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The purpose of this study was to examine the effects of the Community of Inquiry (CoI) framework on students' perspectives of an online Kinesiology course. A Health-Related Fitness and Wellness course, an introductory Kinesiology class in the California State University, was converted to an online format using the CoI framework. Results showed that students reported high perception at times 1, 2, and 3 for cognitive presence ( $M = 4.39 \pm .52$ ;  $M = 4.24 \pm .78$ ;  $M = 4.14 \pm .79$ ), teaching presence ( $M = 4.65 \pm .40$ ;  $M = 4.40 \pm .69$ ;  $M = 4.42 \pm .65$ ), and social presence ( $M = 4.28 \pm .66$ ;  $M = 4.20 \pm .70$ ;  $M = 3.94 \pm .89$ ). Canonical correlation analysis revealed that social presence (.62) was strongly and positively associated with sense of community (.54) and student satisfaction (.47), and the redundancy index indicated that 53.95% of the variance in both sense of community and student satisfaction could be accounted for by social presence. The results also indicated that the students had a high, positive perception of the CoI framework, and that perception of the framework did not change over time. The results also indicated that social presence was correlated with student satisfaction and sense of community. The findings of this study seem to imply that with continuous implementation of the CoI framework, students had a high perception of the three presences, with social presence having the most contribution to students' sense of community and satisfaction with the course.

ONLINE KINESIOLOGY: USING THE COMMUNITY OF INQUIRY FRAMEWORK  
TO ENHANCE STUDENTS' LEARNING EXPERIENCES

by

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## CHAPTER I

### PROJECT OVERVIEW

Online instruction has become increasingly popular due to the rapid development of technology (Tallent-Runnels, Thomas, Lan, & Cooper, 2006). The Distance Education Enrollment Report of 2017 states that the number of students taking at least one distance education course topped 6 million in 2015, a year-to-year increase of 226,375 students representing a 3.9% increase over the previous two years (Allen & Seaman, 2017). The number of students studying on a campus has dropped by almost one million between 2012-2015, however the number of distance education students continues to increase. As distance education becomes more prevalent, educators need to establish best practices for their online courses. One best practice is establishing a sense of community (Swan, 2003). Learners in an online community find a sense of community is critical to being successful in the virtual classroom. One educational model that has shown success building a sense of community in online courses is the Community of Inquiry (CoI) framework. The model views community as something that emerges in support of online learning through the relationship between three interactions: social presence, cognitive presence, and teaching presence (Appendix A). Creating a sense of community can reduce the feelings of isolation and disconnect (Astani, Ready, & Duplaga, 2010; Phirangee, 2016; Rovai, 2002c) leading to dropout and poor performance in online

classes (Boston et al., 2009). Critical to building an online community is identifying the quantity and quality of interactions online learners must engage in for successful learning and course satisfaction. Therefore, it is imperative that a sense of community is established in low level, beginner Kinesiology courses to establish quality online courses setting the student up for success within the major.

### **Relevant Literature**

Best practices for online instruction include encouraging contacts between faculty and student, encouraging reciprocity and cooperation between students, promoting active learning techniques, providing prompt feedback, emphasizing time on task, communicating high expectations, and respecting diverse talents and ways of learning. Embedded in these best practices is creating a virtual learning community so these practices can take place (Swan, 2003). A sense of learning community is defined many ways, but consensus suggests the most essential elements are spirit, trust, interactivity, common expectations, shared values and goals, and overlapping histories among members (Rovai, 2002a). In traditional courses, Tinto (1993) theorized that the importance of a sense of community in education was to reduce drop out from courses and increase student satisfaction. He emphasized that if students feel involved and develop relationships with other members of their learning community, they will more likely be persistent in the class and have greater course satisfaction. His theory is also supported by empirical research (Ashar & Skenes, 1993; Vann & Hinton, 1994; Wehlage, Rutter, & Smith, 1989).



Evidence also supports that a strong sense of community may also increase the flow of information exchange between learners, commitment to group goals, cooperation among learners, availability of support, and satisfaction with group efforts (Rovai, 2002a). In addition, studies have also shown that “learners benefit from community membership by experiencing a greater sense of well being and by having an agreeable set of individuals to call on for support when needed” (Rovai, 2002a, para. 5). A sense of learning community is related to increased engagement in school activities, reduced class cutting or thoughts of dropping out, and increased bad feelings when unprepared for class (Rovai, 2002a). Additionally, students often feel less burn out at school when they have a high sense of community.

One educational model that focuses on aspects of creating a sense of community in online education is the Community of Inquiry (CoI) framework developed by Garrison, Anderson, and Archer (2000). The model assumes that effective online learning and knowledge construct requires the development of a community supporting meaningful inquiry (Arbaugh, Bangert, & Cleveland-Innes, 2010; Shea et al., 2010). The model views community as a something that emerges in support of online learning through the overlapping relationship between three elements: social presence, cognitive presence, and teaching presence (Appendix A).

Social presence is the ability of learners to project their personal characteristics into the community, thereby presenting themselves as real people in online, asynchronous communication and interactions (Arbaugh et al., 2010; Garrison, Cleveland-Innes, & Fung, 2010; Shea et al., 2010). The CoI model hypothesizes that modes of social

presence include the demonstration of student affect, group cohesion, and open communication necessary to establish a sense of trust and membership in the community dedicated to joint knowledge construction (Shea et al., 2010).

Teaching presence refers to the instructional design and organization, facilitation of productive discourse, and direct instruction (Arbaugh et al., 2010; Shea et al., 2010). This interaction between the instructor and the learner is meant to facilitate the learning process, stimulate students' interests, and facilitate student learning (Swan, 2003). These interactions include the instructor making presentations, demonstrating skills, modeling values, providing support, and organizing and evaluating student learning (Grandzol & Grandzol, 2010).

Cognitive presence is the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse (Garrison, Anderson, & Archer, 2001). Garrison and colleagues (2001) argue that cognitive presence in online learning is developed through the following four phases: (1) a triggering event, where an issue or problem for inquiry is discovered; (2) exploration, where students explore the issue both individually and corporately through reflection and discourse; (3) integration, where learners construct meaning from the ideas developed in phase 2; and (4) resolution, where learners apply the newly gained knowledge to educational contexts. They propose that social interactions takes places the most in phases 1 and 2, and for students to move past phase 2, teacher presence is necessary to assist the learner in developing their ideas.

Research on the CoI framework shows correlations between components of the model and learner satisfaction and perceived learning (Shea, Pickett, & Pelz, 2004; Swan,

& Shin, 2005) and to online learner sense of community (Shea, Li, & Pickett, 2006). In Kinesiology, Jung and Gilson (2014) implemented an online threaded discussion to a hybrid physical education teacher education (PETE) graduate course. The online discussion utilized teaching presence through the organization of discussion leaders and the monitoring of discussion threads for appropriate behaviors and scope of responses. Social presence was implemented through required responses by students in the discussion group and encouraged interaction by the group leader to support discourse. Cognitive presence was applied through group leaders and course instructor facilitating and directing inquiry and discourse. From such the authors found that there were more diverse student participation, deeper reflective student responses, greater student teacher interactions, and assessment with more objective evidence (Jung & Gilson, 2014). Keiper and Kreider (2014) discussed some of the issues that arose at the Department of Health & Kinesiology at Texas A&M when implementing a Sport Management online Master's program. A concern for the students was lack of communication opportunities as found in traditional courses. However, the authors recommend using discussion boards (cognitive, social, and teaching presence), group assignments (social & cognitive presence), student peer-evaluations (social & cognitive presence), and designated time to ask questions to mitigate the issue (teaching presence). Providing timely feedback (teaching presence) was also critical to the students' success. Keiper and Kreider (2014) note that research shows that students feel more satisfied with a course when there is timely feedback and response to questions and assignments.

Although the work above provides convincing evidence for the CoI framework creating a successful online learning community, Kinesiology faculty are still hesitant to embrace online courses (Mahar, Hall, Delp, & Morrow, 2014). For example, the American Kinesiology Association (AKA) in 2013 administered a survey to 101 Kinesiology Department Chairs and reported that only 36% felt their faculty had a positive view of online courses with many citing pedagogy issues (e.g. quality of content and instruction, impersonal interactions, courses not being conducive to online format) as reasons. However, research on the CoI framework in Kinesiology courses may address these concerns. In a recent issue of *Quest*, Hersman and Schroeder (2017) present strategies for designing online Kinesiology courses based on the CoI model in an attempt to increase student engagement. They suggest implementing an intentional course design that is organized with step-by-step instructions, pictures, and tutorial videos to help learners navigate the course materials. They also suggest lectures and assignments that are intentionally designed and scaffold to progress the student engage in cognitive presence. Also, instructors should interact regularly with the learners, facilitate course work, prompt feedback, add comments to discussion boards, and implement synchronous class sessions. Students should also be encouraged to have live chats and video conferences for group work, and be assigned thoughtful peer review.

### **Significance of the Study**

A sense of community has an established importance in online education best practices (Swan, 2003). Research has identified factors for building a strong sense of community in an online environment (Rovai, 2002a) and the CoI framework has been

shown to support aspects of an online community (Arbaugh et al., 2010; Shea et al., 2010) particularly in the applied sciences (Arbaugh et al., 2010). However, Kinesiology courses are lacking in empirical research in the area of building a class community. This study contributes to existing knowledge by investigating the relationship of CoI framework on Kinesiology students' sense of community, student satisfaction, and learning specifically through measuring cognitive, social, and teaching presence. This is important to Kinesiology educators when considering course design and pedagogies for their online course and to ensure student success and satisfaction throughout the major.

### **Purpose and Specific Aims**

The purpose of this study was to examine the relationship of the CoI framework on students' perspectives of the course.

*Specific Aim #1: Convert a face-to-face Fitness, Health, and Wellness Kinesiology to online format using the CoI framework.*

*Specific Aim #2: Examine how the students perceived the CoI framework.*

*Specific Aim #3: Examine the relationships of social presence, teaching presence, and cognitive presence on students' perceptions of sense of community, satisfaction, and perceived learning.*

### **Methods**

#### **Participants**

The participants were undergraduate Kinesiology majors (N=47) from a California State University enrolled in a Health Related Fitness and Wellness online course. The average age for the participants were 21.7 years (S.D. =  $\pm 4.3$ ). Females

represented 55.32% of the participants (n=26), and males represented 44.68% (n=21) of the participants. The ethnic break down was: 27.66% Asian or Asian American (n=13); 25.53% White non-Hispanic (n=12); 19.15% Mexican or Mexican American (n=9); 8.51% Multiracial (n=4); 8.51% Other Hispanic or Latino (n=4); 4.26% Black or African American (n=2); 4.26% Hawaiian or Pacific Islander (n=2); and 2.13% Other (n=1). The average number of previous online courses was 2.17 (S.D. =  $\pm 1.8$ ).

### **Study Design**

A Health-Related and Wellness course, an introductory Kinesiology class in the California State University, was converted to an online format using the CoI framework. The course was a semester long (17 weeks) class that focuses on exploring of the roles of regular exercise, healthy eating habits, and stress management in the maintenance of health related fitness and wellness over the lifespan. The traditional version of the course consisted of lectures, lab assignments, written reflections, group presentations, exercise and food tracking, written papers, and exams. The online version used the Community of Inquiry framework, modifying the course design and pedagogies to reflect best practices for online education. There were two instructors assigned to the course, one with experience teaching the course face-to-face and one with educational experience building online courses.

A quantitative pre-experimental design (Creswell, 2014) was used to collect data three times throughout the course. Measures for the CoI framework, sense of community, perceived learning, and student satisfaction were taken at weeks 4, week 11, and week 17. Information gathered at weeks 4 and 11 allowed the instructors to make modifications

to the course materials if necessary, to increase social, teacher, and/or cognitive presence. The two instructors journaled throughout the course to record how the CoI was implemented and made note of changes made.

**CoI Implementation.** Appendix B outlines in detail how the instructors implemented the CoI framework when converting the Health-Related and Wellness course to online format. The course was designed by concepts, with each presence implemented into each concept. Summary of this implementation is presented here.

Teaching presence was implemented by designing the course by concept or module with pre-determined weeks assigned to each concept. A calendar was created so the students could follow along weekly with lecture topics covered and what assignments were to be completed by end of the week. Tutorials were created to assist the students on how to navigate the course site, expectations for online learning, and how to be successful in the course. Information was posted on proper online etiquette and online discussion decorum. Lectures were presented as a series of videos showing the lecturer presenting the material, or talking through a PowerPoint presentation. Google Hangouts was a required app for students to use for quick access to the instructors and teaching assistants for immediate responses to questions or concerns. A question bank tool was created for students to post questions they had regarding the week's assignments, concepts, or tasks, where students, teaching assistants, and instructors could post responses that were visible to all. Feedback on all assignments and emails were responded to in a timely manner, with timely defined in the syllabus as one week on all assignments, and 12 hours on emails.

Social presence was implemented by having the students introduce themselves to the class by posting a video answering a few assigned questions. Students also entered themselves into a class rolodex where they posted a picture, contact information, and major emphasis. Weekly discussion post assignments were assigned with required peer response to four classmates' posts. Students were given assignments that allowed them to express their thoughts and opinions on the material covered without being critiqued if their views counter that of the instructor. Personal video uploads of exercise completions, postural assessments, farmer's market visits, and other appropriate assignments were given at least once per concept. Collaborative, group assignments were given using Google suite applications so asynchronous collaboration was accomplished with instructor monitoring.

Cognitive presence was implemented by creating at least one assignment per concept that moved through the four phases of the cognitive learning process: triggering event, exploration phase, integration phase, and resolution phase. In addition, each concept covered many topics, with many assignments and tasks used to facilitate exploration and assessed learning.

### **Measures**

For this study, Rovai's Classroom Community Scale (CCS) was used to measure student perceptions of connectedness and perceived learning (Appendix C). The CCS has a maximum score of 80 and a minimum score of zero (Rovai, 2002b). It includes two subscales, one called connectedness (CONN) and the other called learning (LEAR), and the responses elicited by the survey were based on a 5-point Likert scale. The responses



ranged from strongly disagree (1) to strongly agree (5) regarding the students' feelings pertaining to the course. The CCS used 20 questions to allow self-reported responses of perception of learning and sense of community in the classroom environment. The CCS was validated "using Cronbach's coefficient  $\alpha$  and the split-half coefficient corrected by the Spearman-Brown prophecy formula" (Rovai, 2002b, p. 206). The entire CCS instrument measured  $\alpha = .93$ , showing it is a reliable measure of perceived learning and sense of community (Rovai, 2002b). The CCS has a Flesch 25 Reading Ease score of 68.4 on a 100-point scale, which supports the validity of this instrument with college-age students (Rovai, 2002b).

To measure social, teacher, and cognitive presence, the Community of Inquiry framework survey was used (Appendix D). The survey consisted of 34 items, eliciting ordinal responses (1=strongly disagree to 5=strongly agree). It was conceptually and empirically validated and has a Cronbach's Alpha reliability of .84 (Arbaugh et al., 2008). In addition, open-ended questions were modified from the CoI survey to ask for specific examples of the framework's presence in the course.

To measure student satisfaction, scales used and published by Arbaugh (2000), Lee et al. (2011), and Khalid & Quick (2016) were modified to reflect Kinesiology concepts (Appendix E). These scales had a Cronbach's Alpha score of .93. The survey consisted of nine questions, eliciting ordinal responses (1=strongly disagree to 5=strongly agree).

**Internal Reliability of the Scales.** The scales for the Community of Inquiry Framework (cognitive presence, teaching presence, and social presence) demonstrated

acceptable internal reliability at all three times (Appendix F). The measures for sense of community, perceived learning, and student satisfaction also achieved acceptable internal reliability.

### **Data Collection**

Permission to conduct the study was received from the university's institutional review board prior to start of semester. After the first week of instruction, students enrolled in the course were informed of the study and were sent a consent form (Appendix G). The students were informed that the instructors would not be aware of their participation or non-participation in the study until the end of the semester, therefore, their standing in the class would not be affected by not consenting.

Participants were asked to fill out a 70 question Qualtrics survey that assess teaching presence, cognitive presence, social presence, student satisfaction, sense of community, and perceived learning. This survey was given to the participants in the form of a homework assignment during weeks 4, 11, and 17. Non-participants still took the Qualtrics surveys, as they were assignments in the class. However, the data was not used in analysis.

### **Data Analysis**

The student responses for CCS were transformed and expressed so that each response was weighted properly based on the test instrument design in SPSS. For specific aim #2, the mean scores, standard deviations, and skewnesses were calculated to assess the presence of the subcategories of the CoI framework (social, teacher, and cognitive presence), and an ANOVA was performed to investigate if the presences changed over

time. For specific aim #3, a canonical correlation was used to determine the relationships between social presence, teaching presence, and cognitive presence with students' perceptions of sense of community, perceived learning, and student satisfaction.

## **Results**

Appendix B served as evidence of implementation through checkpoints. In summary, the CoI framework was implemented by documenting what tasks, assignments, and teaching strategies corresponded to each presence or presence subcategory. Then each presence and subcategory was checked for implementation into each concept. This resulted in each concept having at least: a) one assignment per concept designed to move through the four phases of cognitive presence; b) one personal video upload assignment, one reflection/opinion paper assignment, and weekly discussion boards establishing social presence; and c) weekly video lectures, beginning of week emails from the instructor reminding the students of the week's assignments/goals, and timely instructor feedback on assignments and questions establishing teaching presence. Examining the reported means scores for each presence and their change over time (Table 1) also supported evidence for implementation.

### **Descriptive Statistics for the CoI Framework**

The descriptive statistics for the CoI Framework are presented in Appendix H. The mean scores for cognitive, teaching, and social presence at Time 1 ( $M = 4.39$ ,  $SD = .52$ ;  $M = 4.65$ ,  $SD = .40$ ;  $M = 4.28$ ,  $SD = .66$ ) were high on the likert scale (1=strongly disagree to 5=strongly agree). Cognitive presence had moderate negative skew (-.65), while teaching and social presence had a high negative skew (-.99, -1.02).

The mean scores for cognitive, teaching, and social presence at Time 2 ( $M = 4.24$ ,  $SD = .78$ ;  $M = 4.40$ ,  $SD = .69$ ;  $M = 4.28$ ,  $SD = .66$ ) were also high on the likert scale. The three variables were all highly negatively skewed (-.86, -.99, -1.02).

The mean scores for cognitive and teaching presence at Time 3 ( $M = 4.14$ ,  $SD = .79$ ;  $M = 4.42$ ,  $SD = .65$ ) were high on the likert scale. The skewness for these variables were highly negatively skewed (-1.08, -.89). Social presence at Time 3 ( $M = 3.94$ ,  $SD = .89$ ) was moderately high on the likert scale and the skewness was moderately negatively skewed (-.55).

### **CoI Framework Presences Over Time**

A one-way repeated measures ANOVA was conducted to explore the students' perceptions of CoI framework presences over time. Table 1 shows that teaching presence showed no significant change ( $F = 2.85$ ,  $p > .05$ ). Cognitive presence showed no significant differences over time ( $F = 1.78$ ,  $p > .05$ ). Social presence also showed no significant change ( $F = 3.47$ ,  $p > .05$ ).

Figure 1 also depicts how the three mean scores of the CoI Framework presences changed over time. Cognitive presence decreased slightly from Time 1 (4.39) to Time 2 (4.24) to Time 3 (4.14). Teaching presence decreased from Time 1 (4.65) to Time 2 (4.40), but increased slightly from Time 2 to Time 3 (4.42). Social presence decreased slightly from Time 1 (4.28) to Time 2 (4.20), and continued to decrease more from Time 2 to Time 3 (3.94). However, as state previously, there were no significant differences within each presence.

Table 1

Mean Scores, F Scores, and p Values for CoI Framework at Times 1, 2, and 3

	Mean Time 1	Mean Time 2	Mean Time 3	F <sup>a</sup>	p Value
Teaching Presence	4.65	4.40	4.42	2.85	.071
Cognitive Presence	4.39	4.24	4.14	1.78	.18
Social Presence	4.28	4.20	3.94	3.47	.069

a. Greenhouse-Geisser correction

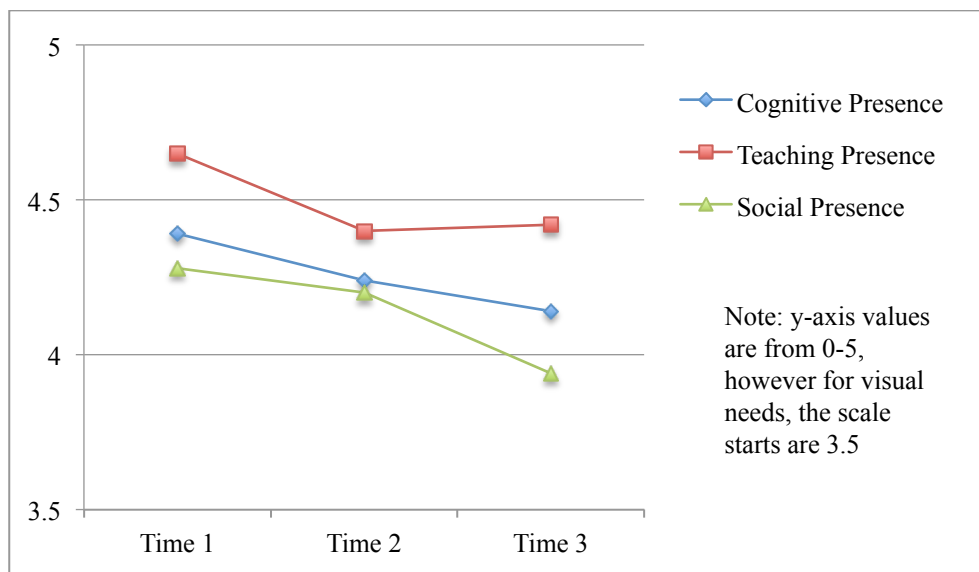


Figure 1. Mean Scores of the CoI Framework Variables Over Time.

### Canonical Correlation

In order to examine the multivariate relationship between a set of CoI Framework variables and a set of student outcome variables, a canonical correlation analysis was performed (Table 2). One pair of canonical variants accounted for a significant meaningful amount of the variance between the two sets of variables, Wilkes  $\lambda$  (9, 99.93) = .15,  $F = 13.15$ ,  $p < .001$ . The canonical correlation was .89, explaining 89% of the overlapping variance. Social presence (.62) was strongly and positively associated with

sense of community (.54) and student satisfaction (.47). The redundancy index indicated that 53.95% of the variance in both sense of community and student satisfaction could be accounted for by social presence. Loadings on teaching presence (.28), cognitive presence (.18), and perceived learning (.11) failed to approach criterion in order to contribute meaningfully to the canonical correlation relationship.

Table 2

Canonical Correlations, Standardized Loadings, Percents of Variance, and Redundancy between CoI Framework and Student Satisfaction, Sense of Community, and Perceived Learning

		Canonical Dimensions	
		1	
CoI Framework			
	Teaching Presence		.29
	Cognitive Presence		.18
	Social Presence		.62
	Percent of Variance	64.78	
	Redundancy	81.31	
Outcome Variables			
	Student Satisfaction		.47
	Sense of Community		.54
	Perceived Learning		.11
	Percent of Variance	67.71	
	Redundancy	53.94	
Canonical Correlation		.89	

## Discussion

The purpose of this study was to explore the relationship of the CoI framework on students' perceptions of the online Kinesiology course. The first two aims of this study

were to convert a Health-Related and Wellness Kinesiology course to online format utilizing the CoI framework and then explore the students' perceptions. Though a statistical means of determining students' perception of the three CoI framework presences is not possible given the survey, authors of the framework (Akyol & Garrison 2008) report that a mean score of 3 or above is consider a high perception of the framework's presences. The means score of the presences at each of the three time periods all yielded a score of 3.94 or above (Table 1), contributing to the idea that students had a high perception of the three presences throughout the semester.

In addition, students' high perception of the framework did not change over time. The high and continual perception could be related to the general course design. Each concept or module had, at minimum, weekly discussions, a personal video upload as an assignment, and a reflection/opinion paper to establish social presence. One assignment designed for cognitive presence was given in each concept, and the instructor created a weekly email, weekly lecture videos, and timely feedback on assignments in each concept to establish teaching presence throughout the semester. Akyol and Garrison (2008) also found that when they implemented the three presences into all learning activities, strategies, and assessment techniques, students had a high perception of each presence throughout the course, and the perception of the framework did not change significantly over time. This may mean that instructors need to consider implementing each presence within each module of their course or continuously through all learning tasks for students to maintain a high perception of the CoI framework. Therefore, Kinesiology instructors could modify their courses by selecting recommendations or

suggestions from each of the three presences that may work best for their course and implement those recommendations into each learning task or each module of the class.

Furthermore, social presence showed a strong correlation with students' sense of community and satisfaction with the course. This follows with other research showing that creating social presence leads to learners gaining a sense of belonging to the community (Garrison, Anderson, & Archer, 2000; Garrison & Vaughan, 2008) and satisfaction with the course (Arbaugh & Benbunan-Fich, 2006; Akyol & Garrison, 2008; Benbunan-Fich, Hiltz, & Turnoff, 2002; Richardson & Swan, 2003). This implies that students being able to project themselves socially and emotionally as a "real" person in the virtual environment is valuable to their positive experiences with belonging and satisfaction with the course. Online instructors could consider using collaborate tasks and assignments utilizing technology that facilitates communal discourse in a virtual environment. Discussion boards, chat applications, and G suite tools could be utilized in assignments to simulate synchronous interactions between peers, as well as with the instructors, in an attempt to project themselves into the virtual environment.

### **Conclusions**

The findings of this study seem to imply that with continuous implementation of the CoI framework, students have a high perception of the three presences, with social presence having the most contribution to students' sense of community and satisfaction with the course. This theoretically implies that online kinesiology instructors should design their courses with consideration of each presence within each module or course section, with special attention given to enhancing social presence. However, a limitation



of this study is in establishing students' perception of the CoI framework quantitatively. Though research has used the mean score as a way of determining high, moderate, or low perception of the framework, this does not statistically prove differences in students' perceptions. Research should investigate ways to fidelity check for implementation and perception of the framework through quantitative means. Development of a survey would be useful when attempting to investigate the student perception and instructor implementation of the framework.

Also, qualitative data could also yield more depth of understanding in how the CoI framework influenced the students' perceptions of the course. Understanding the specific pedagogies of the three presences that resonated positively with students could help facilitate instructional design of online kinesiology courses. Furthermore, focus groups could yield understanding for why perceived learning was not associated with the framework.

## CHAPTER II

### DISSEMINATION

#### **Chapter Overview**

This project will be disseminated in the form of a report. My findings will be presented at my home university's College of Health and Social Services Faculty Development and Scholarship department, faculty of the Kinesiology Department, and Quality Learning and Teaching (QLT) program. The purpose of the report is to share the results of this dissertation and to stimulate discussion on improving Kinesiology online courses.

#### **Recommendations for Designing Quality Online Kinesiology Courses**

The Kinesiology department at SF State is one of the fastest growing majors on campus, but resources like classrooms, faculty, and lab space are not growing at the same rate. One possible means of alleviating the strain on resources is offering online and hybrid courses. However, Kinesiology faculty are hesitant to convert or offer online courses. For example, the American Kinesiology Association (AKA) in 2013 administered a survey to 101 Kinesiology Department Chairs and reported that only 36% felt their faculty had a positive view of online courses with many citing pedagogy issues (e.g. quality of content and instruction, impersonal interactions, courses not being conducive to online format) as reasons. The faculty here at SF State has similar concerns.

Here at SF State, we are adamant about offering quality education. “Scholarly teaching is at the heart and foundation of the College of Health & Social Sciences’ mission. To this end, the College fosters excellence in teaching and develops faculty members whose passion for teaching is the spark for the personal, professional and intellectual growth of our students and ourselves” (College of Health & Social Sciences, n.d.). One of many ways that SF State supports faculty in teaching best practices is through the QLT initiative that offers opportunities and resources for faculty to develop quality blended and online courses (Quality Learning & Teaching, n.d.). One educational model that QLT recommends to faculty for quality online course development is the Community of Inquiry (CoI) Framework developed by Garrison, Anderson, and Archer (2000).

### **Community of Inquiry Theoretical Framework**



Figure 2. The Community of Inquire Framework

The model assumes that effective online learning and knowledge construct requires the development of a community supporting meaningful inquiry (Arbaugh, Bangert, & Cleveland-Innes, 2010; Shea et al., 2010). The model views community as a something that emerges in support of online learning through the overlapping relationship between three elements: social presence, cognitive presence, and teaching presence.

Research on the CoI framework shows correlations between components of the model and learner satisfaction and perceived learning (Shea, Pickett, & Pelz, 2004; Swan, & Shin, 2005) and to online learner sense of community (Shea, Li, & Pickett, 2006). In a recent issue of *Quest*, Hersman and Schroeder (2017) present strategies for designing online Kinesiology courses based on the CoI model in an attempt to increase student engagement. They suggest implementing an intentional course design that is organized with step-by-step instructions, pictures, and tutorial videos to help learners navigate the course materials. They also suggest lectures and assignments that are intentionally designed and scaffold to progress the student engage in cognitive presence. Also, instructors should interact regularly with the learners, facilitate course work, prompt feedback, add comments to discussion boards, and implement synchronous class sessions. Students should also be encouraged to have live chats and video conferences for group work, and be assigned thoughtful peer review.

### **My Research into the CoI Framework on a Kinesiology Course**

The purpose of my research was to examine the impact of the CoI framework on students' perspectives of the course. First I converted our Kin 255 Health-Related and Fitness course to online format using the CoI framework's recommendations and

suggestions from Hersman and Schroeder (2017). The table 3 presents a summary of what I implemented. For the complete list of what was implemented, refer to Appendix B.

Table 3  
Summary of CoI Framework Implementation

Course designed into four modules called concepts		
<b>Cognitive Presence</b>	<b>Teaching Presence</b>	<b>Social Presence</b>
Four phases: <ul style="list-style-type: none"> <li>• Triggering Event</li> <li>• Exploration Phase</li> <li>• Integration Phase</li> <li>• Resolution Phase</li> </ul>	Design/Organization Facilitation Direct Instruction	Affective Expression Open Communication Group Cohesion
At least one assignment per concept was designed moving through the four phases of cognitive presence.	Each concept contained weekly video lectures from the instructor, beginning of week emails from the instructor reminding the students of the week's assignments/goals, and timely instructor feedback on assignments and questions.	Each concept contained one personal video upload assignment, at least one reflection/opinion paper assignment, and weekly discussion boards.

The kinesiology students enrolled in the converted Health Related Fitness and Wellness course in Fall 2018 were asked to participate in this study. The students were asked for their perceptions of the CoI framework's three presences, and for their perceptions on perceived learning, sense of community, and student satisfaction in the course. They were given likert scaled surveys at three times during the course, and a total of 47 students completed all three surveys.

Results showed (Table 4 and Figure 3) that the students' had a high perception of the framework's three presences (score of 3 or higher), and this perception did not change over time ( $p > .05$ ).

Table 4

Mean Scores, F Scores, and p Values for CoI Framework at Times 1, 2, and 3.

	Mean Time 1	Mean Time 2	Mean Time 3	F <sup>a</sup>	p value
Teaching Presence	4.65	4.40	4.42	2.85	.071
Cognitive Presence	4.39	4.24	4.14	1.78	.18
Social Presence	4.28	4.20	3.94	3.47	.069

a. Greenhouse-Geisser correction

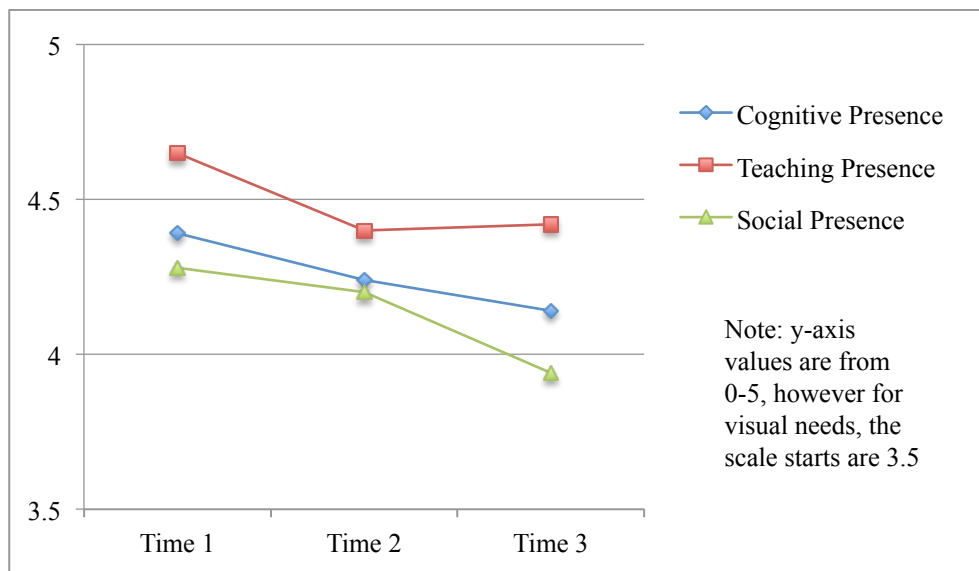


Figure 3. Mean Scores of the CoI Framework Variables Over Time

Results also showed (Table 5) that social presence (.62) was strongly associated with sense of community (.54) and student satisfaction (.47), ( $p < .001$ ), but not perceived learning (.11).

Table 5

Canonical Correlations, Standardized Loadings, Percents of Variance, and Redundancy between CoI Framework and Student Satisfaction, Sense of Community, and Perceived Learning

		Canonical Dimensions	
		1	
CoI Framework			
Teaching Presence			.29
Cognitive Presence			.18
Social Presence			.62
Percent of Variance	64.78		
Redundancy	81.31		
Outcome Variables			
Student Satisfaction			.47
Sense of Community			.54
Perceived Learning			.11
Percent of Variance	67.71		
Redundancy	53.94		
Canonical Correlation	.89		

### Implications

The findings seem to imply that with continuous implementation of the CoI framework throughout the course assignments and modules, students had a high perception of the three presences with no significant change over time. Therefore, it is recommended that instructors organize their online courses into modules or sections, allowing for organized implementation of the framework, producing continuous, high perception of the framework by the students.

Furthermore, it is recommended that instructors sort through the various suggestions for implementing each element presented by Hersman and Schroeder (2018) and Ice and Burgess (2013) to find what might work for their class. From my study, I suggest considering the following:

### **Teaching Presence**

- Create a class calendar so the students could follow along weekly with what lecture topics were going to be covered and what assignments were to be completed by end of the week.
- Create tutorials showing students on how to navigate the course site, expectations for online learning, and how to be successful in the course.
- Post information on proper online etiquette and online discussion decorum.
- Present lectures as a series of videos showing the lecturer presenting the material, or talking through a PowerPoint presentation.
- Use Google Hangouts for students to have for quick access to the instructors and teaching assistants for immediate responses to questions or concerns.
- Create a question bank tool for students to post questions they have regarding the week's assignments, concepts, or tasks where students, teaching assistants, and instructors could post responses that were visible to all.
- Give feedback on all assignments and emails in a timely manner, with timely defined in the syllabus. I used one week for all assignments, and 12 hours for all emails.



### **Social Presence**

- Having the students introduce themselves to the class by posting a video answering a few assigned questions.
- Have students entered themselves into a class rolodex where they post a picture, contact information, and major emphasis.
- Give weekly discussion post assignments with required peer response to four classmates' posts.
- Give assignments that allow students to express their thoughts and opinions on the material covered without being critiqued if their views counter that of the instructor.
- Give personal video upload assignments as an alternative to written reports
- Use Google suite applications so asynchronous collaboration could be accomplished with instructor monitoring.

### **Cognitive Presence**

- Create at least one assignment per module that goes through the four phases.
- Use a triggering event at the end of a lecture to pique students' interests.
- Have the students explore this issue on their own by providing articles or free videos to watch.
- Have the students integrate their newfound knowledge by reflecting on how it could be incorporated into daily or professional practice.

- Have the student come to a resolution by having them apply their plan/reflection for a short period of time, then reflect on their experience.

In addition to students' reporting a high perception of the framework, social presence emerged as having the most contribution to students' sense of community and satisfaction with the course. This theoretically implies that there should be special attention given to enhancing social presence in the online environment. For this, I recommend not just using weekly discussion posts, but utilize technology that allows the students to project themselves as a "real" person into the online environment, creating a valuable positive experience with belonging and satisfaction with the course. Video upload assignments can be created using YouTube or iLearn Video where the students capture themselves stating their opinions, thoughts, or reflections instead of using written work. Google Suite applications can be used to allow for synchronous or asynchronous communication and collaborative assignments. I found great success with Google Hangouts for easy communication and video conferencing when required, and Google Docs and Presentation for small group assignments. Screen capture technology was also useful in allowing the students present their work to the rest of the class.

### **Conclusions**

Overall, the CoI framework seems to promote student's sense of community and satisfaction with the online course. Current technology also allows instructors to find effective means for establishing the student as a "real" person in the online environment, in an effort to enhance social presence. Further research should collect qualitative data to assess which aspects of each presence resonated the most with our Kinesiology students

to enhance our teaching practices for their needs. I am continuing my research on the Kin 255 online class by collecting both quantitative and qualitative data to improve upon the current recommendations for implementing the framework in Kinesiology courses. Recently, this course has been approved for CSU Course Match and QLT certification, making it the first Kinesiology online course to do so at SF State. This hopefully will encourage more Kinesiology instructors to use the CoI framework for their online courses as well as reducing fears of converting courses to online or hybrid formats as our department continues to grow beyond our resources.

CHAPTER III  
ACTION PLAN FOR PROFESSIONAL IMPACT

**Overview and Purpose**

The number of students studying on a campus has dropped by almost one million between 2012-2015, however the number of distance education students continues to increase. As distance education becomes more prevalent, educators need to establish best practices for their online courses. A sense of community has an established importance in online education best practices (Swan, 2003). Learners in an online community find a sense of community is critical to being successful in the virtual classroom. Research has identified factors for building a strong sense of community in an online environment (Rovai, 2002a) and the CoI framework has been shown to support aspects of an online community (Arbaugh, Bangert, & Cleveland-Innes, 2010; Shea et al., 2010) particularly in the applied sciences (Arbaugh et al., 2010). The model views community as something that emerges in support of online learning through the relationship between three interactions: social presence, cognitive presence, and teaching presence. Creating a sense of community can reduce the feelings of isolation and disconnect (Astani, Ready, & Duplaga, 2010; Phirangee, 2016; Rovai, 2002c) leading to dropout and poor performance in online classes (Boston et al., 2009). However, Kinesiology courses are lacking in empirical research in the area of building a class community. The purpose of this study is

to examine the effects of the Community of Inquiry framework on Kinesiology students' sense of community and student satisfaction. Furthermore, this study will investigate if the CoI framework affected student perception of connectedness and perceived learning.

### **Professional Practice**

My research can contribute in the near future by investigating if best practices in creating a sense of community in online education through the COI framework transfers to Kinesiology online courses. This will help with establishing best practices for online Kinesiology courses. I have chosen to focus on class community best practices due to concerns surrounding a sense of support needed for people to engage and continue to engage in better health practices. In addition, focusing on class community seems to reduce student drop out and increase student learning and satisfaction.

This research will assist my colleagues and fellow kinesiology professionals by demonstrating that Kinesiology courses can be converted to online or hybrid formats utilization best practices, specifically in the area of creating a better class community. Others within my professional area can refine their communication skills as well as utilize better forms of communication (email, video chats, social media) to replicate the strengths of traditional class communities and enhance those strengths in an online platform.

**Immediate.** Completing this dissertation and building a course fully online offers me opportunities to assist my department with building more courses online or in hybrid format. Many professors are opting to move their courses to non-traditional formats to assist in reducing classroom resources, increasing student enrollment, and reducing

teacher/student commute times. However, many professors are unaware of online best practices, resources, and tools available to facilitate a thriving online learning environment. I plan for my dissertation work to facilitate my department in assisting in these transitions.

**Future.** I plan on applying for full time employment working with schools and universities with a focus on building quality online programs. I hope that my work will allow me to work specifically with Kinesiology and PE programs on developing courses and programs utilizing best practices in online education.

### **Dissemination**

**Conferences.** I would like to present my findings by submitting an abstract to relevant conferences. The two most relevant are The Online Learning Consortium (OLC) and The Online Teaching Conference (OTC). The OLC holds annual, international conferences that focus on best practices, leading-edge instruction, practitioner-based and empirical research, and expert guidance. The OTC provides support to students, faculty, and administrators at California Community Colleges who are engaged or interested in online education. Other possible conferences would be Lilly and SHAPE. The Lilly Conference focuses on teaching for active and engaged learning. The conference actively seeks abstracts for creating communities of learners, course design, and online learning and teaching. Also, SHAPE holds annual conferences with a mission to advance professional practice and promote research related to health and physical education.

**Publishing.** I will seek publishing from relevant journals in online education and physical education. Online education journals include Internet and Higher Education,

International Review of Research in Open and Distance Learning, Journal of Interactive Online Learning, Journal of Online Learning and Teaching, American Journal of Distance Education, and OLC Online Learning Journal. Physical education journals include Journal of Physical Education, Recreation and Dance, American Journal of Health Education, and Strategies: A journal for Physical and Sport Educators.

**Other.** The Community of Inquiry website has other opportunities to communicate and dissemination research and ideas. One opportunity of is to participate in their blog. The multi-author blog allows members to post a summary of their research project for feedback and discussion from other members. Also, the administrators of the CoI website will post published works and dissertations summaries for anyone to view.

### **Continuing Research**

I would like to continue research in online education in the realm of physical education, health and wellness, and kinesiology. This will be dependent on where I find employment post dissertation and graduation. However, my current employer does allow me to continue collecting data on online courses in our department, and is encouraging me to assist fellow Kinesiology instructors in developing and converting online and hybrid courses.

## REFERENCES

- Allen, I. E., & Seaman, J. (2017). Digital learning compass: Distance education enrollment report 2017 [PDF]. Retrieved from <https://onlinelearningsurvey.com/reports/digitallearningcompassenrollment2017.pdf>.
- Akyol, Z., & Garrison, D. (2008). The development of a community of inquiry over time in an online course: Understanding the progression and integration of social, cognitive and teaching presence. *Journal of Asynchronous Learning Networks*, 12(3-4), 33-22.
- Arbaugh, J. B. (2000). Virtual classroom characteristics and student satisfaction with internet-based MBA courses. *Journal of Management Education*, 24(1), 32-54.
- Arbaugh, J. B, Bangert, A., & Cleveland-Innes, M. (2010). Subject matter effects and the Community of Inquiry (CoI) framework: An exploratory study. *The Internet and Higher Education*, 13(1-2), 37-44.
- Arbaugh, J. B., & Benbunan-Fich, R. (2006). Separating the effects of knowledge construction and group collaboration in learning outcomes of web-based courses. *Academy of Management Learning & Education*, 43(6), 778-793.
- Arbaugh, J. B, Cleveland-Innes, M., Diaz, S., Garrison, D., Ice, P., Richardson, J., & Swan, K. (2008). Developing a community of inquiry instrument: Testing a



measure of the Community of Inquiry framework using a multi-institutional sample. *Internet and Higher Education*, 11, 133-136.

Ashar, H., & Skenes, R. (1993). Can Tinto's student departure model be applied to nontraditional students?. *Adult Education Quarterly*, 43(2), 90-100.

Astani, M., Ready, K. J., & Duplaga, E. A. (2010). Online course experience matters: Investigating students' perceptions of online learning. *Issues in Information Systems*, 11(2), 14-21.

Benbunan-Fich, R., Hiltz, S. R., & Turnoff, M. (2002). A comparative content analysis of face-to-face vs. asynchronous group decision making. *Decision Support Systems*, 34, 457-469.

Boston, W., Ice, P., Diaz, S., Richardson, J., Gibson, A., & Swan, K. (2009). An exploration of the relationship between indicators of the community of inquiry framework and retention in online programs. *The Journal of Asynchronous Learning Networks*, 13(3), 67-82.

College of Health & Social Sciences. (n.d.) Retrieved from  
<https://chss.sfsu.edu/about#mission>

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed-methods approach*. Los Angeles, CA: Sage.

Garrison, D., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105.

- Garrison, D., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *American Journal of Distance Education, 15*(1), 7-23.
- Garrison, D., & Vaughan, N. (2008). *Blended learning in higher education: Framework, principles and guidelines*. San Francisco, CA: Jossey-Bass.
- Grandzol, C., & Grandzol, J. (2010). Interaction in online courses: More is not always better. *Online Journal of Distance Learning Administration, 13*(2). Retrieved from [http://www.westga.edu/~distance/ojdla/summer132/Grandzol\\_Grandzol132.html](http://www.westga.edu/~distance/ojdla/summer132/Grandzol_Grandzol132.html)
- Hersman, B., & Schroeder, N. (2017). Strategies for designing engaging online kinesiology courses based on the community of inquiry model. *Quest, 69*(4), 480-493.
- Ice, P., & Burgess, M. (2013). Through the looking glass: Emerging technologies and the community of inquiry framework. In Z. Akyol & D. R. Garrison (Eds.), *Educational communities of inquiry: Theoretical framework, research, and practice* (pp. 446-465). Hershey, PA: Information Science Reference.
- Jung, J., & Gilson, T. A. (2014). Online threaded discussion: Benefits, issues, and strategies. *Kinesiology Review, 3*(4), 241-246.
- Keiper, P., & Kreider, R. B. (2014). Developing and sustaining online and distance education programs in health and kinesiology. *Kinesiology Review, 3*(4), 217-220.

- Khalid, M. M., & Quick, D. (2016). Teaching presence influencing online students' course satisfaction at an institution of higher education. *International Education Studies, 9*(3), 62-70.
- Lee, S. J., Srinivasan, S., Trail, T., Lewis, D., & Lopez, S. (2011). Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. *The Internet and Higher Education, 14*(3), 158-163.
- Mahar, M. T., Hall, T. R., Delp, M. D., & Morrow, J. R. (2014). The state of online education in kinesiology in the United States. *Kinesiology Review, 3*(4), 177-185.
- Phirangee, K. (2016). Students' Perceptions of learner-learner interactions that weaken a sense of community in an online learning environment. *Online Learning, 20*(4), 13-33.
- Quality Learning & Teaching. (n.d.) Retrieved from <https://qlt.sfsu.edu/>
- Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks, 7*(1), 68-88.
- Rovai, A. (2002a). Building sense of community at a distance. *International Review of Research in Open and Distance Learning, 3*(1). *Education, 14*(2), 50-71.
- Rovai, A. P. (2002b). Development of an instrument to measure classroom community. *The Internet and Higher Education, 5*(3), 197-211. doi:10.1016/S1096-7516(02)00102-1.

- Rovai, A. (2002c). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *The Internet and Higher Education*, 5(4), 319-332.
- Shea, P., Hayes, S., Vickers, J., Gozza-Cohen, M., Uzuner, S., Mehta, R., ... Rangan, P. (2010). A re-examination of the community of inquiry framework: Social network and content analysis. *Internet and Higher Education*, 13, 10-21.
- Shea, P., Li, C., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *Internet and Higher Education*, 9(3), 175-190.
- Shea, P., Pickett, A., & Pelz, W. (2004). Enhancing student satisfaction through faculty development: The importance of teaching presence. In J. Bourne & L. C. Moore (eds.), *Elements of quality online education: Into the mainstream, Volume 5 in the Sloan C Series, Sloan Center for Online Education, Needham, MA* (pp. 39-59).
- Swan, K. (2003). Learning effectiveness: What the research tells us. In J. Bourne and J. C. Moore (Eds.) *Elements of Quality Online Education: Practice and direction*. (p. 13-45). Needham, MA.: Sloan-C.
- Swan, K., & Shin, L. (2005). On the nature of development of social presence in online course discussions. *Journal of Asynchronous Learning Networks*, 9, 115-136.
- Tallent-Runnels, M., Thomas, J., Lan, W., & Cooper, S., Ahern, T., Shaw, S., & Liu, X. (2006). Teaching courses online: A review of the research. *Review of Educational Research*, 76(1), 93-135.

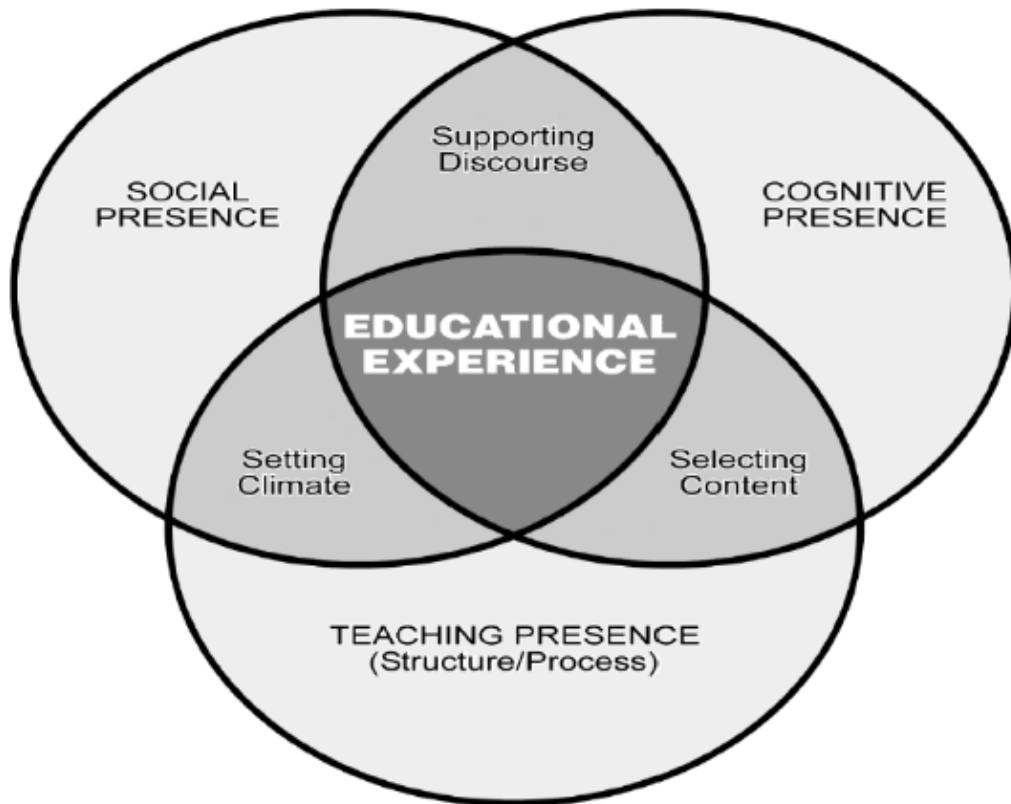
Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2<sup>nd</sup> ed.). Chicago: University of Chicago Press.

Vann, B., & Hinton, B. (1994). Workplace social networks and their relationship to student retention in on-site GED programs. *Human Resource Development Quarterly*, 5(2), 141-151.

Wehlage, G., Rutter, R., & Smith, G. (1989). *Reducing the risk: Schools as communities of support*. New York: The Falmer Press.

APPENDIX A

COMMUNITY OF INQUIRY FRAMEWORK



Garrison, Anderson, & Archer (2000)

APPENDIX B

COMMUNITY OF INQUIRY IMPLEMENTATION

Cognitive, teaching, and social presence implementation in the converted Health-Related and Wellness Kinesiology course

C1=Concept 1, C2=Concept 2, C3=Concept 3, C4=Concept 4

<b>Element</b>	<b>Categories</b>	<b>Implementation</b>
<p>Cognitive Presence:</p> <p>At least one assignment per concept was designed moving through the four phases of cognitive presence.</p>	<p>Four phases:</p> <ul style="list-style-type: none"> <li>• Triggering Event (T)</li> <li>• Exploration (E)</li> <li>• Integration (I)</li> <li>• Resolution (R)</li> </ul>	<p><u>C1 – Health Care Assignment</u></p> <p>(T) Escape Fire Video            (E) Read assigned articles and post opinions/reflections on the topic in a discussion post            (I) Self-reflection paper            (R) Quiz on the video and articles, and wrap-up video discussing how what the students have learned could be implemented in their life</p> <p><u>C2 – Sustainability Group Project</u></p> <p>(T) Choose a topic of interest from a list of current issues facing people today            (E) Explore the issue on their own, finding specific assigned information            (I) In their assigned group, discuss what they found and decide on a cohesive topic            (R) Present their topic to the class addressing what their peers can do to help with the issue</p> <p><u>C2 – Personal Exercise Plan</u></p> <p>(T) Lecture on obesity and lack of physical activity</p>

		<p>statistics, ending with a question asking how much PA do they get in a week</p> <p>(E) Visit assigned government websites giving recommendations for PA, and then look through examples of exercise plans bases on government recommendations</p> <p>(I) Create/design a personal exercise plan that is functional in their life, then log their exercise bouts for two weeks</p> <p>(R) Reflection paper on difficulty with keeping with their exercise plan and how can modify their schedule to incorporate the PA recommendations into their life</p> <hr/> <p><u>C3 – Stress Management</u></p> <p>(T) Lecture on stress, asking the students what are sources of stress in their life</p> <p>(E) Listen to the following two lectures about stress</p> <p>(I) Discussion post identifying a stress, state what is their response to the stressor, and identify possible ways of responding differently</p> <p>(R) Implement one stress management technique for one week and reflect on if/how it helped with the stressor</p> <hr/> <p><u>C4 – Semester Project: Wellness Plan</u></p> <p>(T) Lecture on Wellness</p>
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		<p>Continuum, finishing with the question on what is one of their personal wellness goals</p> <p>(E) Listen to lectures and videos addressing wellness</p> <p>(I) Develop their own wellness philosophy and wellness plan</p> <p>(R) Evaluate their wellness plan for S.M.A.R.T goals and write a reflection of how what will need to do currently and in the future to achieve their desired outcome of their wellness goal</p>
<p>Social Presence:</p> <p>Each concept contained one personal video upload assignment, at least one reflection/opinion paper assignment, and weekly discussion boards.</p>	Affective Expression	<ul style="list-style-type: none"> <li>• Introduction of themselves with a video posting (C1)</li> <li>• Upload a picture of themselves into a rolodex with contact information (C1)</li> <li>• Video uploads of assignments whenever appropriate (C2-C4)</li> </ul>
	Open Communication	<ul style="list-style-type: none"> <li>• Weekly discussion board assignments where students can express opinions on the week's topic(s) that is not graded on content (C1-C4)</li> <li>• Weekly peer responses to each others discussion posts (C1-C4)</li> </ul>
	Group Cohesion	<ul style="list-style-type: none"> <li>• Students are encouraged to express their opinions in free response reflections, discussion</li> </ul>

		<p>posts, &amp; open response quiz questions (C1-C4)</p> <ul style="list-style-type: none"> <li>• Audio &amp; text feedback from instructors on assignments that does not discourage their views or opinions whenever possible/appropriate (C1-C4)</li> <li>• Google doc and Google hangout assignments to create a virtual collaboration experience with peers and the instructor (C2 &amp; C3)</li> </ul>
<p>Teaching Presence:</p> <p>Each concept contained weekly video lectures from the instructor, beginning of week emails from the instructor reminding the students of the week's assignments/goals, and timely instructor feedback on assignments and questions.</p>	<p>Design/Organization</p>	<ul style="list-style-type: none"> <li>• Syllabus outlining the course concepts, topics, and objectives (C1)</li> <li>• Concepts objectives are stated in each concept video and at the beginning of each concept (C1-C4)</li> <li>• Video instructions on how to navigate the course cite (C1)</li> <li>• List of technology and apps that will be used in the course (C1)</li> <li>• Tutorials for all technology and apps (C1)</li> <li>• Instruction on appropriate peer interactions in a virtual environment (C1)</li> <li>• Online learning preparedness assessment to determine their readiness for the online</li> </ul>

		class (C1) <ul style="list-style-type: none"> <li>• Students create a personal, weekly schedule incorporating their school, work, and personal life (C1)</li> </ul>
	Facilitation	<ul style="list-style-type: none"> <li>• ‘Tips and Tools’ postings for common issues in the weeks material/assignments when necessary (C1-C4)</li> <li>• Course is presented by concepts with pre-determined weeks allotted to each concept</li> <li>• Course calendar organized by concept and week</li> <li>• Assignments are due on the same days each week</li> <li>• Recommendations for starting larger assignments in the calendar when appropriate</li> <li>• Lectures have progress bars and table of contents</li> <li>• Motivational phrases stated at the beginning of each week on the course site</li> <li>• ‘If interested and want to learn more’ materials posted when possible (C1-C4)</li> <li>• Rubrics for graded assignments and discussion posts</li> </ul>
	Direct Instruction	<ul style="list-style-type: none"> <li>• Weekly lectures from the professor presenting</li> </ul>

		<p>the topic(s) and demonstrating content when necessary (C1-C4)</p> <ul style="list-style-type: none"> <li>• Course material is updated each semester for current and relevant information</li> <li>• Students are able to Google chat the instructor for more immediate response</li> <li>• Timely feedback on graded assignments (teaching assistants help with this)</li> <li>• Timely responses to emails and Goggle chats</li> <li>• Monitoring of Google doc and Google chat assignments</li> </ul>
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## APPENDIX C

### ROVAI'S CLASSROOM COMMUNITY SCALE

Instructions: Please select an option from the drop down box that best fits your answer to each of the following questions: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

1. I feel that students in this course care about each other.
2. I feel that I am encouraged to ask questions.
3. I feel connected to others in this course.
4. I feel that it is hard to get help when I have a question.
5. I do not feel a spirit of community.
6. I feel that I receive timely feedback.
7. I feel that this course is like a family.
8. I feel uneasy exposing gaps in my understanding.
9. I feel isolated in this course.
10. I feel reluctant to speak openly.
11. I trust others in this course.
12. I feel that this course results in only modest learning.
13. I feel that I can rely on others in this course.
14. I feel that other students do not help me learn.
15. I feel that members of this course depend on me.
16. I feel that I am given ample opportunities to learn.
17. I feel uncertain about others in this course.
18. I feel that my educational needs are not being met.
19. I feel confident that others will support me.
20. I feel that this course does not promote a desire to learn.

5 point Likert-type scale

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

## APPENDIX D

### THE COMMUNITY OF INQUIRY SURVEY

Instructions: Please select an option from the drop down box that best fits your answer to each of the following questions: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

#### *Teaching Presence*

##### *Design & Organization*

1. The instructor clearly communicated important course topics.
2. The instructor clearly communicated important course goals.
3. The instructor provided clear instructions on how to participate in course learning activities.
4. The instructor clearly communicated important due dates/time frames for learning activities.

##### *Facilitation*

5. The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
6. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
7. The instructor helped to keep course participants engaged and participating in productive dialogue.
8. The instructor helped keep the course participants on task in a way that helped me to learn.
9. The instructor encouraged course participants to explore new concepts in this course.
10. Instructor actions reinforced the development of a sense of community among course participants.

##### *Direct Instruction*

11. The instructor helped to focus discussion on relevant issues in a way that helped me to learn.
12. The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.
13. The instructor provided feedback in a timely fashion.

#### *Social Presence*

##### *Affective expression*

14. Getting to know other course participants gave me a sense of belonging in the course.

15. I was able to form distinct impressions of some course participants.
16. Online or web-based communication is an excellent medium for social interaction.

#### *Open communication*

17. I felt comfortable conversing through the online medium.
18. I felt comfortable participating in the course discussions.
19. I felt comfortable interacting with other course participants.

#### *Group cohesion*

20. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.
21. I felt that my point of view was acknowledged by other course participants.
22. Online discussions help me to develop a sense of collaboration.

### ***Cognitive Presence***

#### *Triggering event*

23. Problems posed increased my interest in course issues.
24. Course activities piqued my curiosity.
25. I felt motivated to explore content related questions.

#### *Exploration*

26. I utilized a variety of information sources to explore problems posed in this course.
27. Brainstorming and finding relevant information helped me resolve content related questions.
28. Online discussions were valuable in helping me appreciate different perspectives.

#### *Integration*

29. Combining new information helped me answer questions raised in course activities.
30. Learning activities helped me construct explanations/solutions.
31. Reflection on course content and discussions helped me understand fundamental concepts in this class.

#### *Resolution*

32. I can describe ways to test and apply the knowledge created in this course.
33. I have developed solutions to course problems that can be applied in practice.
34. I can apply the knowledge created in this course to my work or other non-class related activities.

#### 5 point Likert-type scale

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

## APPENDIX E

### STUDENT SATISFACTION SURVEY

Instructions: Please select an option from the drop down box that best fits your answer to each of the following questions: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

1. I am satisfied with my decision to take this course online.
2. If I had an opportunity to take another course online, I would gladly do so.
3. My choice to take this course online was a wise one.
4. I was very satisfied with this course.
5. I feel that this course served my needs well.
6. Conducting the course online improved the quality of the course compared to other Kinesiology courses.
7. I will take as many courses online as I can.
8. The quality of the course compared to my other Kinesiology courses.
9. I feel the quality of the course I took was largely unaffected by conducting it online.

5 point Likert-type scale

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree



APPENDIX F

MEANS, STANDARD DEVIATIONS, AND INTERNAL RELIABILITY OF MEASURES

Variables	M	SD	$\alpha$
CoI Framework			
Cognitive Presence Time 1	52.63	6.26	.92
Cognitive Presence Time 2	50.93	9.41	.97
Cognitive Presence Time 3	49.66	9.54	.97
Teaching Presence Time 1	60.41	5.19	.91
Teaching Presence Time 2	57.09	8.94	.95
Teaching Presence Time 3	57.45	8.41	.95
Social Presence Time 1	38.52	5.98	.90
Social Presence Time 2	36.18	7.21	.92
Social Presence Time 3	35.43	7.99	.94
Dependent Variables			
Sense of Community	31.98	8.05	.86
Perceived Learning	36.36	6.89	.81
Student Satisfaction	34.62	8.95	.93

APPENDIX G  
INFORMED CONSENT

You are being asked to take part in a research study. Your participation in the study is voluntary. You may choose not to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. There may not be any direct benefit to you for being in the research study. There also may be risks to being in research studies. If you choose not to be in the study or leave the study before it is done, it will not affect your relationship with the researcher, the University of North Carolina at Greensboro, or San Francisco State University.

Details about this study are discussed in this consent form. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. If you have any questions about this study at any time, you should ask the researchers named in this consent form. Their contact information is below.

**A. PURPOSE AND BACKGROUND**

The purpose of this research is to learn more about the effects of the Community of Inquiry (CoI) framework on online Kinesiology courses. The CoI is an educational framework that has worked well for other disciplines' online courses, and examining this framework on Kinesiology courses will help with developing quality online learning experiences for Kinesiology students.

The researcher, Cassandra Stewart, is a lecturer at San Francisco State University in the Kinesiology department, and a graduate student at the University of North Carolina at Greensboro. You are being asked to participate in this study because you are enrolled in an online course in the Kinesiology department and are 18 years or older.

**B. PROCEDURES**

If you agree to participate in this research, the following will occur:

- You will take an online survey, three times during the semester in the form of a homework assignment. The survey will take approximately 30 minutes per time.

- You will be asked to participate in a focus group session lasting approximately 60 minutes. This session will take place in person, in a private room on campus.
  - Total time commitment will be approximately 3 hours.
- There is no additional work required to participate in this study.

### **C. RISKS**

There is a risk of loss of privacy. However, no names or identities will be used in any published reports of the research. Also, because the focus groups include discussion of personal opinions, extra measures will be taken to protect your privacy. The researcher will begin the focus group by asking you and the other participants to agree to the importance of keeping information discussed in the focus group confidential. The researcher will then ask each participant to verbally agree to keep everything discussed in the room confidential, and will remind them at the end of the research period not to discuss the material outside. Because your voice will be potentially identifiable by anyone who hears the recording, your confidentiality for things you say on the recording cannot be guaranteed although the researcher will try to limit access to the recording as described. Only the researcher will have access to the data collected. Any recordings of the focus group will be destroyed after one year or at the end of the study.

There are also the possible perceptions of power imbalance as you are a student and the researcher is co-instructing your course. You can decide to not participate at any time and your decision will not affect your enrollment, homework amount, or grades in the class. Though data will be collected throughout the semester, analysis will not occur until after grades have been assigned at the end of the semester. The PI will also not know who agreed to participate in the study until after final grades have been submitted. The focus group session will be held after final grades have been submitted to protect the confidentiality of the students' participation.

### **D. CONFIDENTIALITY**

All information obtained in this study is strictly confidential unless disclosure is required by law. The research data will be kept in a secure cloud storage system and only the researcher will have access to the data. All research data will be stored in a device with full disk encryption and password-protection. The audio recordings from the focus groups will be transcribed and stored as stated above. These data will be stored for a minimum of three years. The collected data may be used in the future only for research purposes consistent with the original purpose of the research stated in this consent. The original audio recordings will be destroyed at the end of the study.

Absolute confidentiality of data provided through the Internet cannot be guaranteed due to the limited protections of Internet access. Please be sure to close your browser when finished so no one will be able to see what you have been doing.

Qualtrics security statement: Qualtrics' most important concern is the protection and reliability of Customer data. Our servers are protected by high-end firewall systems, and scans are performed regularly to ensure that any vulnerabilities are quickly found and patched. Complete penetration tests are performed yearly. All services have quick failover points and redundant hardware, with complete backups performed nightly. Our confidential system component design uses multiple checks to certify that packets from one subsystem can only be received by a designated subsystem. Access to systems is severely restricted to specific individuals, whose access is monitored and audited for compliance. Customer data are processed (stored, collected, retrieved) in a specific location known to the Customer within a specific region such as North America, Europe, and Australia. Qualtrics uses Transport Layer Security (TLS) encryption (also known as HTTPS) for all transmitted data. Surveys may be protected with passwords and HTTP referrer checking. Our services are hosted by trusted data centers that are independently audited using the industry standard SSAE-16 method.

**E. DIRECT BENEFITS**

There are no direct benefits to participants. However, there is potential benefit to society by possibly contributing to the better understanding of best practices for online education in Kinesiology courses.

**F. COSTS**

The only cost to participants will be transportation to the research site if selected to participate in the focus group session.

**G. COMPENSATION**

If selected to participate in a focus group session, you will be entered into a drawing for a \$20 gift card. The gift card will be handed out after each focus group session, and this will not affect the confidentiality of your data as the participants and the researcher will be present during the session and administering of the gift card.

**H. ALTERNATIVES**

The alternative is not to participate in the research. You have the right to refuse to participate or to withdraw at any time, without penalty. If you do withdraw, it will not affect you in any way. If you choose to withdraw, you may request that any of your data that has been collected will be destroyed unless it is in a de-

identifiable state. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped. If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

#### **I. QUESTIONS**

You have spoken with Cassandra Stewart about this study and have had your questions answered. If you have any further questions about the study, you may contact the researcher by email at [cassline@sfsu.edu](mailto:cassline@sfsu.edu). You may also contact the PI's faculty advisor, Dr. Pam Brown, at [plkocher@uncg.edu](mailto:plkocher@uncg.edu). If you any concerns about your rights, how you are being treated, concerns, or complaints about this project or benefits or risks associated with being in this study please contact the Office of Research Integrity at UNCG toll-free at (855)-25-2351.

Questions about your rights as a study participant, or comments or complaints about the study, may also be addressed to the Human and Animal Protections at 415: 338-1093 or [protocol@sfsu.edu](mailto:protocol@sfsu.edu).

#### **J. CONSENT**

**PARTICIPATION IN THIS RESEARCH IS VOLUNTARY.** You are free to decline to participate in this research, or to withdraw your participation at any point, without penalty. Your decision whether or not to participate in this research will have no influence on your present or future status at San Francisco State University.

By signing this consent form, you are agreeing that you read, or it has been read to you, and you fully understand the contents of this document and are openly willing consent to take part in this study. All of your questions concerning this study have been answered. By signing this form, you are agreeing that you are 18 years of age or older and are agreeing to participate, in this study described to you.

I consent

I do not consent

## APPENDIX H

### NUMBER, MEAN, STANDARD DEVIATION, AND SKEWNESS OF INDEPENDENT VARIABLES

Variable	N	M	SD	Min	Max	Skewness
Cognitive Presence Time 1	46	4.39	.52	3.17	5.00	-.65
Teaching Presence Time 1	46	4.65	.40	3.68	5.00	-.99
Social Presence Time 1	46	4.28	.66	2.33	5.00	-1.02
Cognitive Presence Time 2	45	4.24	.78	2.42	5.00	-.86
Teaching Presence Time 2	45	4.40	.69	2.85	5.00	-.99
Social Presence Time 2	46	4.20	.70	2.12	5.00	-1.02
Cognitive Presence Time 3	47	4.14	.79	1.42	5.00	-1.08
Teaching Presence Time 3	47	4.42	.65	2.85	5.00	-.89
Social Presence Time 3	47	3.94	.89	1.78	5.00	-.55