the state system. Thus, the population for this study was the 20,000 online instructors. Given this was too large a population to collect data from them all, a target population was identified. The target population was community college campuses in Orange and San Diego Counties in southern California. The target population included 21 campuses serving over 42,000 online students with approximately 400 instructors (CCCCO, 2018).

**Sample**

The sample consisted of 12 experienced online community college faculty (four each from Saddleback College, San Diego Mesa College, and Southwestern College). The researcher used a combination of convenience and criterion-based sampling to select participants. Approval to conduct research at each college was obtained before interviews began. All faculty volunteered to participate and the researcher verified they met the study criteria prior to scheduling the interview.

**Presentation of the Data**

To obtain a broad perspective and ensure validity, interviewees were conducted with instructors from multiple disciplines and from different departments at each college.
As an introduction and to set the instructors at ease, demographic questions were asked related to teaching status, years teaching online, subject matter taught, why they taught online, and their role as an online instructor. This section begins with a presentation of participant demographics, followed by the findings for the research sub-questions.

**Participant Demographics**

Of the 12 faculty members interviewed, 10 were fulltime instructors and two were part time adjunct faculty. The interviewees taught in a wide variety of disciplines. The length of experience with teaching online ranged from 3 to 20 years (Table 4).

**Table 4**

*Faculty Demographics*

<table>
<thead>
<tr>
<th>Participant</th>
<th>F/P</th>
<th>Years Online</th>
<th>Subjects Taught</th>
<th>Reason for Teaching Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>16</td>
<td>Mathematics</td>
<td>Chancellor promoted</td>
</tr>
<tr>
<td>2</td>
<td>P</td>
<td>7</td>
<td>English</td>
<td>Used for grades &amp;discussions</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>10</td>
<td>Art</td>
<td>Liaison to faculty for tech</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>10</td>
<td>English Comp</td>
<td>Dean + Convenient with child, flexible</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>20+</td>
<td>Chemistry</td>
<td>Used online software since 1999</td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>9</td>
<td>Business/Marketing</td>
<td>Chair; saw others doing it</td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>6</td>
<td>Horticulture</td>
<td>Dean, increase audience</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>20</td>
<td>Real Estate/Business Law</td>
<td>Started program help military</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>15</td>
<td>Business Law/Paralegal Program</td>
<td>Pioneer of program</td>
</tr>
<tr>
<td>10</td>
<td>F</td>
<td>3</td>
<td>Programming &amp; Info Systems</td>
<td>Dean; flexibility for family; can work at night</td>
</tr>
<tr>
<td>11</td>
<td>P</td>
<td>7</td>
<td>Biology</td>
<td>Dept. head</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>11</td>
<td>World Religions</td>
<td>Dept. required</td>
</tr>
</tbody>
</table>

Other information provided reasons for teaching online and how instructors learned their techniques. Supplementary data were gained on how each faculty identified their primary role as an online instructor. All comments provided by faculty were coded.
Most faculty reported they learned how to teach online through trial and error. Others reported after working on their own for some time, they later participated in faculty training programs where they received more guidance. Nearly every participant saw their primary role in online teaching as course creator, facilitator of content, and supporter of students.

**Findings for Research Sub-Question 1**

The first research sub-question was: *What instructional strategies do online community college instructors perceive to be most effective to foster collaborative learning for student success?* Among the 12 faculty members interviewed, six major themes emerged related to collaborative instructional strategies. The researcher included the most frequently mentioned themes expressed by at least 9 of 12 participants. The frequency counts ranged from 14 to 52. Table 5 presents the instructional strategies most frequently identified. As can be seen, faculty identified mandatory discussion board forums as most effective in fostering collaboration.

Table 5

*Instructional Strategies Perceived to Foster Collaboration*

<table>
<thead>
<tr>
<th>Themes</th>
<th>n</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assigning mandatory discussion boards</td>
<td>12</td>
<td>52</td>
</tr>
<tr>
<td>Getting students accountable and involved</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td>Fostering connections through small groups and projects</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Encouraging student to student talk</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>Requiring introductions</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Assigning peer review activities</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>

**Assigning mandatory discussion boards.** Assigning mandatory discussion board forums was by far the most frequently identified instructional strategy online community college instructors perceived to cultivate collaboration in an online class,
mentioned by all 12 participants and referenced 52 times. Faculty believed this was an effective tool for online collaboration. Mandatory participation and grades were considered essential by all but one participant. For example, P2 stated discussion boards engaged students in thinking about the work going on in class, but needed to be graded to ensure student participation, noting:

I have two discussion boards each week that are graded. If the discussions weren’t graded, students may not participate. Communication is part of the design of the course. Week One discussion board begins with student introductions. I respond to all of those. I use the discussion boards to mirror the course and the topic we are working on during the week. It is in the discussion boards that students bounce off ideas on other students. My responses to students are lengthy and pointed to help them stay on course and make improvements in their writing.

P6 agreed with P2, saying discussion boards were where students collaborated and interacted. P6 corroborated the need to grade discussion posts and provided the rubric to students. P6 commented,

Discussion board assignments are really the best for making connections.

Building a learning community occurs through interacting on the discussion board. Students have to be able to have a taste of working together with others in the class. They have to have a sense of others who are learning alongside of them.

P7 and P8 both stated, “discussion boards are the best collaboration tool!” Similarly, P8 described discussion boards as a way of having students introduce
themselves and engage in weekly topical discussions based on the research questions provided. Instructors used graded discussions to foster collaboration. P3 used discussion board assignments to demonstrate projects and add descriptions and images of how they created their work. By posting work to discussion boards, other students could look at their pictures and translate what they saw in the images.

P4 described using discussion boards as icebreakers throughout the course, not just in the beginning. She was the first to respond to the discussion board as she believed it was important to participate for student motivation, sharing, “I felt I had to design thematic modules with topics from their lives to promote conversations and, in particular, to help students who were feeling isolated to make lasting connections.” Contrarily, P1 stated discussion boards were not heavily used in mathematics, saying, “Students don’t want to get to know each other.” This was a sentiment also shared by P6 who stated, “Something I noticed is that some students don’t want to connect. Students complain ‘I am a shy person and this is why I take online classes.’”

From the interviews, it became apparent discussion boards were thought of as the platform or foundation on which other collaborative instructional strategies, such as encouraging student-to-student talk, were built. Instructors noted assigning projects and creating groups were dependent on the existence of a discussion board to be successful.

**Getting students accountable and involved.** Nine of 12 participants stated getting students accountable and involved was important for student success with a frequency count of 28. Online learning as a flexible medium transformed the rigid structure of traditional classes and offered students opportunities to practice accountability through time management and commitment. P2 explained she used active
modes of teaching to help students take greater responsibility for their learning. She stated, “instructors need to teach students to set short and long-term goals.” P5 stated through his projects, students became committed and took ownership of the content. When this occurred, he believed they became stakeholders in their education. P6 believed students needed to bring their own research, such as going to a small business website and bringing back information to the class to support their learning. P7 similarly encouraged accountability by arranging for her class to be accredited by the American Bar Association and if students complete all the assignments, they get credit for performing legal work while in the class. P10 agreed there is a need to get commitment from students and stated they need to manage their time and be accountable throughout an online class. In her computer science classes, she stated students “need to have a commitment and incentive to interact with the material every day or at least every other day.” P11 purposely did not respond to students on discussion boards right away because she wanted them to make their own decisions about replies without first reading her comments. P12 indicated she felt it was important to teach students to be discriminating in the resources they used. She encouraged them to find rich resources to share.

Fostering connections through small groups and projects. By count, requiring collaboration by assigning small groups and group projects was the third most popular instructional strategy for encouraging collaboration, as it was referenced 23 times. However, one instructor mentioned this strategy nine times, so the total count was distorted. Regardless, this finding aligned with assigning discussion boards because they were frequently cited as enabling technology for forming groups and assigning projects. Projects and groups went hand in hand; that is, the reason for a group effort was usually
to tackle a project. The degree of group and project activity used to promote collaboration varied widely from none for P1 to quite extensive use for P9. Two factors informed P1’s opinion, (1) remedial students do not want others to know they are taking a remedial course so, “they really don’t get to know each other and they don’t want to,” and (2) “the best way to get them to learn math is to practice problems; practice, practice, practice.” P1 went on to say, “I do groups in on-campus classes, but it is very difficult.”

P2 believed “small group assignments or presentations can help students make connections in class.” The idea small assignments or projects was beneficial was a recurring theme. P3 had students build “an assemblage of junk they have around the house,” post pictures, describe how they created their work, and then critique each other’s projects via the discussion board. She said, “I used different versions of this type of assignment every week. It is very humanizing because the students are using something from their house to talk about on the discussion board.”

P4 reported something similar by having students depict their lives as museum exhibits with images and artifacts. She packed her course with similar small projects, often centered on music, and students created the “soundtrack of your life,” which was then commented on by the rest of the class. P4 shared, “When working on their final project, I put them in groups for peer research” to create a “digital scrapbook or electronic comic book.” The project was facilitated by the discussion board and offered “students a place where they are talking and a place to be creative.”

P5, to a large extent, built his chemistry course around a single, central project, the creation and maintenance of a periodic table. Everyone in the class participated as if they were all in one group. Each student owned an element and was responsible for
knowing the properties of their element and for working out that element’s interaction with other elements in the table. All students were in one community defined by the periodic table.

Instructors also mentioned the value of groups and projects in preparing students for the real world where good communication skills are often essential. P6 said, “Most students are working and getting real world experience,” and she encouraged them to “bring that information back to our discussions and assignments.” For research projects, she had students visit human resources and small business sites. Ironically, her experience with groups was not good. She shared,

I tried to build groups in Blackboard to work on a project together. I had problems where students couldn’t get along… They didn’t want to work on a particular team. They were supposed to be in the group for the whole semester; I had problems with non-participant group members. The real problem, clunkyness of making and changing groups. It did not work well in an online class of 40.

P10 also attributed problems with working in groups to the technology; her school used Canvas as its LMS. She noted,

I divided the students into groups. Students could self-select what group they wanted to be in. Early birds could start together. Within the smaller group, they would be discussing a specific question. Then they were supposed to change and go into another group and see what they were saying about the topic. Then students stopped participating. Some students complained it wasn’t easy to go over to the other group. What I
didn’t want was for a group to finish its discussion and then somebody could come in and say I am joining this discussion. There was no easy way to check on the groups. Canvas groups was not easy to use. Each DB had its own subshell. The software is lacking.

P12 used small groups in discussion but she selected the groups “and it works okay. If they self-select, it does not work so well. I make Canvas groups.” P7 also noted, “For a teacher, project learning is more difficult. I can’t expect them to do field trips, so I offer them virtual options.” P8 said, “Students need to know what will be needed later in the world. I give them research projects, such as how to find a house.” However, this instructor was negative about working in groups, commenting, “I don’t like group work because there are always some who don’t do the work.”

P9 also lacked success with small groups, although she had students work individually on common projects, such as stock market purchase contracts and other legal cases that required outside resources. Her courses were accredited by the American Bar Association and students got credit for the legal work they performed. She reported using one group project to analyze a contract requiring joint effort. Despite the negative experiences, the strongest endorsement of group work came from P11 who shared,

I found that students that work in groups, on average, are more successful.

For some people, group work is amazing. You have to work with people in the real world. I tried to help them with group work. In the orientation module, I talked about being successful in a group.

From the first introduction on group assignments, this instructor asked students to find compatible students with whom to work. She added,
You have to put something in there to push them to work as a group. I tell them to write a group contract. They are not stuck with a person who doesn’t pull their weight. There are 3 to 5 students in a group and six group assignments. Their results are uploaded as a group.

Although some instructors were challenged by group work, they agreed group projects were an effective strategy to increase interaction and the collaboration contributed to student motivation to succeed.

**Encouraging student-to-student talk.** Encouraging student-to-student talk was mentioned by all 12 participants and referenced 22 times. All the instructors promoted some form of student-to-student interaction as a key to student success. However, the discussion board platform itself was insufficient to guarantee student-to-student interaction. Nearly every instructor reported initiating student interaction with a formal introduction at the start of the course; instructors usually introduced themselves first as an example and used pictures and videos to enrich their presentations. For example, P11 required an introductory discussion where students were encouraged to identify like-minded classmates to work with during the course. The instructor also asked them to embed a picture or video to help students recognize each other. P4 repeated such icebreaker introductions during the course to keep students engaged with each other. P10 gave students the option to collaborate or interact, sharing,

I have discussion questions and students are supposed to work together and come up with an answer. I tell students there are a variety of activities that they can do. Discussion is one of the ways they can do it. They have
choices on assignments. The more they choose to interact, the more points they earn on the discussions.

P11 quoted feedback from students about the discussions. She shared a comment from one of her students that read,

I am enjoying the pace of this class and the student discussion that you don’t normally receive from a lecture hall setting. I found that reading other people’s discussion posts had me looking for more articles to learn more and elaborate on their posts. That is something I would normally not do in other classes.

P4 concurred with P11 that discussions got students talking. P4 said, “the discussion board is really the place where they are talking, where they can be creative.” P2 added, “student-to-student talk is encouraged in the course design of discussions and peer reviews.” P12 used graded discussions each week and incorporated the use of Voice Thread technology “where students can hear their classmates’ voices.”

**Requiring introductions.** Requiring introductions was cited by all 12 participants and referenced 17 times. They believed it was important to start an online class with student introductions so they got to know each other. Instructors also felt it was important for them to model the process. P1 opened her course with a personal introduction where she told students she was glad to see them in class. If she recognized a name from a previous course, she said she was happy to see them again. Similarly, P2 believed community began with the initial introductions. P7 included that on the introductions, he was supportive of students. P11 used introductions to have students
find similar classmates, think about course requirements, and help her gauge student concerns.

P4 recognized that after students posted their introductions, they mostly moved on to work on course requirements. However, P4 stated if students were not recognized more frequently in the course, there was a good chance they would begin to feel isolated. P4 recommended icebreakers every week and P7 stated students were not going to learn without confirmation by the teacher. Overall, student-to-student interactions helped build connections and reduce feelings of isolation.

**Assigning peer review activities.** Another mean of promoting collaboration in an online class described by faculty in this study was to create peer review activities for the purpose of small group discussions. Assigning peer review activities was described by all 12 participants and referenced 14 times. In these discussions, class members evaluated each other’s work and learned from each other.

P11 thought peer review assignments required students to think more deeply about the assignments because they had to collaborate with and provide feedback to another student. Collaboration in the form of peer reviews also encouraged students to take responsibility for learning as their participation affected other class members. The idea of peer reviews also aligned with student-to-student interactions.

**Findings for Research Sub-Question 2**

The second sub-question was: *What content specific learning strategies do online community college instructors perceive to be most effective helping students succeed?*

Five themes were identified from the data reflecting the importance participants placed on course content enabling students to collaborate. Table 6 presents the frequency of
themes identified related to content specific collaboration, with frequencies ranging from 28 to 52.

Table 6

*Content Specific Learning Strategies Perceived to Foster Collaboration*

<table>
<thead>
<tr>
<th>Themes</th>
<th>n</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using content to foster collaboration</td>
<td>11</td>
<td>52</td>
</tr>
<tr>
<td>Making content appropriate for student objectives</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>Using relevant, real life content</td>
<td>12</td>
<td>33</td>
</tr>
<tr>
<td>Using content to engage students</td>
<td>11</td>
<td>31</td>
</tr>
<tr>
<td>Designing content-specific group projects</td>
<td>11</td>
<td>31</td>
</tr>
<tr>
<td>Using technology as a content catalyst</td>
<td>12</td>
<td>28</td>
</tr>
</tbody>
</table>

**Using content to foster collaboration.** The theme of using content to foster collaboration was the most frequently identified content-specific strategy online faculty perceived as helping students succeed. This was consistent with the emphasis faculty placed on learning strategies that allowed students to collaborate. Using content to foster collaboration was referenced 52 by 11 of 12 instructors interviewed; only P1 did not describe this strategy. P2 reported,

> To get student involvement with course content, we have to help them develop a sense of personal relevance. Connecting content to current events illustrates why the content is pertinent to today. Relevant current event stories relating to different regions of the world or websites that provide resources can serve to engage students with content and increase connection.

The instructors explained a significant amount of content learning occurred through discussion boards. The interviews revealed several examples of content used to drive discussion. For example, P9 provided a stock purchase contract and students had to
choose a stock. They had a list and no two students could choose the same stock. In the process, the students needed to review all the contracts; they learned from each other. Similar projects were done with other types of contracts. In another example of using content to foster dialogue and collaboration, P10 required students to submit a 5-10 minute video where they wrote some original computer code then explained the programming in the video. P10 explained, “I require the students to watch other videos and do a peer review of at least two other student videos and give feedback. Some say they learned the most from watching all of the other students’ videos.” Similarly, P5 described building his course content around the periodic table, using an outside software program for the project. He shared,

The Padlet project is where students collaborate and interact over the chemical elements. For this project, students have to create a swatch, which is like a sticky note, to see what happens when their element mixes with another student’s element. In the creative process of the assignment, students take ownership and develop individual accountability.

Additionally, P7 used nursery visits and lab reports to get students collaborating online, noting,

The students have to show their weekly lab reports online, sharing them with everybody. We do stories and share our learning experiences in the labs. The beauty is that the students not only learn from each other, but the assignment is real life.

The faculty interviewed demonstrated how aligning content learning with collaborative assignments helped get students participating with each other.
Making content appropriate for student objectives. Faculty cited the making content appropriate for student objectives 41 times. P31 stated, “Students have told her they do not like having a lot of documents to read.” They wanted an easy way to access the course content and she made the course layout as a graphic design to help students know where to go, where to click, and how to access the content. She shared, “I have shortened the written assignments because most students have a busy lifestyle with work, family and school. I give students options in assignments so they can choose which assignment best suits their style of learning.” P4 included thematic assignments related to music and art. Students curated a museum representing artifacts from their life then wrote about how these objects represented them. She repeated this method with a “soundtrack of your life” assignment. P5 found “preparedness is all over the place,” sharing, Some students are right out of high school. Some have been working at a job for 10 or more years. Now they are back and they don’t how to use the technology. They are getting used to being back in school. They are trying to multi-task including keeping track of course due dates and trying to learn content. I provide advice in the weekly announcement and send a reminder of due dates in a calendar schedule. I feel that giving students some choice as to what they want to research and what question they want to answer helps them decide which lesson will fit into their schedule.

Using relevant, real life content. The third most cited theme regarding content-specific collaborative initiatives was that content needs to be real world, relevant, and pertinent to the students’ lives. The importance of collaboration in facilitating the
development of a learning community in an online class, as well as achieving learning outcomes, was promoted in the literature as a way to motivate students to use personal interests and experiences in shared dialogue with classmates (Palloff & Pratt, 1999). All 12 interview participants identified real life content as important, often noting the online medium itself was real world. Taking courses online allowed students to interact in a virtual environment similar to that required in the global workplace. In addition to the relevance of the medium, by relating course content to their life experiences, the interviewees stated students were encouraged to conduct research, share examples from their own lives, and take ownership for their learning. For example, P9 stated,

I like to give substantial assignments so they learn the requirements. The students are learning business law and they are taking it because it is accredited by the American Bar Association and they get credit for doing paralegal work while in class. I give them a group contract to analyze. The group has to get all the forms and make sure they are correct and put them into legal format. The students discuss and interact on these projects as they would in a real-world situation.

P3 explained she included hands-on, real world art making projects where students had choices and could add input and materials from their own lives. P8 wanted to create classes not viewed as busy work, but relevant to needs in the corporate world. Similarly, P4 used assignments where students shared about their lives to increase connections, explaining,
I ask them to create their own avatar. They can use a cartoon or pet, for example. Some students will add their bio or a link to their own webpage or some topic they love. It is a really nice way to build community.

Most faculty confirmed by adding real world learning strategies to the online course content, students gained opportunities to share something relevant with the group. In the process of bringing their experiences into the online classroom, it helped the entire group discover the meaning of growing as part of a learning community.

**Using content to engage students.** The fourth theme to increase collaboration was using content to engage students. Eleven of 12 participants indicated it was important to have engaging content, which was referenced 31 times. Generally, faculty believed it was best to design the course for “the kind of student that is in the online class.” P6 stated,

I am finding preparedness is all over the place. Some students are right out of high school and some are back after working for several years. Now they are back and they don’t know how to use the technology. They are trying to multi-task.

P4 stated in the online world, faculty need to consider the diversity of students. Some students may be comfortable with interpersonal interaction whereas others may work better in isolation. Likewise, some students may be visual learners and others auditory. Most participants agreed a visually appealing course attracted the interest of students. Visual images and graphics were important because engagement could be limited with too much text on the screen. If students had a lot reading, they may experience cognitive overload. Faculty recognized the different styles of learners and by
creating a variety of learning activities, they met the needs of the wide range of students taking online classes.

Most faculty found incorporating still images, videos, web searches, reflections, and directed prompts made for an engaging course. P12 embedded high-quality images and videos. P6 added, “I have students go to different websites or watch videos to get information on the weekly topics.” P5 had instructions on how students could create a swatch in Padlet for their chosen chemistry element. He added, “I have icons to get their attention. Red means stop. Green means go. Yellow triangle means caution. We have a lot of directives in chemistry for safety.” P2 showed a TED Talk about procrastination early in the class to motivate students. P3 related,

I make a flyer syllabus, which has many graphics and uses short, concise language they can understand. I think of course design as if it is a graphic design and I try to understand that the students haven’t seen this before. I use a graphic of a pointing finger to show students where to go, where to click, and how to access the content. You have to recognize that online students have their attention split by their lifestyles and school. They are working 10 minutes here and there. I think having things written that way helps. I have a lot of short assignments and lots of short videos.

P12 used a similar approach and supplied a presentation she provided to fellow faculty as an artifact for the study. The presentation was designed to help online faculty improve their syllabus and make it more human and engaging. The presentation suggested adding photos and quotes, and using straightforward language familiar to
students. In addition, showing respect for students and encouraging their confidence with descriptions was highly recommended.

P7 indicated the course must be the same week after week so students have predictability. He explained,

The best way to learn is to repeat. The structure of the course consists of three categories, watch, read, and study. Each week my message is very consistent. You watch, read, and then study. On the first page of each module, I create a thumbnail of each topic, then each week I add to those thumbnails. Each week I add on to it. First icon is always a review, second icon is what they are going to learn. Each icon keeps adding up. I think adding on a new icon each week gives a subliminal message to my students that they are making progress and it helps them remember what they have learned.

P8 used a treasure hunt method to have students look through the syllabus and post what they already knew how to do and why. She further related, “I try to make very interesting topics for the online classes. I ask controversial and ethical related topics to get students thinking. I introduce prompts that are emotional triggers where everyone has to give their opinions.” P12 also described the need for the syllabus come across as more human. She explained,

I use statements that show respect for students. I write the syllabus showing I am aware of their background and lifestyle. I am careful of equity and diversity. I write so the syllabus is accessible to all as I know that there is a lot of institution, department, and academic requirements that have to be put in the syllabus. I try to humanize the syllabus. I put in
photos and use quotes… My focus is to show my respect for the student and state I am confident in their ability to be successful.

**Designing content-specific group projects.** Tied for fourth with a frequency of 31 was utilizing group projects. Eleven of 12 participants used group projects directly related to course content. The instructors stated they used groups for research case studies, creative projects, collective industry research, and career skills development. In alignment with the findings of Lieberman (2018), the instructors reported group work could be challenging, but believed group projects in online classes helped students learn and form relationships. For example, P11 stated “I found that students who work in groups, on average, they are more successful.” P4 gave students options to join a thematic group and used an assignment guide on a Google Doc where students could add their work.

However, similar to the findings for collaborative instructional strategies, some participants indicated group projects created challenges. P3 stated, “It is difficult to do group work because of geography.” P10 reported lack of participation by some students created issues. P9 also had little success with small group projects. To combat some challenges of group work, P11 required a Google Doc for a paper trail to ensure equitable grading for the work each student completed in the group. Despite the challenges, overall the instructors believed content-specific group projects increased student success.

**Using technology as a content catalyst.** The theme using technology as a content catalyst was mentioned 28 times across all 12 participants. All participants used some form of technology in addition to the LMS. P1 directed students to an outside math practice program. P2 and P3 used YouTube and TED Talks videos to prompt
discussions. P5 was technology oriented, using PDFs with active hyperlinks, Quick Time Movies, Emojis, and Padlet, and encouraging students to create a My Google Channel for the class. P6 used a publisher’s learning system where students linked out to those materials. P9 and P10 used Zoom conferencing software to communicate and collaborate. P10 used the Piazza software program as a discussion forum because she found the format interesting.

Although many participants believed using technology engaged online learners because of the widespread use of social media, some found their students needed help with navigating the technology. Regarding technology use, P12 stated,

"It is a misnomer that students are good at tech. I use Voice Thread and I have to have instructions on how to use the technology. I put a video on how to submit a voice thread and how to comment. Some students are slow to learn the software.

P3 believed it was important to have an easy way to access course content. P5 provided visual and verbal instruction and kept the course design simple because students could only focus their attention on one thing at a time. P5 explained, “I used emojis in course activities to direct attention to specific areas. I write ‘click here!’ It is important to have the left-hand navigation bar organized with logic and have the flow be important.”

In summary, coded data showing the frequency of themes from online faculty perceptions reinforced the significance of using content learning in fostering student interaction, collaboration, and use of technology to increase student success. The importance of designing engaging content with attractive assignments related to real life
experiences was emphasized. Additionally, faculty promoted interaction through collaboration in group projects and on discussion boards to provide students the ability to practice workplace skills. This finding corroborated literature on how online interaction is a significant predictor of student success (Arbaugh, 2008; Eom et al., 2006).

**Findings for Research Sub-Question 3**

The third sub-question was: *What social interaction instructional strategies do online community college instructors perceive to be most effective to help students succeed?* “Key to the online learning process are the interactions between faculty and students, among students themselves, and the collaboration in learning that results from these interactions” (Palloff & Pratt, 1999, p. 5). Teacher-student and student-student interactions are so important, the Department of Education is reviewing policy regarding regular and substantive interaction between students and faculty members and between students in online classes (Lieberman, 2019). In addition, the California Community Colleges Online Education Initiative Rubric, revised in October 2018, requires provisions for interaction between instructor and students as well as student-to-student interaction. As such, Research Sub-Question 3 was a timely topic for online teaching and learning in the community college system by looking at instructor-student interactions and student-student interaction during the interview process.

**Instructor–student interaction.** As shown in Table 7, analysis of interview data provided five themes related to instructor-student interactions with frequencies ranging from 28 to 46.
Table 7

*Instructional Strategies Perceived to Support Instructor-Student Interaction*

<table>
<thead>
<tr>
<th>Instructor to Student Interaction Themes</th>
<th>n</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing clear instructions</td>
<td>12</td>
<td>46</td>
</tr>
<tr>
<td>Being as responsive as possible</td>
<td>12</td>
<td>37</td>
</tr>
<tr>
<td>Providing meaningful feedback</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Grading to well-defined criteria</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Making weekly announcements</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Holding virtual office hours</td>
<td>12</td>
<td>12</td>
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</tbody>
</table>

**Providing clear instructions.** The separation of instructors and students during online instruction sets distance learning apart from traditional classroom settings where students see, hear, and interact with the instructor. Successful learning in the online setting requires the same attributes be carried out in a virtual setting (Ferriman, 2019). The theme of providing clear instructions was the most frequently identified instructional strategy online community college instructors perceived as promoting collaboration between instructor and student. Clear direction was referenced 46 times and mentioned by all 12 participants.

For most respondents, clarity began with a syllabus describing course content and some form of statement on expectations. P7 sent out an announcement the first week of class that set the tone and clearly defined expectations. He believed in an online class, a connection could only be built through encouragement, sharing, “I am facilitating, I am instigating the connection. Sometimes when I see a good post, I say ‘this is great for that angle but what about this; have you thought about this?’ My goal is to be supportive.”

P12 agreed and added that each week she started the module with an introductory content page explaining the learning objectives for the week and what assignments were required. She “tried to make the syllabus more humanizing. I also make a welcome
video where I show the textbook and show a piece of Canvas navigation. This video shows students how to navigate the course and where to find assignments.” P11 worked to make the syllabus clear and provided other helpful resources, explaining, “Each week I provide an overview with lecture videos and materials included in the content area of Canvas. The students appreciate having my lecture and then they can go back and review a topic.”

P1, P2, and P3 also agreed clarity of design was important. P3 stated clarity regarding what students were supposed to do each week and deadlines was critical. She followed up saying an easy way to access the course content supported the students, noting, “I think, how can I make this clear and easy for them.” This was also evident in the artifacts reviewed. For example, Participant 11 shared a sample introduction discussion board assignment. The description of the activity included an engaging graphic image and clear directions. The explanation provided by P11 in the description was designed to be clear and straightforward for students to follow. In addition, there was a chart with the assignment rubric and details of the grading criteria. This helped ensure the instructions were clear, which was essential for student success.

**Being as responsive as possible.** Responding to students was the second most frequently cited means for faculty to promote collaborative social interaction with students. In most cases, responsiveness meant being accessible and timely. Responsiveness usually focused on use of the discussion boards, but also emails and office visits, virtually and in-person. For example, P4 commented, “I think being accessible is important. The sooner you get back to the online student the better. I am very scheduled about sending announcements and posting responses to the student
discussions.” P6 and P10 also reported responding to every discussion board. P6 interacted with students in multiple ways, explaining,

In the weekly announcements, I remind them of what has to be done for the week. I email frequently. Students do email me quite frequently with questions. I invite students to contact me and to come to my office on campus. I have had some students come visit me in the office.

P9 believed in frequent contact between instructor and student, sharing, “I reply to each student introduction on the discussion board. I give them rubrics and provided feedback on their work. I let them know they can call me, email, or ask questions on the whiteboard.” P2 encouraged connections to the instructor via email. She believed being supportive increased connections. P3 recognized the importance of instructor presence and planned to hold Zoom discussions in smaller groups next term.

Although P1 did not use discussion boards heavily in mathematics; she sent announcements and emails as the main means of communicating with students. She explained how she asked about what was happening in their lives, provided positive feedback, and posted an introduction with a picture of herself. This less tangible aspect of responsiveness was revealed in other interviews, which allowed the instructors to be viewed as human and someone students could relate to, even if they never met in person. P4 expressed it was important “to let them know they are not alone in the world. I don’t ever want to be an instructor that people don’t know I am a living breathing human being.”

**Providing meaningful feedback.** The quality of instructor feedback was the third most important dimension of instructor-student collaboration. Personalization of
feedback was cited as most important to meaningfulness. P11 provided detailed comments on graded work, saying, “I also reply to discussion posts in the discussions to highlight exceptional posts or provide clarification.” P10 stated, “I do respond in the icebreaker in the beginning of the term. I might ask them if they saw a post from so and so above.” P3 and P6 also used personalized feedback. P6 reported using “extensive individualized feedback. I tailor the feedback specifically to the student’s effort and quality of their work. I tell the students what the assignment was and how well they met the requirements.” P5 also used words of encouragement. He added, “I promptly respond to emails. In the announcements, I say ‘hi, how’s it going?’ As feedback, I send words of encouragement and give unannounced bonus points for a job well-done.”

P4 believed everyone needed to know about other students’ concerns, so she mentioned them in the discussion boards and announcements. She explained, “I send examples and templates that might help them.” P2 stated the instructor needs to be proactive, adding, “I am constantly reminding them of the due dates. If a student needs a counselor or tutoring, I see that the student gets that help.”

**Grading to well-defined criteria.** The faculty participants reported students need clearly defined instructions and learning objectives for assignments. P3 kept students from getting confused on what they are supposed to do using introductory pages with all of the things students were supposed to learn that week. In addition, she used a video with instructions and thought between the two students would figure it out. She said, “I always use simple language. I have everything clear as to what they are supposed to do each week.” She explained she put everything in multiple places. She also made a flyer with all the assignments and due dates linked in every page or assignment. P11 added the
biggest thing initially was the up-front planning to be helpful to students. She made an assignment calendar with every due date and a document describing the work in more detail. A rubric with point breakdowns was provided to students.

*Making weekly announcements.* The theme of making weekly announcements was considered significant and cited 21 times by faculty. Most participants used weekly announcements in some form. P3 made short video announcements describing the objectives of the week and highlighting the location of assignments along with relevant resources. P4 considered herself the *tour guide* to the course, stating,

> I make videos to explain the units to the students each week. I used to make formal videos but then found they were not really who I am. I went to making more informal videos even including my dog. I think I hit on the real human connection.

P12 sent weekly announcements, sharing, “I do a recap and wrap up announcement where I point out some good points made in the week’s discussions.”

This instructor perceived announcements, discussions, and feedback as some of the most effective course components to help students succeed. The remaining faculty confirmed announcements, whether written or in video format, helped enhance learning through clarifying material and outlining specific expectations of what was required.

*Holding virtual office hours.* Holding virtual office hours was mentioned 12 times, once by each instructor. P10 shared, “I started requiring that students meet with me on Zoom in the first month…more students are coming to these open, virtual office hours. You can also put up a recording of that Zoom meeting for other students to watch.”
However, some participants described challenges with attendance during office hours. P9 talked about conducting voluntary Zoom meetings, but stated, “I don’t get too many [students], perhaps because of the time.” P12 explained, “I tried using Zoom for virtual office hours. I believe in order for this to be effective, I will have to give credit. The ones who need it don’t come.” To combat these issues, P10 indicated, “I try to have enough sessions so most students can come in… I have intentionally scheduled one hour of virtual hours in the evenings because most students would be working in the day.”

Faculty also revealed success with instructor-student interaction depended on the discipline and motivation of the students. P1 stated discussion boards were not heavily used in mathematics because students must practice a lot of problems and there is little time for discussions. This instructor’s experience was that students in remedial math classes did not want to get to know each other. Likewise, P4 shared it was difficult to have too much collaboration or group work because online students were in different geographic locations and had outside commitments. P6 commented due to different maturity levels, getting students to work together could be a challenge. Additionally, P10 stated the LMS needed to be more conducive to collaboration. Despite the challenges, participants believed instructor-student interactions were important for student success.

**Student–student interaction.** Analysis of interview data provided four themes related to student-student interactions with frequencies ranging from 6 to 13 (Table 8).
Table 8

Student-Student Interactions to Promote Success

<table>
<thead>
<tr>
<th>Themes</th>
<th>n</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing opportunities for students to engage in introductions and icebreakers</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Requiring weekly discussion topics</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Creating group projects</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Relating real human experiences to peers</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Using technology to foster interaction</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

Providing opportunities for students to engage in introductions/icebreakers.

The theme of providing opportunities for students to engage in introductions received the highest frequency with 13 references from all participants. P3 and P4 stated they used creative prompts for their class introductions. P3 described, “Online is a community that the students are already used to through their social media interactions.” P4 continued to use icebreakers throughout the course, not just in the beginning. P5 indicated within the first 10 hours of the course, students must submit an introductory letter and respond to three others in the class. The use of introductions and icebreakers were the main strategies used by faculty to help students get to know each other, noting it was in the early stages of the course that social connectedness was created.

Requiring weekly discussion topics. All 12 respondents required weekly graded discussion boards. P6 reported experiencing a lot of interaction in the discussions. This instructor stated, “some students reply to a lot of others on the discussions. Some students even upload links and videos to share showing they support the learning of others.” P12 indicated student-student interaction occurred mostly in the discussion boards and in question and answer sessions. P10 posted research questions on the discussion board and students were supposed to work together to come up with an
answer. P7 found students shared personal stories and collaborated in the discussions. Requiring weekly discussion boards promoted student-student interactions.

**Creating group projects.** The creation of group projects was mentioned eight times as a strategy to increase student-student interaction. P4 described assigning students to group thematic discussion boards where they each chose a song as a soundtrack of their life. Then using the group function, students responded to those in the group to find common ground. P9 gave students a group contract, which they worked on together to ensure it contained all the required legal components. In group projects, P11 instructed students to write a group contract, sharing,

I tell them “you can work online solo for 90% of the course,” but I want to encourage them to work in a group. I might have two groups who choose to work alone. You have to put some things in there to push them to work in a group. I tell them to form a contract. I give them instructions on how to write the contract such as including different roles and how they are going to arrive at decisions. If someone is not contributing, they can get kicked out. They know from the beginning if they are not going to pull their weight, they will be out. Then I have them send me the contract. I believe these group assignments are helping the student get connected with others in the class.

P11 provided a copy of a group formation outline and contract. The description encouraged students to find 3-5 classmates to work with and suggested referring to the initial course introductions to find classmates with similar interests and backgrounds. All
instructions were outlined in a step-by-step fashion to help guide students into how to
develop a group contract and establish terms of membership.

In contrast, P1, P6, and P8 felt groups did not work well for them, despite viewing
them as valuable tools for student-student interaction. P10 used smaller groups, but also
felt frustrated because she was not getting students to connect with others. The
consensus was with group assignments, students should hold conversations and
meaningfully contribute to the project. However, some faculty acknowledged creating
group assignments took effort to assign groups and have them work together smoothly.
Regardless, they believed group assignments were effective for student-student
interaction.

**Relating real human experiences to peers.** Faculty shared relating real human
experiences to peers was important for students to realize they were working with others
in the group who shared the same academic goals and similar life experiences. P3 had
students build an assemblage of junk from their house showing objects from their
lifestyle. Students took a picture of what they assembled and described how they created
their pieces. Other students talked about what they saw and related it to what was
familiar to them. P4 had students read an article on a small museum and write a
description of their life in a museum. They put up images showing what was important
to them. Other students viewed the artifacts and commented on them. She believed
thematic designs promoted students to interact and realize there were others like them in
the group.

**Using technology to foster interaction.** The theme of using technology to foster
interaction was mentioned six times, indicating half the faculty integrated technology to
enhance student-student engagement. P1 and P6 directed the students to a publisher’s website for discipline practice. P4, P5, P10, and P12 used software programs like Padlet, My Google Channel, Answer Guard, Google Docs, Zoom, Perusall (collaborative reading), and Voice Thread to encourage student interactions. The use of technology to foster communication required the integration of tools other than the LMS. In most cases, the software used by faculty helped create constructivist learning experiences where students could engage in a meaningful way. Participants thought the LMS was not conducive to collaboration and thus found other tools to encourage student-student interaction.

**Summary**

Chapter IV presented the data and findings of this qualitative study. The study sought to develop an in-depth view of the perceptions of experienced online community college instructors regarding what collaborative instructional, content specific, and social interaction learning strategies they perceived to be most effective in helping students succeed. The findings from this study showed how the 12 online faculty participants viewed collaboration as significant to help online students succeed. The descriptions of the methods and techniques they employed to increase collaboration based on their extensive experience teaching online provided insights that could promote student success. Chapter V presents conclusions based on the findings and offers implications for action and recommendations for future research.
CHAPTER V: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Chapter V provides a reiteration of the purpose of this study, the research questions, methodology, and population and sample. The chapter then presents a summary of the major findings and includes unexpected findings discovered during the study. The researcher then provides conclusions based on these research findings. Finally, the researcher offers implications for action and recommendations for further research based on the findings.

Purpose

The purpose of this phenomenological study was to discover what collaborative instructional, content specific, and social interaction learning strategies online community college instructors perceive to be most effective in helping students succeed.

Research Questions

The following central research question guided the study: What collaborative instructional, content specific, and social interaction learning strategies do online community college instructors perceive to be most effective in helping online students succeed? The research sub-questions were:

1. What instructional strategies do online community college instructors perceive to be most effective to foster collaborative learning for student success?
2. What content specific learning strategies do online community college instructors perceive to be most effective in helping students succeed?
3. What social interaction instructional strategies do online community college instructors perceive to be most effective to help students succeed?
Research Methods

A qualitative, phenomenological methodology was employed to gain first-hand understanding of the perceptions of experienced online community college faculty regarding the collaborative instructional methods, content specific, and social interaction teaching practices they considered most effective. The researcher conducted in-depth, semi-structured, one-on-one interviews with 12 experienced online community college instructors and collected seven artifacts. The data collected served to provide insights about the participants lived experiences to gain a comprehensive understanding of their views on what they perceived contributes to effective online teaching and learning.

Population and Sample

The study population was comprised of the approximately 20,000 online instructors in the California Community Colleges System (CCCS). This population was narrowed to a target population of 4,000 online instructors in community college campuses in Orange and San Diego counties in southern California. The study sample consisted of 12 experienced online community college faculty (four each from Saddleback College, San Diego Mesa College, and Southwestern College). Study participants met the following criteria: (1) taught online for a minimum of three years, (2) were currently teaching at least one online course, and (3) were familiar with teaching and learning on an electronic learning management system (LMS).

Major Findings

The major findings of this qualitative study are presented by research sub-question.
Research Sub-Question 1

Research sub-question 1 asked: *What instructional strategies do online community college instructors perceive to be most effective to foster collaborative learning for student success?* This sub-question generated six themes perceived as critical to foster collaboration for student success, the most frequent of which was the need to assign mandatory discussion boards. This theme was discussed by all 12 participants and referenced 52 times, making it the most referenced theme for this research question. Participants believed graded discussion board assignments were the best tool for encouraging collaboration. Participants described the discussions as a way of getting students to connect and build community. Regular use of discussion boards indicated this practice was perceived as foundational for collaboration. This finding aligned with the Online Collaborative Learning (OCL) model and the Community of Inquiry (COI) framework in which discussion was central to online learning (Garrison et al., 2000; Harasim, 2012).

Getting students accountable and involved and fostering connections through small groups and projects were recognized as strategies to promote collaboration and increase student success. Creating small groups and projects was mentioned by 11 participants, showing this as an effective way to promote collaboration and prepare students for real world work experiences. Though most faculty believed group projects were important, some ran into obstacles with the technology or having students contribute equally as a team. Additionally, those who effectively ran group projects in their online classes believed it was important for the instructor to create the groups
instead of having students choose their own group members. The consensus was students who worked in groups, on average, were more successful.

The fourth most frequently cited strategy to foster collaboration was encouraging student-to-student talk. Early introductions and weekly discussion topics were recognized as ways to keep students engaged with each other. Most participants assigned discussion questions created for students to work together. Collaborative learning theories promoted student-to-student communication as a means to connect over their learning as they worked individually and collectively to share discoveries and contribute personal views (A. Bates, 2005). Participants explained students were encouraged to provide constructive feedback to one another through rubric guidelines. Student-to-student communication helped students take an equal part in the learning process.

The requirement for having introductions in an online course was the fifth most frequently cited instructional theme that supported collaboration. All 12 participants referenced introductions with a frequency of 17. Most instructors modeled the introduction process, but felt it was important each student shared something about their life with the group. Some recommended weekly icebreakers. Participants also suggested students be recognized frequently to avoid developing feelings of isolation.

The assignment of peer review activities was the sixth theme named by faculty. All 12 participants referenced peer reviews as a means of promoting collaboration in the online class. The consensus was students thought more deeply about the assignments when they had to collaborate with another student. Study participants believed peer reviews also encouraged students to take responsibility for their learning and the activity had a positive impact on the learning of other classmates.
Research Sub-Question 2

Research Sub-Question 2 asked: What content specific learning strategies do online community college instructors perceive to be most in effective helping students succeed? Six themes emerged as important to cultivate collaboration related to content. The most frequently cited theme was using content to foster collaboration. Creating the ability for students to collaborate using content was mentioned 52 and identified by 11 of 12 participants. The consensus from instructors was the discussion boards were where a large portion of content learning occurred.

The second most frequently cited was making content appropriate for student objectives, which was cited 41 times by 10 participants. Faculty stated it was important to recognize the lifestyle and goals of students and create manageable curricula that give them choices and a variety of learning activities. This was followed by the third most mentioned theme of using relevant, real world content to motivate collaboration. All 12 participants identified real life content as important, referencing this theme 33 times. Dependent upon the discipline taught, faculty participants designed assignments that included real life content, such as reviewing business contracts, writing computer programming, creating art projects from personal materials, and sharing the soundtrack of their lives in collaborative assignments.

The fourth most cited theme on content to increase collaboration related to designing content to engage students. Eleven participants mentioned it was important to engage online students with the content. Some faculty stated online student preparedness was all over the place (from right out of high school to returning adults seeking further academic work), and therefore, faculty believed it was best to design the course for
diverse learning styles and student experiences. The incorporation of images, videos, current events, and informative websites made for more engaging course content.

The fifth theme cited by participants related to utilizing content to foster collaboration through group projects. Eleven participants believed group projects engaged students with the content and were an important way for students to gain confidence with the material. Instructors stated they used group assignments, case studies, creative projects, collective industry research, and career skill development activities to engage learners. For some instructors, organizing group projects in an online class seemed daunting, but other instructors found ways to use groups and avoid some of the logistical roadblocks. The problem of organizing groups online was noted in the literature (Lieberman, 2018).

The sixth theme related to content to foster collaboration was using technology as a content catalyst. All 12 participants used technology in addition to the LMS. Most faculty believed technology served to engage online learners because of the widespread use of social media. Faculty reported using YouTube videos, game-like activities, online surveys, conferencing software, and other Internet resources as a catalyst for learning content. However, some faculty found their students needed help navigating technology. As a result, most faculty made a conscious effort to provide instructions on how to use the technology.

**Research Sub-Question 3**

The third sub-question was: *What social interaction instructional strategies do online community college instructors perceive to be most effective to help students succeed?* To evaluate the social interaction in an online class, the topic was divided into
two parts in the interview questions. Part I focused on instructor-student interaction and Part II examined student-student interactions.

Examination of instructor-student interaction resulted in six themes. Providing clear instructions was the most common theme, mentioned 46 times and by all 12 instructors interviewed. Instructors perceived providing clear instructions as most important for instructor to student dialog. Most participants responded having a clear syllabus, making frequent announcements, providing introductory pages to content, and clearly articulating learning objectives were essential in encouraging interactions between instructor and student.

Responsiveness to student requests and discussion input was the second most frequently cited social interaction theme. All participants felt timely responses were necessary. The instructors stated answering questions about content or assignments and responding to discussion posts was critical. This was articulated in the context that online students are at risk of feeling isolated when working alone virtually. As such, the responsiveness of the instructor to address concerns was a crucial element to success in an online class.

The third most frequent social interaction theme presented was to provide meaningful feedback. The responses indicated it was important to personalize feedback and ensure students felt recognized and that their concerns were answered. The personalization of feedback was also displayed in the weekly communications from instructors to students. Personized feedback helped establish connections with the students and ensured their voices were heard.
The fourth theme provided by eight participants was grading to a well-defined criterion, which was mentioned 27 times. Faculty believed students needed clear directions and rubrics to help them successfully complete assignments.

The fifth theme under instructor-student collaboration, making weekly announcements, was cited 21 times and mentioned by all 12 instructors. The interviews revealed online faculty used a variety of means to send weekly announcements and believed this was an important way to keep students informed and on track. Some made video announcements where they described the objectives for the week and highlighted the location of the assignments and resources shown in the LMS modules. Other faculty provided a recap and wrap-up announcement each week to remind students of past learning. Most instructors felt announcements, whether written or in video format, were a way of engaging students to increase their success.

The sixth theme for instructor-student interaction related to holding virtual office hours. The faculty used video conferencing technology to give students an opportunity to meet, hear, and see each other at a synchronous time. For those students who could not attend the virtual meetings, recordings were provided.

For Part II, student-student interaction, the analysis of the interview data provided five themes related to introductions and icebreakers, discussion boards, group projects, human experiences, and use of technology. Providing opportunities for students to engage in introductions and icebreakers was mentioned by all participants. Student-to-student interactions through introductions and icebreakers gave students a chance to demonstrate they are individuals in a larger community with a common academic goal. Faculty felt the introductions were important to make students feel respected and helped
them develop confidence toward course mastery. Requiring introductions in week one followed by weekly discussion boards promoted student-student interaction. In the graded discussions, students were responsible to share knowledge individually and collectively. Within the back and forth dialog on the discussions, students were equal participants in the learning process for the entire group.

Creating group projects to promote student-student interaction was mentioned eight times. The consensus of faculty was that group assignments helped students contribute to the learning in a meaningful way and contributed to practicing skills important to collaboration in geographically distributed teams.

Relating real human experiences in the online class was noted by eight faculty as a way for students to understand the humanity in interactions in an online class. Through social contact, students were working together to support each other to successful course completion.

The final student-to-student theme, using technology to foster interaction, was mentioned by six respondents. Half the faculty integrated technology to enhance engagement. Participants articulated how they used technology both inside and outside the LMS for specific learning activities that replicated learning in a traditional classroom.

**Unexpected Findings**

The unexpected findings related to challenges in facilitation of groups, recognition of the need to assist students with using online learning technology, and the need for improvements in tools for online group work. These findings reinforced how faculty believed in the value of group work, but some participants found facilitation was problematic. They reported students were reluctant to work in groups and needed
guidance and encouragement. Faculty also reported it was a fallacy that students were confident with technology as they discovered students needed more assistance with technology than they anticipated. In addition, the study revealed the current state of online learning technology is not conducive for group work. Need for improvements in the LMS software was found. Most significant to this researcher was to discover how the participants held a passion and commitment to teach online despite acknowledging teaching in this format is complex and challenging.

**Conclusions**

Grounded in the findings of this study and reinforced by the literature review, several conclusions were drawn. The literature review, in conjunction with the data collected from faculty interviews and artifacts, emphasized experienced online faculty perceive collaboration as an effective tool in promoting online student success. The three conclusions drawn from the study indicated online courses need to: (1) provide opportunities for collaboration in a variety of settings, (2) offer engaging collaborative content specific learning activities, and (3) include regular and systematic collaboration between instructor and student, and student to student.

**Conclusion 1. More training is needed to assist faculty with implementing strategies to encourage group work and collaboration to help online students succeed.**

The data showed online faculty perceived collaboration in online classes was effective in helping students succeed. These faculty employed collaboration in a variety of settings such as guided introductions, discussions with exchanges of personal information, and participation in group activities designed to increase social interaction. Faculty also identified using enhanced technology to assist with collaboration.
Discussion boards were consistently used for collaboration and deemed most effective by participants. Through discussion boards, students regularly interacted with each other and with the course content for effective learning. Faculty who utilized group projects and peer reviews had mixed results facilitating group work depending upon how group members were assigned and how well they used the technology. This result indicated more faculty training was needed to assist instructors with planning and implementing collaboration within groups.

**Conclusion 2. Online courses need engaging, collaborative content with real world applications to promote student success.**

The data collected showed experienced online instructors believed course content needs to be engaging by using relevant, real world material and providing for collaborative group learning while utilizing technology as a catalyst for content. Faculty utilized multiple methods to make content engaging, including incorporating images, videos, games, case studies, and interactive activities. However, participants agreed faculty need to understand the kinds of students who enroll in online classes and design learning activities appropriate for their needs and technology levels.

**Conclusion 3. Consistent and systematic instructor-student and student-student interactions are necessary to promote student success.**

The study’s findings showed most faculty recognized they must provide for active engagement with the students and create a collaborative student to student environment. They agreed with Palloff and Pratt (1999) that interactions between faculty and students, and among students, were a crucial element for online classes. Faculty agreed providing clear instructions, being as responsive as possible, providing personalized feedback,
sending weekly announcements, and holding virtual offices hours were part of their responsibilities as online instructors. Additionally, faculty identified the need to provide opportunities for students to interact with each other through introductions, icebreakers, discussion boards, and group projects. Further, faculty believed when students interacted online, they developed relationships and began to feel as part of a learning community where they worked together to help each other succeed. To facilitate this interaction, faculty must understand the diversity and character of online students and realize the importance of engaging them to increase success and retention necessary to narrowing attrition rates for online programs (D’Orio, 2019).

Implications for Action

The exploration of the lived experiences of online community college instructors and a review of the literature revealed significant findings for the design of collaborative learning strategies in online courses to increase student success rates. These important findings contributed to the body of literature on effective instructional practices for online education in the community colleges system. Based on this study, three implications for actions are (1) provide more training for faculty teaching online courses, (2) design courses that build collaboration focused on real world content, and (3) increase the timeliness and humanity of online interaction.

Implication 1. Provide more targeted online faculty training.

Data from the interviews of experienced online community college instructors showed collaboration contributed to student success, but they found initiating collaboration challenging. Most of the online faculty interviewed learned to teach online by trial and error and through their own initiative. As the role of online instruction in
higher education increases, more formal faculty training for online learning that includes an appreciation for the creation of learning communities is needed.

As the mission of the California Community Colleges Board of Governors and the CCCCO is to empower community colleges through leadership, advocacy, and support, the state and college districts are responsible to train faculty in the best teaching methods to effectively design and facilitate online courses for student success. As a result, the following are calls to action:

- The Board of Governors of the CCCS needs to mandate faculty training for online teaching to be in accordance with the recently amended Title 5, §55204 of the California Education Code of Regulations (CCR) for quality distance education courses. The CCR for distance education provides an explanation for regular, effective contact between instructor and students, either synchronously or asynchronously. Methods of contact described include group or individual meetings, orientation and review sessions, supplemental seminar or study sessions, fieldtrips, workshops, telephone contact, voice mail, e-mail, and other activities. A recent modification added effective contact must be among students in addition to between instructor and students (70901.5 CCR 55204, No. 8, 2019). Mandating faculty training to bring awareness of these requirements would align online course design and teaching with state requirements for online interaction and collaboration, improve online effectiveness, and promote student success.

- College administrators and distance education (DE) coordinators on the local campuses need to implement an awareness campaign about the requirements...
for effective contact between instructor and students and among online
students as prescribed in the education code.

- As part of maintaining ongoing professional development for online faculty,
college administrators and DE coordinators need to understand the
complexities of teaching online and how to best support faculty in their design
and facilitation of effective collaboration into online learning.

- Faculty training needs to include specific information on OCL and COI
methods, along with education related to the variety of learning styles and
representative characteristics of online students.

**Implication 2. Build collaboration around real-world content.**

A major finding of the study revealed experienced online faculty deemed
providing engaging, content-specific learning activities relevant and connected to real life
were significant to support productive student collaboration. As such, the following calls
to action are recommended:

- College districts need to offer support for online faculty from the course
design process through facilitation of collaborative content and incorporation
of technology. Training needs to provide methods to reduce challenges to
getting students to work in collaboration, stressing how vital students working
together is to build a learning community in the online environment.

- Ongoing professional development for online faculty needs to provide
opportunities for them to share examples of content, documents, and
assignments demonstrating how they incorporate real world learning into the
online class to promote student-student interaction.
• Training for faculty needs to stress how design of the content must be consistent with the relevant experiences of learners. Relating the subject matter to their life experiences and encouraging them to share real world examples enhances engagement and supports learning outcomes.

Implication 3. Increase the timeliness and humanity of online interaction.

The results of the study indicated online faculty perceived it necessary to prepare students for the online environment and develop strategies to ensure productive, interactive activities in a variety of situations. Regarding student preparation for online courses, participants thought their institutions needed to take responsibility for qualifying students for the online environment. Qualifications should determine readiness and remedial action if necessary. Regarding interaction, most participants agreed specific assignments need students to interact with each other and their preparation for online learning needs to stress this fact. As college administrators and DE coordinators are responsible for providing workshops and training for faculty, and planning and training for students, the following are calls to action:

• Professional development needs to focus on the characteristics of online learners and how to increase motivation for them to participate in interactive learning. Through teaching an awareness of how online students divide their time between work, family, and school, plus the challenge of working in isolation from their classmates, both faculty and students will be cognizant of the requirements of online learning.

• Given faculty who utilized group projects had mixed results in facilitating and assigning students to groups and with how well students were able to use the
technology, more online student readiness training is needed to prepare students for online learning.

- Training for online faculty needs to emphasize contemporary learning theory (OCL and COI) to emphasize interactive learning as vital for building an online community to provide a satisfying experience for students.
- Professional development for online faculty needs to include how instructors can create more interaction between themselves and students as well as among students.
- Institutions need to develop online learning readiness testing for students to increase and ensure their success. Colleges need to implement readiness activities and training to equip students with knowledge and skills needed to meet expectations and responsibilities of the online environment.
- Colleges need to survey online student satisfaction and use data to increase support services for struggling students who need tutoring, counseling, and academic support but may be isolated from campus services and need contact during hours offices are not typically open.

**Recommendations for Further Research**

The following recommendations for future research were derived based on the findings, conclusions, and limitations of this study:

- Explore the motivation, commitment, and willingness of experienced online faculty regarding supporting faculty new to teaching online
- Examine the perceptions of online faculty regarding barriers and best practices for incorporating effective collaborative learning strategies in an online class
• Determine what skills and technological support online faculty need to successfully facilitate and integrate collaboration online

• Determine through a quantitative study of a broad spectrum of online faculty their perceptions of what technology tools for collaboration are most effective

• Identify and describe the necessary resource profile for successful delivery of online coursework

• Examine the impact of fulltime vs part-time instructors on achievement and retention

• Explore the characteristics and life experience of online students and the barriers they may face to being successful

• Determine, through a quantitative study, perceptions of online students regarding the effectiveness of collaboration

• Identify and describe best practices for developing positive social interaction between students in an online class

• Examine what professional development policies need to be funded for quality online faculty training

• Discover the impact of class size on student achievement and retention

• Identify and describe best practices for developing positive social interaction between students

**Concluding Remarks and Reflections**

Given the continued popularity for online learning within the broader contemporary higher education landscape, many educators must rethink pedagogical techniques used in face-to-face environments and recognize they must re-design courses
to provide active engagement for online students (Riggs & Linder, 2016). In addition, to help students succeed, an active presence on the part of the instructor is necessary. Through instructor presence with designing content, guiding instruction, and coordinating collaboration, students feel a sense of connectedness to the learning community (Shea et al., 2006). This fact is significant because as college enrollments decline, the online demand continues grow. Improvements in online programs are necessary because data show students in all academic areas perform more poorly in online courses than in traditional classes.

The historic literature on education and theories for online learning, along with data obtained from the perceptions of experienced online community college faculty in this study, demonstrated how essential interaction and collaborative learning are to online student success. The steady growth in demand for online courses over the past decade exhibits student choice of this learning process in hopes of positive academic results. As student demand for online learning continues to grow, college administrators eager to increase enrollment added online programs and assigned faculty to teach these courses with little or no training. Participants in this study confirmed this fact and reported they learned to teach online through trial and error. Faculty training improved but is still focused on using the LMS. Given the complexities of online teaching and commitment required to be an effective online instructor, faculty development programs need to address the intricacies of online teaching and offer support on the personal commitment required to teach online.

My personal experience teaching online for over 10 years, listening to the experiences of the 12 participants, and reviewing the artifacts confirmed just how much
commitment online faculty give to creating their courses. There are psychological, technological, and communication challenges to teaching in the online environment that keep faculty diligently involved and concerned for student success. Faculty teaching online do so because they appreciate how the medium helps students achieve their academic goals. All faculty talked about the passion they have for online teaching. Many expressed teaching online served to improve their face-to-face teaching as they learned the benefits of being the guide on the side and helping students learn in a community. Conducting this study provided me with the opportunity to hear the experiences of online faculty and come to appreciate the passion they all shared.

In my own community college, I work to encourage support for online faculty through onlineology workshops where such topics as facilitating collaboration and managing isolation are subjects. Record attendance at the workshops showed just how much faculty need support for implementing collaboration and finding improved methods for creating interaction online. These workshops led me to realize a study was needed to show what experienced online faculty do and just how much support they need from fellow faculty and administration.

This study is a representation of the values, beliefs, and commitment I bring to teaching in higher education. As a community college online instructor, like the study participants, I am enthusiastic for online learning and thrilled to be a part of helping students achieve academic success. Through the medium of online learning, I see students growing in confidence and skill development as they work with technology and interact with fellow students knowing that through the virtual environment, they must help each other learn and succeed. It is gratifying to know that through my classes,
students are learning the discipline, and through careful course design, are led to develop research skills, practice critical thinking, be creative, and problem solving through the assignments and projects. In addition, through the careful design of collaborative assignments, I give students an opportunity to practice working in groups and learn communication skills valuable to them in the workforce. By helping other online faculty through this study and through the workshops I support, it is my hope the quality of online teaching will grow to benefit all students in the future.
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## APPENDICES

### APPENDIX A – SYNTHESIS MATRIX

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APPENDIX B – INTERVIEW PROTOCOL

Interviewer: Maureen Curry
Interview Time Plan: Approximately 60 minutes
Interview Place: Participant’s college site or other convenient agreed upon location
Recording Devices: Two (2) digital voice recorders and/or Zoom video conference software
Written Documentation: Researcher field and observational notes

Introductions and Opening Statement:
[Interviewer states:] I truly appreciate you taking the time to come in for this interview and to share your story with me. To review, the purpose of this study is to research what collaborative learning strategies do online community college instructors perceive to be most effective in helping students succeed. The questions are written to elicit information on your perspectives as an online instructor. It is hoped that you will feel free to share examples from your experiences as you see fit throughout the interview. Also, your identity will remain anonymous. Our interview will not take place until after a consent form is signed; and, I encourage you to be open and honest for the purposes of this research study.

Interview Agenda: {Interviewer states:} I anticipate this interview will take about an hour today. As a review of our process leading up to this interview, you were invited to participate via email letter, and you signed an informed consent form that outlined the interview process and the condition of complete anonymity for the purpose of this study. We will begin with reviewing the Letter of Invitation, Informed Consent Form, the Participant’s Bill of Rights, and the Audio/Video Release Forms. Then after reviewing all the forms, you will be asked to sign documents pertinent for this study, which include the Informed Consent and Audio Release Form. Next, I will begin the audio recorders and ask a list of questions related to the purpose of the study. I may take notes as the interview is being recorded. If you are uncomfortable with me taking notes, please let me know and I will only continue with the audio recording of the interview. Finally, I will stop the recorder and conclude our interview session. After your interview is transcribed, you will receive a copy of the complete transcripts to check for accuracy prior to the data being analyzed. Please remember that anytime during this process you have the right to stop the interview. If at any time you do not understand the questions being asked, please do not hesitate to ask for clarification. Are there any questions or concerns before we begin with the questions?

Background Questions: [Begin to ask interview questions]
1. Please share a little about yourself personally and professionally.
2. How long have you been teaching online?
3. Please describe how you came about teaching online?
4. Please describe how you learned your techniques for teaching online?
**Instructional Strategies:**
5. Please describe your specific roles as the instructor in an online course? (Probe: relating to subject matter expert, guide, facilitator, independent observer, etc.)
6. Please describe the methods you use to communicate with the class?
7. Please describe what you do to insure clarity for students?
8. Please describe what techniques you use to build a sense community online? (Probe: discussions, group activities, icebreakers, introductions, etc.)

**Collaborative Content Strategies:**
9. Please describe how opportunities are provided for students to collaborate over course content?
10. Please describe the methods you use to increase connections among online students?
11. Please describe what techniques you use to build a learning community online? (Probe: group and teamwork, etc.)

**Social Interaction Strategies:**
12. Please describe what you do to help students feel that you recognize their presence and effort in class?
13. Please describe the methods of student to student interaction that are designed into your course?
14. Please describe the social interaction tools used in your online classes. (Probe: group work, sharing personal stories, questioning to get insights, collaborative discussions, teams, etc.)
15. Please describe the methods of student-instructor interaction that you use?

**Effective Course Components:**
16. Please describe what you believe are the most effective course components that contribute to online student success?

17. Please add any concluding remarks or final points you feel you would like to include.

**Thank you for your participation.**
APPENDIX C

INSTRUCTOR RECRUITMENT, INFORMED CONSENT AND BILL OF RIGHTS

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<th>Subject: Open-Ended Question Interview Research Study</th>
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<td>The Role of Learning Community Collaboration in Increasing Online Student Success in Community Colleges</td>
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<th>Responsible Investigator: Maureen Curry, M.A.</th>
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<tr>
<td>Purpose of the Study: You are being asked to participate in a research study conducted by Maureen Curry, M.A., a doctoral student from the Brandman University School of Education, Education Doctorate Program. The purpose of this research study is to explore the experiences of online instructors who teach fully online classes and to gain the instructors perceptions of the components in an online course that contribute to students successfully completing the course. The study will strive to discover the instructors’ perception of how significant collaboration is to the online learning community and how this component contributes to student success. This study will fill the gap in research needed to explain the causes of why online students are not as successful as those in face-to-face classes. The results of this study may provide information to assist districts in designing effective online courses to increase online student success rates.</td>
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<td>By participating in this study, I agree to participate in an individual interview. The interview will last approximately 30 – 45 minutes and will be conducted in person, by phone or electronically using ZOOM software. Completion of the interviews will take place during Fall 2018 and Spring 2019 semesters. Below are guidelines describing the process and your rights as a participant in the study. Your review and consent are requested.</td>
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I understand that:
I understand that the investigator will protect my confidentiality by keeping the identifying information and research materials in a password protected locked computer file folder that is only available to the researcher.

I understand that the interview will be audio recorded and there is a possibility it may be video recorded. The recordings will be available only to the researcher and the professional transcriptionist. The audio/video recordings will be used to capture the interview dialogue and to ensure the accuracy of the information collected during the interview. All information will be identifier-redacted and my confidentiality will be maintained. Upon completion of the study all recordings, transcripts, and notes taken by the researcher and transcripts from the interview will be destroyed after a three-year period.

The possible benefit of this study to me is that my input may help add to the research regarding improving online student success. The findings will be available to me at the conclusion of the study and will provide new insights about the online learning environment and what I can do to improve the quality of my own online courses. I understand that I will not be compensated for my participation. There are no foreseeable risks that may result from my participation I this
research study.

If you have any questions or concerns about the research, please feel free to contact Maureen Curry at [redacted] or by phone at [redacted]; or Dr. Phil Pendley Chair at [redacted].

Signature:

My participation in this research study is voluntary. I may decide to not participate in the study and I can withdraw at any time. I can also decide not to answer particular questions during the interview if I so choose. I understand that I may refuse to participate or may withdraw from this study at any time without any negative consequences. Also, the investigator may stop the study at any time.

No information that identifies me will be released without my separate consent and that all identifiable information will be protected to the limits allowed by law. If the study design or the use of the data is to be changed, I will be so informed and my consent re-obtained. I understand that if I have any question, comments, or concerns about the study or the informed consent process, I may write or call the Office of the Vice Chancellor of Academic Affairs, Brandman University, at 16355 Laguna Canyon Road, Irvine, CA 92618, (949) 341-9937. I acknowledge that I have received a copy of this form and the “Research Participant’s Bill of Rights.” I have read the above and understand it and hereby consent to the procedure(s) set forth.

Signature of Participant or Responsible Party: ___________________ Date: ____________
Signature of Principal Investigator: __________________________ Date: ____________

Audio/Videotaping Release Form

Research Title: The Role of Learning Community Collaboration in Increasing Online Student Success in Community Colleges

BRANDMAN UNIVERSITY
16355 Laguna Canyon Road
Irvine, CA 92618
Responsible Investigator: Maureen Curry

I understand that the interview and or focus group may be video recorded per the granting of my permission. I do not have to agree to have the interview or focus group be video recorded. If I do agree to have myself video recorded, the sole purpose will be for the video analysis to support data collection related to the research study.

I hereby give my permission to Maureen Curry to use any photos or videotape material taken of myself during her research study. The photos and videotape material will only be used for this research and the videotape will be destroyed at the end of the study. As with all research consent, I may at any time withdraw permission for photos or video footage of me to be used in this research project.

Signature of Participant __________________________ Date: ____________
Signature of Principal Investigator: __________________________ Date: ____________
PARTICIPANT BILL OF RIGHTS

BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD
Research Participant’s Bill of Rights

Any person who is requested to consent to participate as a subject in an experiment, or who is requested to consent on behalf of another, has the following rights:

1. To be told what the study is attempting to discover.

2. To be told what will happen in the study and whether any of the procedures, drugs or devices are different from what would be used in standard practice.

3. To be told about the risks, side effects or discomforts of the things that may happen to him/her.

4. To be told if he/she can expect any benefit from participating and, if so, what the benefits might be.

5. To be told what other choices he/she has and how they may be better or worse than being in the study.

6. To be allowed to ask any questions concerning the study both before agreeing to be involved and during the course of the study.

7. To be told what sort of medical treatment is available if any complications arise.

8. To refuse to participate at all before or after the study is started without any adverse effects.

9. To receive a copy of the signed and dated consent form.

10. To be free of pressures when considering whether he/she wishes to agree to be in the study.

If at any time you have questions regarding a research study, you should ask the researchers to answer them. You also may contact the Brandman University Institutional Review Board, which is concerned with the protection of volunteers in research projects. The Brandman University Institutional Review Board may be contacted either by telephoning the Office of Academic Affairs at (949) 341-9937 or by writing to the Vice Chancellor of Academic Affairs, Brandman University, 16355 Laguna Canyon Road, Irvine, CA, 92618.

Brandman University IRB Adopted November 2013