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# RN-BS Online Students' Perceptions of Presence Using a Virtual Meeting Room

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**Doctor of Nursing Practice Capstone Project**

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RN-BS Online Students' Perceptions of Presence Using a Virtual Meeting Room

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Submitted to Pamela Stoeckel, PhD, RN, CNE in partial fulfillment

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## Abstract

Online nursing education has gained in popularity with over 400 RN-BSN programs in the U.S. Online learning allows students to remain in their communities and to continue working while advancing their education. The drawback for many students is the isolating nature of a totally online education. Students can feel disconnected and isolated in the asynchronous format. Students in an online RN-BS program at a large Northwestern University shared their sense of isolation and need for communication with the instructor in the totally online format. It was suggested that the use of a Virtual Meeting Room (VMR) would address this issue. In this qualitative phenomenological study VMR sessions were introduced in an introductory course of the online RN-BS program using a video conferencing system. Synchronous discussions along with video of the instructor were provided. Students attended a minimum of one VMR session during the first two weeks of the course that provided explanation of course content, course navigation, and clarified course concepts. All students were connected to audio with some connected by webcam. Fifteen students responded to a written survey consisting of three open-ended qualitative questions to assess students' perceptions of the VMR. Responses were coded for themes using constant comparative analysis. Four major themes emerged: *Helpful Experiences, Participation Problems, Personalization of the Class, and Comparison of Classes With and Without VMR*. Overall there were positive views of the experience using the VMR with some students indicating that the sessions would be most valuable for difficult classes. Findings of this study support that the VMR has the potential to increase students' sense of connection online, and can enhance social presence and immediacy in online courses.

Keywords: online education, synchronous session, nursing education, social presence, connection; community of inquiry.

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## **Executive Summary**

### **Online RN-BS Students' Perceptions of Presence Using a Virtual Meeting Room**

#### **Problem**

Online nursing education has gained in popularity with over 400 RN-BS completion programs in the U.S. Online learning allows students to remain in their communities and to continue working while advancing their education. The drawback for many students is the isolating nature of a totally online education. Students can feel disconnected and isolated in the asynchronous format. Students in an online RN-BS program at a large Northwestern University shared their sense of isolation and need for communication with the instructor in the totally online format.

#### **Purpose**

The purpose of this capstone project was to address the issue of social isolation in online classes. The research question was: In RN-BS online students how does implementation of a virtual meeting room influence students' perceptions of faculty presence?

#### **Goals**

Goals for this project included using a Virtual Meeting Room (VMR) in an introductory course of the RN-BS online program using a video conferencing system. The instructor provided explanation of course content, course navigation, and clarified course concepts. A webcam was used enabling students to see and hear the instructor.

#### **Objectives**

The objective of this capstone project was to survey students about their experience in the Virtual Meeting Room (VMR) completed in the first two weeks of the course.

#### **Plan**

This qualitative phenomenological study used a sample of fifteen students who attended a minimum of one VMR session during the first two weeks of an introductory RN-BS course. Students completed a written survey consisting of three open-ended questions to assess perceptions of the VMR experience. The open-ended responses were coded for themes using constant comparative analysis.

#### **Outcomes and Results**

Four major themes emerged: *Helpful Experiences*, *Participation Problems*, *Personalization of the Class*, and *Comparison of Classes With and Without VMR*. Students found that the VMR helped them connect to instructors and peers. They shared that they obtained useful information from the live sessions and valued the immediacy of the feedback. Students identified participation problems related to technology issues in accessing the VMR and in having time to attend the sessions. It was noted that seeing and speaking with the instructor personalized the class, but some felt that the webcam violated privacy. Overall there were positive views of the experience using the VMR with some students indicating that the sessions would be most valuable for difficult classes. Findings of this study support that the VMR has the potential to increase students' sense of connection online, and can enhance social presence and immediacy in online courses.

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## RN-BS Online Students' Perceptions of Presence Using a Virtual Meeting Room

The Internet and computer technology has made it possible for students to access education from almost anywhere. Increased access and other benefits have resulted in the phenomenal growth of online nursing education: There are currently over 400 baccalaureate completion programs in the U. S. that are offered at least partially online (AACN, 2012). Distance education provides opportunities for higher education previously unavailable to students in rural areas and in cities with no universities (Shovein, Huston, Fox, & Damazo, 2005). The flexibility of asynchronous online learning makes it especially desirable for working adults. Online learning, however, is not for everyone. Retention rates for students in online classes are significantly lower than those for students in the traditional classroom (Boston et al., 2009; Johnston, Killion, & Oomen, 2005). While online learning does not suit everyone, it is important that educators seek methods to improve online learning methods. This can be done by exploring the literature for innovative practices, research, education theory, and conducting new research. The Doctor of Nursing Practice (DNP) student teaching in the online environment is suited to conduct this type of project (Terry, 2012). The purpose of this paper is to describe the project and findings for the DNP capstone research project "RN-BS online students' perceptions of presence using a virtual meeting room."

### **Problem Recognition and Definition**

Students in the RN-BS online program at a northwestern university have reported in course evaluations and through personal communications that they felt a sense of isolation and as if they were learning on their own in online courses. Others expressed feeling disconnected: *"It's hard to feel really engaged since it's all online."* These perceptions of students feeling

disconnected in online courses are not unusual (Gallagher-Lepak, Reilly, & Killion, 2009; Garrison, 2011).

The challenge to educators is how to balance the convenience of learning online with students' needs for social contact and real-time communication. A review of comments from RN-BS course evaluations revealed that overall, students were satisfied with online courses. In response to the question "What recommendations would you suggest to improve this course?" A major theme emerged relating to the mode of delivery. Students expressed the desire for webinars or meetings with instructors in a synchronous fashion. As one student said, "*Meeting with our professors could prove beneficial throughout the term instead of just when we have issues or problems.*" Some students mentioned wanting some face-to-face time: "*Might be nice to have the instructor meet with students via face to face or phone to periodically...*" and, "*I miss meeting face to face.*" Some students specifically mention the desire to meet early on in the course for clarity and to "*get to know the team*" as one student described the desire to feel more connected.

### **Statement of Purpose**

The purpose of this capstone project was to address the issue of social isolation in online classes. The study was conducted to obtain RN-BS online student's perceptions of using a virtual meeting room (VMR) and its influence on social presence. The study was conducted at a large university in the northwestern United States using a qualitative phenomenological design. This study was conducted to meet requirements for completion of the Doctor of Nursing Practice degree at Regis University, Denver, Colorado.

### **Problem Statement**

The students beginning the RN-BS program need a way of transitioning to the online program. Students have difficulty navigating the online format, difficulty with assignments and lack knowledge and comfort with online process in a large university setting. Faculty need to address these feelings of isolation and anxiety early in the RN-BS program. The first course in the RN-BS program is designed to transition the students to online learning. A web conferencing system is now integrated into the Sakai, the learning management system (LMS) used at this northwestern university. This virtual meeting room (VMR) allows live conversations and web cameras, meshing online learning with a face-to-face component. The VMR addresses the specific problem of the need for a social presence strategy, promoting connectedness while providing real-time guidance on assignments, course orientation and clarification of course concepts (Tolu, 2010; Wei & Chen, 2012).

## **PICO**

This project used a Population-Intervention-Control Group-Outcome (**PICO**) format for development of the research question to be investigated:

**Population:** RN-BS online students at a large public northwestern university.

**Intervention:** Implementation of synchronous virtual meeting room sessions using an audio-visual web conferencing system

**Comparative:** None

**Outcome:** Affect student perceptions of social presence

The DNP practice question was: In RN-BS online students, how does implementation of a virtual meeting room influence student's perceptions of social presence?

## **Project Significance, Scope, and Rationale**

Without specific measures to promote a sense of community online, students and instructors may feel disconnected and isolated (Gallagher-Lepak et al., 2009; Garrison, 2011). Billings (2000) describes connectedness as the development of an online learning community with faculty and students. Sitzman and Leners (2006) portray it as “reciprocity of caring” (p. 258). Creating an environment that supports a sense of community online is important for students’ satisfaction with online learning (Gallagher-Lepak et al., 2009; Mayne & Wu, 2011).

Garrison and colleagues developed the Community of Inquiry (CoI) theoretical framework to describe the necessary components of a worthwhile educational experience online (Garrison, Anderson, & Archer, 2000). The CoI framework depicts the inter-relationships of 3 types of presence, cognitive presence, social presence and teaching presence, which collectively contribute to a community of inquiry (Garrison et al., 2000). Social presence is described as the ability to see others online as real and human, with indicators being expression, risk-free climate, collaboration, self-projection, and showing emotions (Akyol & Garrison, 2008). Social presence requires direction by way of a strong teaching presence to support cognitive presence (Garrison, 2007). Teaching presence is defined as the “design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes” (Anderson, Rourke, Garrison, & Archer, 2001, p. 5). The role of the teacher is seen as a guide or facilitator of learning and sharer of personal meaning while also directing instruction that leads to cognitive presence (Garrison, 2007). Cognitive presence is defined as the extent that learners are able to construct meaning from the communications (Garrison et al., 2000). Availability of the instructor at the beginning of the course/program is essential for setting



the climate: the interaction between establishing social presence and providing the guidance through teaching presence that allows cognitive presence to emerge (Garrison, 2011).

Various strategies have been suggested that promote social presence online including the use of synchronous communication (Joyce & Brown, 2009; Tolu, 2010) and the use of audio and visual media (Janzen, Perry, & Edwards, 2011; Griffiths & Graham, 2009). Synchronous communication using a web-cam provides instructor immediacy with facial and vocal expression (social presence) and opportunity for providing direction (teaching presence) (Tolu, 2010).

Face-to-face and online instructors have explored various means of providing virtual office hours where instructors may meet with students virtually using instant chat platforms, social networks, and web conferencing systems to review assignments and discuss course concepts (Baker & Edwards, 2011; Meyers, Bishop, Rajaman, & Kelly, 2004). Edwards and Helvie-Mason (2010) found that virtual office hours provided an increased opportunity for students to meet with their instructor and students rated it favorably. Virtual office hours provide immediacy, instructor guidance, and social contact to decrease feelings of student isolation (Edwards & Helvie-Mason, 2010; Li & Pitts, 2009).

In the RN-BS online program at a northwestern university, the instructors were not meeting regularly in real-time with students. Online students were provided with instructor contact information and were encouraged to phone or e-mail instructors as needed. Despite this availability, students were reluctant to reach out to instructors, even when they recognize the advantages of doing so (Li & Pitts, 2009). Initiating VMR sessions provided an opportunity for student-instructor interaction with instructor immediacy and guidance. By using a synchronous web-conferencing system with a video component, students were able to see and hear the

instructor in real time. This approach provided instructor immediacy and an opportunity for social presence to develop (Griffiths & Graham, 2009) while providing the direction needed for teaching presence and fostering a sense of community (Akyol & Garrison, 2008). This project was designed as a quality improvement project and was meant to address the specific issue of enhancing social presence in the RN-BS students at this northwestern university. The VMR sessions were implemented in one of the first courses in the RN-BS program, where it is crucial to help students transition to online learning and establish a sense of connection to the program.

### **Theoretical Foundation**

The *Community of Inquiry* (CoI) framework (Garrison et al., 2000) is a model for understanding the interactions in the online environment and is an appropriate theoretical framework for this DNP capstone project (figure 1). The model consists of three main elements required for a community of inquiry to develop: Social presence, cognitive presence, and teaching presence (Garrison et al., 2000). Social presence is the least understood of the three types of presence in the model (Akyol & Garrison, 2008), yet this is the area, along with teaching presence, that pertains most to this DNP capstone project. Indicators of social presence were found to have the most profound effect on student re-enrollment in online courses (Boston, et al., 2009). Indicators of social presence are categorized as interpersonal communication, open communication, and cohesive communication (Garrison, 2011). Tone of voice, facial expression, use of emoticons and exclamation points support developing connections and fostering social presence (Garrison, 2011). Teaching presence indicators include defining and initiating discussions, clarifying concepts, and identifying shared personal meaning (Garrison et al., 2000).

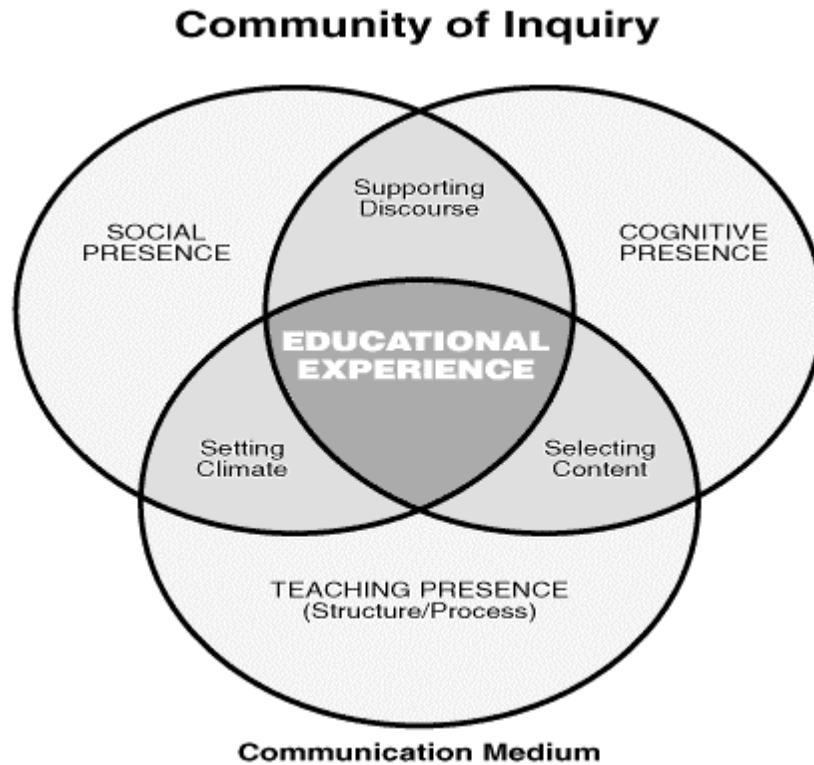


Figure 1. Community of Inquiry Model (Garrison, Anderson, & Archer, 2000, p. 88).

Caring is a recurrent theme in nursing theory, and plays a role in creating a sense of community (Diekelmann & Mendias, 2005; Tolu, 2010). Along with the notion of presence and expression of emotion online is the underlying assumption of caring by the teacher (Diekelmann & Mendias, 2005; Sitzman & Leners, 2006). Diekelmann and Mendias (2005) have identified supportive presence as a way for teachers to connect with students online. Supportive presence can be demonstrated through prompt feedback and prompt response to messages (Diekelmann & Mendias, 2005). Caring can also be conveyed through guiding the students (Sitzman & Leners, 2006).

Authentic presence, connectedness, and caring-between (reciprocal caring) are key themes in the *Theory of Nursing as Caring* (Boykin & Schoenhofer, 2013). These are essential

theoretical underpinnings for developing a sense of community in an educational environment and for guiding caring communication processes. Behaviors that support a sense of caring by the instructor are the same behaviors that also support a sense of presence (Garrison, 2011; Sitzman & Leners, 2006; Tolu, 2010). Providing a welcoming, supportive environment, using students' names, and using a conversational tone are examples of ways to exhibit caring presence (Garrison, 2011). The role of the teacher is seen as a guide or facilitator of learning with presence in a supportive manner and sharer of personal meaning (Garrison, et al., 2000).

### **Literature Selection and Scope of Evidence**

A search for best practices in online education yields numerous studies, including some specific to nursing education. For this systematic review of the literature CINAHL, MEDLINE via OVID and ERIC databases were searched using the keywords: *attrition, satisfaction, isolation, and best practice* in various combinations with *nursing education* and then again with *online education*. When the themes of *community online* and *presence* were noted, another search was conducted including those additional keywords. CINAHL and MEDLINE yielded few articles pertaining to higher education. An additional search was conducted using the ERIC database and Google Scholar using a combination of the keywords: *online education, social presence, and strategies*. Articles were excluded that were non-English and the search was limited to peer-reviewed journals. These searches in combination yielded 84 articles that pertained to online education at the university level. Articles over ten years old were eliminated due to the changing nature of online technology with the exception of two sentinel articles regarding frameworks for online learning that are frequently cited in current research. A final review yielded 48 peer reviewed articles that addressed the research question for this capstone

project. The articles reviewed included a variety of studies with 17 qualitative, 11 quantitative and 10 mixed methods studies. The levels of evidence based on a seven-tier leveling model (Houser & Oman, 2011) range from level III to VII with majority being level VI as most of the studies were non-experimental design.

The objective of the literature search was to discover themes surrounding best practice strategies that promoted student satisfaction with online learning. Student satisfaction is important to consider as a key outcome since it is well connected to learning outcomes and student overall success (Akyol & Garrison, 2008; Johnston et al., 2005). Two major concepts that emerged related to this research project were *connectedness* and *presence*. These concepts are explored as well as the theoretical concepts of the Community of Inquiry (CoI) and *caring* as it relates to online learning.

## **Review of Evidence**

### **Background of the Problem**

The Institute of Medicine (IOM, 2011) has outlined the importance of the BSN degree in providing a pool of nurses for graduate programs, to produce more nursing faculty, and for furthering the science of nursing. The IOM is calling for 80% of nurses to be baccalaureate prepared by 2020 (IOM, 2011). Currently, about 55 percent of all nurses have a BSN or higher degree (Health Resources and Services Administration, 2013). Online education is pivotal in helping nurses obtain their baccalaureate degree with almost 60 percent of baccalaureate completion programs offered online (AACN, 2014).

Students' sense of connection, presence and caring are predictors of both student persistence and student satisfaction with online education (Boston et al., 2009; Cobb, 2009;

Gallagher-Lepak et al., 2009; Lock, Schnell, & Pratt-Mullen, 2011; Mayne & Wu, 2011; Morris, 2011). Multiple sources have described the importance of a sense of community in online learning (Akyol & Garrison, 2008; Diekelmann & Mendias, 2005; Gallagher-Lepak et al., 2009; Rovai, 2007) and research supports the link between a sense of community and student satisfaction with online learning (Boston et al., 2009; Lock et al., 2011; Gallagher-Lepak et al., 2009).

### **Systematic Review of Literature**

**Connectedness.** There are many studies that identified the phenomenon of students feeling isolated and disconnected in online courses (Billings, 2000; Coose, 2010; Gallagher-Lepak et al., 2009; Johnston et al., 2005; Seiler & Billings, 2004). Billings (2000) reported on the need for students to feel connected (connectedness) and to develop a sense of community online as a key to satisfaction with online learning. Seiler and Billings (2004) studied online nursing students to identify best practices in online nursing courses. They identified various benchmarks of best practices including the importance of student-faculty interaction, prompt feedback, and reliable technology. They also identified “connectedness” as an important outcome, suggesting the use of webcams and instant chat technologies as possible strategies.

Others reported that feelings of connectedness and sense of community could be developed through strategies such as meaningful interaction between student and instructor, face-to-face or synchronous encounters, and faculty involvement (Gallagher-Lepak et al., 2009; Johnston et al., 2005; Sitzman & Leners, 2006). The importance of developing a student-teacher connection was a prominent theme. Gallagher-Lepak and colleagues (2009) studied online RN-BSN students, exploring their perceptions of community online. They found that a sense of

community is desirable as opposed to isolation and their findings support that it is possible to build community and connection online. Hart (2012) identified factors associated with persistence in online education included a sense of belonging or community and increased communication with the instructor. Hart (2012) found that student support was important but that social connectedness or presence was strongly related to persistence.

**Presence.** Presence was found to be an important factor in creating a sense of community online. Garrison and colleagues (2000) define three types of presence that contribute to a community of inquiry: Social, teaching, and cognitive presence. There is extensive research surrounding presence with the most research conducted around social presence as this is seen as the most difficult to develop in the asynchronous online environment (Swan, Garrison, & Richardson, 2009). Social presence is described as the ability to see others online as real, showing “emotional expression, open communication, and group cohesion” (Akyol & Garrison, 2008). Because of the physical separation of students from instructors and classmates, students can feel isolated and become frustrated with online learning (Garrison, Cleveland-Innes, & Fung, 2010). By increasing social presence in online courses, these negative feelings can be ameliorated (Rovai, 2007), and lead to increased student satisfaction and persistence (Cobb, 2009; Hart, 2012).

Boston and colleagues (2009) found that 18% of the variance in persistence in online students could be attributed to social presence factors. They suggest more research as to specific methodologies and effects on social presence. Various strategies are suggested by experts to promote social presence but little research has been conducted that specifically tests each strategy (Johnston et al., 2005; Mayne & Wu, 2011; McInerney & Roberts, 2004). Various

studies have looked at synchronous communication such as live chat (Baker & Edwards, 2011; Schullo & Venable, 2005) or at asynchronous video and audio feedback (Griffiths & Graham, 2009; Janzen et al., 2011; Wei & Chen, 2012). Baker and Edwards (2011) described case studies of various strategies to promote presence but no specific outcomes were measured. Edwards and Helvie-Mason (2010) studied the use of synchronous chat as a strategy to increase social presence. While the results were promising, the size of the study was small and included perceptions of students who did not use the feature. Two studies were found that looked at the use of web conferencing tools to provide audio and visual synchronous communication online (Tolu, 2010; Reushle & Loch, 2008). Findings included an increased sense of presence, more personal interaction and lessened feelings of isolation (Tolu, 2010; Reushle & Loch, 2008).

Kear (2012) interviewed students to explore students' experiences online. Kear found that "poor communication and misunderstandings were associated with a lack of social presence" (2012, p. 541). Kear (2012) suggests that social presence is supported by communication that is warm and sociable, and that synchronous communication supports students by preventing feelings of isolation.

**Caring.** Excellence in teaching is grounded in caring (Sawatzky, Enns, Ashcroft, Davis, & Harder, 2009). Caring is seen as a reciprocal process where both parties, student and teacher, become more through the caring relationship (Boykin & Schoenhofer, 2013; Sitzman & Leners, 2006). Sitzman and Leners (2006) found that it is possible to convey caring online through instructor immediacy and providing multiple contact opportunities and through synchronous meetings. Ice, Curtis, Philips & Wells (2007) found that providing feedback in an audio format increased the perception that the instructor cared about the students and their learning.



Through the use of a web-conferencing system, the VMR sessions will provide synchronous communication that helps students to feel connected while also providing direction they desire (Schullo & Venable, 2005; Tolu, 2010). By conveying a personal tone (tone of voice) and a welcoming attitude (video showing smile and expression), the instructor will be able to demonstrate caring in the VMR sessions (Diekelmann & Mendias, 2005). The VMR sessions will provide opportunities to increase social presence and develop a sense of community.

### **Project Plan and Evaluation**

#### **Market/Risk Analyses**

The market/risk analyses of the project revealed no major issues associated with the implementation or evaluation of the VMR sessions. Implementing innovations based on evidence is congruent with the organizational vision of the university and the school of nursing. Retaining the students as customers involves an active quality assurance program making sure that the program meets the needs of students and employers as well as future patients. The benefits of online education include flexibility of location and time. Students decide, for the most part, when and where they want to do their work. The added option of a synchronous meeting with a video component provides an opportunity for students to develop a sense of connection. This is added value to the online learning experience; however the synchronous aspect has the potential to detract from the flexible nature of online education.

The RN-BS faculty are committed to excellence and continually strive toward providing a fulfilling experience for the student as well as assuring quality educational outcomes. Faculty use student feedback for program improvement and update courses from term to term to reflect current trends and technologies. The support provided in the online program is a prime example

of the high quality customer service students receive, with state-of the art learning management systems and information access. For the student new to online learning, faculty and support staff are available to guide the student to competency in information technology. The virtual meeting room is one example of bringing the newest technology and exploring ways to use technology for teaching and in health care.

### **Project Strengths, Weaknesses, Opportunities, and Threats**

The market analysis of the DNP capstone project included an analysis of the strengths, weaknesses, opportunities, and threats (see Table 1, SWOT analysis), the driving and restraining forces, the resources available for the project, the stakeholders, and a cost/benefit analysis.

Table 1

#### *SWOT Analysis*

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Faculty commitment</li> <li>• VMR easy access</li> <li>• VMR features</li> <li>• Tech support: Teaching &amp; Learning Center (TLC)</li> <li>• Promotes presence &amp; connectedness</li> <li>• No new costs</li> </ul>	<ul style="list-style-type: none"> <li>• Time commitment</li> <li>• Scheduling</li> <li>• Audio issues: headphones</li> <li>• Phone option not toll-free</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• New technology</li> <li>• Growing need for BS degree</li> <li>• OCNE partnerships</li> </ul>	<ul style="list-style-type: none"> <li>• Time commitment</li> <li>• Scheduling</li> <li>• Audio issues: headphones</li> <li>• Phone option not toll-free</li> </ul>

**Strengths.** Student comments on course evaluations support the use of some mode of personal connection and communication with the instructor early in the course. Research supports the use of some sort of synchronous communication between students and instructors as

well as use of a video component to allow for facial expression in order to support social presence. Student comments have included suggestions for more web conferencing, more communication with faculty and more face-to-face time. The VMR was proposed as a measure to address this need. The VMR is built into the Sakai LMS that is used to deliver course content. The VMR is easily accessed by a link on the course home page. There were no new costs associated with the use of this tool. The VMR allowed instructors to be responsive to students with immediate clarification of concepts in live conversation. All course instructors were experienced at holding meetings and communicating using web conferencing systems. The whole RN-BS team was highly supportive of the project.

**Weaknesses.** Weaknesses of the project were mainly related to time and scheduling issues for both faculty and students. Students like the convenience and flexibility of online learning (Johnston et al., 2005) and may not like the constraint of meeting at a specific time. Faculty needed to devote two hours or more each week to prepare and participate in the live VMR sessions. Faculty were accustomed to putting in long hours providing written feedback to students in forums and on assignments but on a flexible schedule, rather than having to be online at a certain time each week. Students had the same scheduling issues, trying to fit work, school and family into the mix, and the times of the VMR sessions did not always fit into their busy schedules. Some instructors have limited experience with the use of newer technologies and are easily flustered by troubleshooting audio issues. Some students had the same discomfort with new technologies. Students and instructors needed to use headphones to prevent audio feedback. Students with other audio issues were able to use the phone number to connect to the audio however, it was not a toll-free number.

**Opportunities.** The VMR is an added service, new to the Sakai LMS. Offering VMR sessions adds the live audio and visual components that increased the sense of presence. Technology is improving and students are getting more comfortable using multiple media formats. The VMR is an example of newer technology available to online learning.

**Threats.** Many of the students live in rural areas with limited internet speeds. This may have confounded some of the audio issues and web cam issues causing more frustration for students. There may have been other unknown technical issues, especially for students and instructors in rural areas. It was possible to mitigate some technical issues by using the phone number for the audio portion that is available as part of the web conferencing system. The final threat is that some students chose not to attend the sessions, whether they were unsure of the access or possible scheduling issues.

### **Driving/Restraining Forces**

The driving forces for this project were the students' need for enhanced social presence and connection as well as the faculty support for the project. Restraining forces were the time commitment required by faculty as well as scheduling issues for both faculty and students. Resistance to change is an ever-present restraining force when something new is implemented. The strategy to address the time commitment issue was to involve faculty in the planning process. The strategy to address the scheduling issue was to offer multiple sessions of the VMR. And the issue of resistance to change was addressed by the researcher acting as change champion, bringing forth evidence to the team and leading discussions on best practices and innovations in online learning.

### **Need, Resources, and Sustainability**

In recent course evaluations there were multiple comments calling for more contact with instructors early on in the course. These recent comments coupled with earlier comments regarding feelings of isolation, suggested the need for instructors to reach out to students. The faculty in the RN-BS program were valuable resources for this project. The staff of the TLC provided expertise in course design, kept the Sakai LMS up to date, and the VMR integrated within Sakai. The TLC is the main resource for the functionality of the VMR. RN-BS faculty are committed to continuous quality improvement and continue to use the VMR, making modifications to the application of the VMR based on the outcomes of this project and results of course evaluations. The faculty are supportive of continuing to use the VMR sessions during the summer term, 2014 with plans to continue during fall term 2014 and beyond.

#### **Feasibility/Risks/Unintended Consequences**

There has been organizational support since the beginning of the capstone project. The RN-BS director provided a signed letter of support of the project (see Appendix A). In addition, other faculty and staff provided expert advice or key information to the researcher. Course faculty enthusiastically participated in the implementation of the project during the winter and spring terms, 2014. The VMR was a tool already available for use within the LMS prior to the inception of this project. The researcher as member of the course faculty was able to work with the faculty team for implementation of the project. It was anticipated that scheduling might be an issue for some students. Faculty did not find scheduling to be an issue, choosing when to hold the VMR sessions based on their personal schedule.

There was the concern that students may not come to the VMR sessions. This was avoided by making the sessions a course activity although non-graded. Over 70 percent of the

students did attend the VMR sessions. The second concern was that students might not respond to the survey. Only ten students responded to the survey from winter term making it necessary to continue the study during spring term where an additional five students responded to the survey.

**Study risks.** There were only minimal risks for participation in this study however students are considered a vulnerable population. Because of the dual role of the researcher as instructor for some of the subjects, the data was collected by anonymous survey. Students were assured that their neither their grade nor progress in the program was affected by participation or non-participation in the study. There was the cost of time for students, approximately 10 to 20 minutes, for participants to complete the survey and they could exit the survey at any time and were able to skip questions if desired.

### **Stakeholders and Project Team**

Stakeholders for the project included the students, RN-BS faculty, the TLC staff, the School of Nursing and the university at large. Students have a vested interest in any changes impacting course design and participated in the VMR. The faculty were directly impacted by the outcomes of the project and implemented the VMR sessions. The TLC staff are responsible for maintaining Sakai and the VMR with updates and responding to technical issues. The outcomes of the project impact the RN-BS program and the university.

The project team was comprised of the DNP student, the course lead instructor, the faculty advisor, and the clinical mentor. In addition to the formal project team, the other instructors in the course were brought in toward the beginning of the implementation process. Communication of the vision to the team began during the forming process and sharing evidence from resources as the project began to take shape. Once the mission and vision were clear, they

were presented formally to the entire team. Overwhelming support and approval was given from the entire RN-BS team.

### **Cost-Benefit Analysis**

There were no monetary costs associated with this project. The VMR was made available in the Sakai LMS independent of the development of this project as a tool to replace the higher cost of a different web conferencing tool: Adobe Connect<sup>TM</sup>. The TLC integrated the BigBlueButton<sup>TM</sup>, a web-conferencing system, into the LMS as the VMR in with the hope that the VMR would meet the needs of faculty. Adobe Connect has charges with each use while the VMR does not. Once acquired, there is unlimited use of the product. The only costs associated with this project are costs of time for both students and instructors. Instructors needed to schedule specific times to be in the VMR each week and attempted to accommodate student schedules as well. Program benefits include improved understanding of the VMR, contributing to program improvement, promoting social presence, and increasing student persistence. Other benefits may be discovered beyond the completion of this study. Students benefited from the project with increased satisfaction with online learning and their contribution to program improvement. Appendix B outlines the actual costs incurred and the costs to replicate the project.

### **Mission and Vision**

The mission of this capstone project was to enhance nursing students' perceptions of social presence and connection through the use of a virtual meeting room. The vision of this DNP capstone project was to create an educational experience for online RN-BS students where

a sense of community and inquiry flourish, increasing student satisfaction with the online learning experience.

### **Goals**

The goal for this DNP capstone project was to investigate the perceptions of students after they attended a VMR session using a video conferencing system in an introductory course of the RN-BS online program. During the VMR sessions the instructors provided explanation of course content, course navigation, and clarified course concepts. A webcam was used enabling students to see and hear the instructor. Long-term goals include increasing students' satisfaction with online learning, decreasing attrition rates in the RN-BS program, and increasing faculty satisfaction. Decreasing attrition rates will lead to the long-term goal of increasing the numbers of baccalaureate prepared nurses adding to the pool of RNs qualified for graduate education.

### **Process/Outcomes Objectives**

The primary objective of this capstone project was to implement one strategy in the online RNBS program that is reported to increase social presence online. A complete project timeframe is found in Appendix C. The following were the specific project objectives:

1. Develop a protocol for the implementation of VMR sessions with online students to enhance the sense of social presence and connectedness to the course, beginning in January 6, 2014.
2. Survey students to identify their perceptions of social presence and the VMR. The surveys completed April 2, 2014.
3. Analyze the survey data to determine themes regarding students' perceptions. Analysis completed August 1, 2014



4. Report findings and make recommendations for future use or modifications to the VMR sessions August 2014

The evaluation plan for the DNP capstone project included the assessment of student perceptions of the VMR through completion of a survey using a qualitative approach. Long-term evaluation will include assessment of variations in student attrition rates and course satisfaction rates, however these assessments are not included in this paper due to the time constraints of the DNP capstone project. The short-term evaluation of this project consisted solely of the survey instrument, consisting of three open-ended questions.

### **Logic Model**

The logic model and conceptual diagram (see Appendix D) outline the variables and processes of the DNP capstone project. The independent variable for the DNP Capstone project was the implementation of the VMR sessions, a strategy to promote social presence. The dependent variable in this capstone project was the development of a sense of community, and ultimately increased student satisfaction with the online course. In addition to the dependent variable of sense of community and the independent variable of social presence, there was the antecedent variable of previous online experience. Previous experience in an online class may have an effect on students' overall self-efficacy related to learning outcomes and communication and performance (Johnston et al., 2005; Palmer & Holt, 2009). Students' perceptions of presence were assessed through the use of a survey of open-ended questions. In addition to the open-ended questions, general demographics were gathered as recommended by Terry (2012), including a question on the number of previous online courses completed. The second outcome, student

satisfaction, is currently measured each term for each course. These data will also be analyzed for long-term effects of the project but is not included as an outcome measures for this project.

### **Research Design**

This study used an interpretive (hermeneutic) phenomenological approach. This design is described as a qualitative method that attempts to find meaning in the written word with the purpose of gaining an understanding of a person's lived experience (Byrne, 2001). The purpose of this study is to describe the lived experiences of students and their perceptions of participation in VMR sessions and its influence on social presence. Interpretive phenomenology is an appropriate method as it is concerned with the understanding of people and their perceptions (Balls, 2009). The DNP student will be both participant-as-instructor and researcher in this study. Interpretive phenomenology accepts that the researcher enters the study with knowledge that contributes to the lived experience and interpretation (Balls, 2009).

### **Population/Sampling Parameters**

The target population was online students in the RN-BS program at a large northwestern university in one of the first courses of the program. This population is comprised of nurses registered with the Oregon State Board of Nursing who have returned to school to obtain a baccalaureate degree. All the participants were between the ages of 20 and 65, both male and female. All participants are able to read and write in English by virtue of their holding current RN licenses in the state of Oregon, a requirement of the RN-BS program. The participants for this study were enrolled in the first course of the program during the 2014 winter and spring terms. The participants were invited to be a part of the study at the beginning of the class. To participate in the study students were required to attend one virtual meeting room session and

then complete a survey. During winter term 23 students attended the VMR sessions out of 32 students. Spring term 18 students attended the VMR sessions out of 23 students enrolled in the course. A link to the survey was sent to all eligible students during week five of the course and a second e-mail was sent during week seven.

Guidelines for sample sizes of qualitative studies are nebulous, with recommendations anywhere from six to thirty depending on the homogeneity of the population being studied and other factors (Mason, 2010). Sample size for qualitative research is generally guided by the concept of saturation. Once there is no new information uncovered, it is determined that saturation has been obtained (Mason, 2010). A minimum sample of ten respondents was the initial target for this study but a larger sample was desired in order to assure saturation of content. The project was continued a second term for an additional five respondents. Upon analysis of the data, the population sample of 15 (36.6% survey response rate) was determined to be sufficient to meet the objectives and scope of this study.

### **Setting**

The setting for this project was at a large northwestern university with an online baccalaureate completion program. This setting was appropriate for this project as this program has a reliable stream of RNs admitted to the program annually. Agreements and collaboration with community colleges assures ongoing high enrollment rates. The researcher is a member of the faculty in the RNBS program and identified the need in this setting by analysis of course evaluations and personal interviews with students and faculty.

### **Design Methodology and Measurement**

A qualitative design was used for this study in order to discern the perceptions of the students, describing their lived experiences with using the VMR. Inductive reasoning is generally associated with qualitative research as it allows for the themes to emerge from the data (Zhang & Wildemuth, 2009). Inductive reasoning has been applied to this research project, reducing the data into categories and themes and addressing the research question. Through examination and constant comparative analysis, the researcher identified themes that represent the range of meanings of the student's experiences (Zhang & Wildemuth, 2009). The responses to each question were examined individually, keeping in mind the question asked, in order to discern the range of themes that capture the student's experience of the VMR. The anonymous nature of the survey avoided responses made to please the researcher and allowed for the students to describe honest feelings as evidenced by the range of perceptions within the data.

### **Protection of Human Rights**

Institutional Review Board (IRB) approval (waiver) was provided by the organization university IRB as well as Regis University IRB (see Appendix E). The researcher completed two courses on human research, the *Collaborative Institutional Training Initiative (CITI) human research curriculum training initiative* as required by Regis University and also the *Requirements for Conducting research on human subjects* as required by the organization university. Both completion certificates can be found in Appendix F.

Students are considered a vulnerable population as there is potential for exploitation or coercion to participate in research. This is especially sensitive considering the researcher was also course faculty for some of the students. To assure protection of the students, an online survey format was chosen with complete anonymity of participants. The researcher was not able

to discern who did or did not respond to the survey. In addition, students were assured that participation or non-participation in the study had no effect on their grade in the course or in their standing in the RN-BS program. The e-mail also outlined the requirements of the study: Attending one of the weekly virtual meeting room sessions and completing a web-based survey during week five of the course. All students were encouraged to attend any or all VMR sessions regardless of their participation or non-participation in the study. Student gave consent to participate in the study by responding to the survey. Respondents were able to skip questions and were able to exit the survey at any time.

### **Trustworthiness**

The survey used to collect data for this study was developed by the researcher with consultation from peers. The survey consisted of four demographic questions meant to identify basic characteristics of the respondents (gender and age) and amount of experience (number of previous online courses and number of VMR sessions attended). The open-ended questions were based on the goals and objectives of the study. The survey was also tested for readability by peers. A well-researched and easy to use online survey platform (Survey Monkey) was chosen as this survey tool is used frequently by the organization university and included with the organization account.

Qualitative research uses the measurement of trustworthiness to describe the quality of the research (Zhang & Wildmuth, 2009). Criteria for determining the trustworthiness of qualitative research includes credibility, transferability, dependability, and confirmability (Lincoln & Gruba, 1985 as cited in Zhang & Wildmuth, 2009). Credibility, dependability, and confirmability were all supported through the use of audit trails and peer debriefing throughout

the coding and analysis process. Transferability depends on the reader's judgment based on the descriptions provided in this paper (Zhang & Wildmuth, 2009).

### **Data Collection and Storage and Treatment Procedure/Protocol**

The first course in the RNBS program is designed to transition the student into the baccalaureate program, with content focusing on principles of evidence based practice, leadership, relationship centered care, and clinical judgment. The VMR sessions were offered weekly during the first five weeks of the ten-week term via the OHSU Sakai course site. The virtual meeting room is a product of the BigBlueButton™, a web-conferencing system with audio-visual capabilities including document sharing, screen sharing, and a white-board. Participants can speak, share web-cams and text-chat in real time through this system. The virtual meeting room is integrated into the Sakai LMS, making access to the meeting room a simple process for students and faculty. The protocol for the VMR sessions included initial introductions and a meet and greet to welcome participants to the VMR. The first week the instructors explained the VMR protocol, discussed the week's topics and assignments and solicited questions. The second through fifth weeks the instructors began with a review of the previous week's content. The protocol with content outline for each session can be found in Appendix G. At the beginning of each term of the project (winter and spring terms, 2014) an e-mail was sent to all students enrolled in the first course explaining the study purpose and study requirements (see Appendix H). At the end of week 5 all students that attended one or more VMR sessions were sent an e-mail with a link to the survey (Appendix I) which included an explanation of the study risks and benefits.

The survey included 3 open-ended questions: 1) Describe your experience participating in the virtual meeting room; 2) Give your impressions of talking to and seeing the instructor in the virtual meeting room; and 3) Compare the experience of the virtual meeting room to what you have experienced previously in your online classes. The complete survey including demographic questions is found in Appendix I.

Data were collected during the winter and spring terms 2014. There were 10 student respondents from winter term and 5 respondents from spring term. The survey was closed after three weeks of no additional responses. Survey data was downloaded from Survey Monkey and the IP addresses were removed to eliminate any links to the respondents. The survey data is kept in a locked file secured by the researcher.

### **Data Analysis**

The data were downloaded as an Excel spreadsheet from Survey Monkey. After removal of and destroying the IP addresses, each subjects' responses were given a code to be able to track individual responses across questions. The three open-ended questions were transferred to word documents in preparation for coding and analysis. The narrative responses were organized, coded, and analyzed using constant comparative analysis, keeping in mind the question asked, in order to discern the range of themes that captured the students' experience of the VMR sessions. The responses were read, re-read and codes of themes were made and refined with peer review and keeping an audit trail.

### **Project Findings and Results**

A total of 15 RN-BS students responded to the online survey after experiencing the VMR sessions. There were 3 male and 12 female respondents. The majority of students had previously

taken at least one online course with one student who had no prior online classes. Five students were over 50 years of age; four students were 40-49 years of age; four students were 30-39 years of age; and two students were 20-29 years of age. Four major themes emerged from the data: helpful experiences, participation problems, personalization of the class, and diverse views. These themes and related sub-themes will be described in detail.

### **Helpful Experiences**

*Connection to peers and instructor.* A theme that emerged from the data was that participants described the VMR as providing helpful experiences. Students described the VMR as allowing them to feel connected to both their peers and to the instructor. As one student explained; “[The VMR] was a meaningful connection...it enriched the experience and made me feel a stronger connection to the class.” They described the VMR as “helpful to meet faculty and other classmates” and “welcoming.” Students described specific connections with the instructor. One comment noted that; “My instructor is a human being with a life outside of the school experience. I was very comfortable and was able to get to know her better than just an email to email conversation.” A student stated; “[the VMR] really helped me get to know her [the instructor] and not feel so intimidated by the online course comments and requests.” Another student explained, “It [the VMR] brings life to the class, you feel like there is a real person on the other end of the class.” Students expressed appreciating the ability to “dialogue with peers.”

*Informative.* Another way that students expressed that the VMR sessions were helpful was that they gave information. They noted that the VMR made it possible to have questions answered and course concepts clarified. Comments describing the VMR as informative included that it “gave feedback” and provided a way “to answer and ask questions of concern.” Another



student explained that it was helpful to “have her [the instructor] explain and simplify the hard concepts or the confusing concepts. The direct interaction of student and teacher contributes greatly to my understanding of the concepts.” One student noted that “the instructor helped with [the] technology side.” Another student stated that “instructor comments were the most helpful.” The use of the VMR affected the perception of the class. A student noted; “This class does not appear as difficult as others because the concepts and expectations are explained.”

***Immediacy.*** The VMR was described as informative also due to the notion of immediacy or communicating in real-time. Students felt the real-time discussion provided immediate clarification to questions; “The meeting was very helpful in that I could ask my instructor all my questions easily and get answers right away.” Students liked getting answers in real-time. They stated that; “I liked having the immediate feedback to questions,” and, having “questions answered right on the spot.” A student summed it up: “Access in real-time. Easy to get questions answered.”

## **Participation Problems**

***Technology issues.*** Students noted technology problems that affected their participation in the VMR. A common issue mentioned concerned the audio portion of the VMR. A student noted; “It was a little hard to know when to talk and a little hard to hear everyone.” Another student said;

There needs to be an indicator that someone else is online and in the chat room, much like how the red light is on in a radio station when someone is "on air", because it is not comfortable even talking to people you know unless you are sure they want to talk.

One student stated; “I was having some trouble with my webcam.” Another said “I had one technical difficulty one time and I could not figure out why.”

***Time issues.*** The time schedule of the VMR sessions was an issue for some students. Students cited both work and family schedules as conflicting with the VMR session times. “My work schedule could not allow me to [attend] more [sessions].” Another student shared concern about the VMR sessions being mandatory, “I do not think with the diverse work schedule of the class we could have a mandatory [VMR] class time.” Students described time constraint issues; “The meeting room may be too time consuming when I just need to get work done...”

### **VMR Personalized the Class**

***Perceptions of talking in the VMR.*** Students described how the VMR sessions personalized the online class. They voiced positive perceptions of talking in the VMR. A student noted that; “I was able to get right on and talk with the instructor and students.” Another said that the VMR provided “a positive experience to actually be able to hear voice.” One student stated; “I personally prefer talking in person to email.”

***Perceptions of seeing the instructor in the VMR.*** Students expressed feelings about being able to see the instructor’s and classmates’ faces and non- verbal cues associated with communication. A student noted: “It was nice to see the instructor’s and students’ faces.” Seeing the instructor was considered an important part of personalization of the class. A student stated, “It was very good to actually see and communicate with the instructor back and forth.” Another student said, “It felt a little more personal than just talking on the phone since you could also see her.” Another stated, “I used my camera and felt it was a meaningful connection.” A student shared that; “When I used a web camera, I felt as if I was meeting her (the instructor) in person

and could talk more comfortably.” Students with webcams shared that they enjoyed seeing other students as well as the instructor,

It was very good to actually see and communicate with the instructor back and forth  
and I now feel I can make an appointment and have a face to face chat. I enjoyed it.

I was able to put animation to the face and I met other students.

### **Comparison of Online Classes With and Without VMR**

There was mixed reaction from the students when asked to compare the VMR with past experiences in online courses. One student stated that the [The VMR was] “similar to what I would experience during the first class in an on campus course.” Another student shared that “To me, the difference is better communication with the virtual meeting room.” Another stated that; “It [the VMR] enriched the experience and made me feel a stronger connection to the class.” A student shared that “My previous online classes gave me the impression of individual study. This virtual meeting room helps me study not only individually but also with others.”

There were students that felt the VMR did not add to their online learning experience and was “uncomfortable.” One student shared that; “It was awkward at first.” Another student added, “I was insecure in the virtual meeting room. It may be because I had to worry about my environment interrupting me.” One student with a webcam, expressed feelings of discomfort regarding having the instructor and peers see them in their home environment. They stated that, “...because someone is seeing where you live, or at least the makeshift office you have, and it invades a certain ‘privacy’ respect.” A student shared; “I didn't find it anymore helpful than the other classes I took.” One student suggested that the VMR could be used in special cases:

I find the course to be straightforward in the on-line format and did not really find the VMR that useful, but in a more confusing course I think it could be more helpful.

A student commented about online courses in saying that “I think that as long as the instructors are actively involved in forum discussions, that is as good or maybe better than having a meeting room discussion because it is more focused on comments and use of APA references.”

## **Discussion**

A theme of this study was that students found the VMR sessions helpful by connecting them to instructors and peers, and by providing important information about the course in real time. They spoke of a “meaningful connection” that addressed the sense of isolation students described before experiencing the VMR. The VMR increased social presence in the course, by allowing students to experience the instructor as a real person, and by providing a welcoming environment. The Community of Inquiry (CoI) framework describes social presence as an ingredient often missing in online courses (Garrison, 2011). Increased social presence in this course gave students the ability to see others online as real and human with connection to one another. The experience built a sense of belonging. This theme fits the descriptions of social presence found in the literature (Akyol & Garrison, 2008; Swan et al., 2009).

The VMR also gave students important information about the course. They spoke favorably of asking questions and getting feedback immediately. Students liked getting answers in real-time. The availability of the instructor at the beginning of the course was essential for setting the climate; it was the interaction between establishing social presence and providing guidance through teaching presence that allowed cognitive presence to emerge (Garrison, 2011).

The synchronous aspect of the VMR allowed rapid interaction, enabling questions to be answered quickly and verification of understanding of course concepts. This enhanced social and teaching presence and supported the development of a connection between students and instructors. The perception of the course was that it was not as difficult as other online courses because of the way that information was exchanged.

The synchronous aspect of the VMR was not without its drawbacks. Many of the students mentioned scheduling issues as a concern. One student described the time constraint issues, “The meeting room may be too time consuming when I just need to get work done....” An often cited attraction to online education is the asynchronous aspect and the ease of fitting online education into a busy schedule (Gallagher-Lepak et al., 2009). Adding a mandatory synchronous session may be burdensome for students (Park & Bonk, 2007; Tolu, 2010) and has the potential to lead to student dissatisfaction.

Students also described issues with technology in the VMR. This was not surprising as it was the first time that students experienced the VMR. Problems with hearing were identified and participants said they sometimes were not sure when to speak. These issues could be addressed by assisting students with performing audio checks ahead of time and instituting a protocol for when and how to speak in the VMR. Using features within the VMR such as the “raise hand” symbol could also address the issues of students knowing when to speak.

A concern with the video was that some students had webcams and others did not. This may have been a point of frustration for some students who could see the instructors but not the rest of the class. To address these issues students could be informed of needed computer specifications before the class in order to have the full benefit of the VMR. The findings of the

study also revealed that some students were sensitive about their surroundings being seen by others by the webcam. Students had control over the decision to use their webcams. Still, one student described initially feeling insecure and concern for privacy. This could be addressed by advising students to choose a neutral background when on camera.

The VMR personalized the class by talking with and seeing the instructor. The students voiced positive perceptions of talking in the class and having discourse with the instructor and classmates. Seeing the instructor was especially important in personalizing the class. The two-way communication available in the VMR facilitated improved communication which also demonstrates caring by the instructor and support for students (Sitzman & Leners, 2006).

Students described the VMR as being similar to a face-to-face class when asked to compare courses with and without the VMR. Kehrwald (2008) suggests that novice online learners require interpersonal interaction in order to prevent isolation and disengagement. The VMR was one method that could provide the interpersonal interaction and help some students make the transition from face-to-face to online learning. The VMR may serve to bridge the experience of the face-to-face class with online learning. One student expressed that the VMR made it “similar to what I would experience during the first class in an on campus course.”

Students described both positive and negative aspects of the VMR sessions. While some felt there was better communication and an enriched experience, others felt that the VMR did not add to value of the course. One student explained that if instructors are involved in the online discussions, “that is as good as or maybe better than having a meeting room discussion.” The variety of perceptions needs to be taken into consideration before implementing this type of course activity.

The VMR is a tool with valuable potential and findings suggest that introduction early in the program is of benefit to students for support. Instructors need to be sensitive to the potential for any new technology to cause feelings of anxiety. The VMR sessions were found to be helpful for providing connections, decreasing feelings of isolation and for clarifying concepts. Using audio and visual aspects improved communication and made for a welcoming and pleasing experience. While scheduling may be difficult for both students and instructors, the benefits of synchronous sessions are worth the effort.

### **Limitations, Recommendations, and Implications for Change**

**Limitations.** The intent of this qualitative study was to describe the perceptions of RNBS students in one course and may not be transferable to other online courses or programs (Zhang & Wildemuth, 2009). The population of this study is unique. The results/perceptions of students may be different in other courses and other programs. The perceptions of the respondents may be significantly different than those students that did not respond to the survey. Although qualitative research often involves small numbers of subjects, the small sample size is a limitation of this study. The VMR for this project used the BigBlueButton application but many other web-conferencing systems are available that could be used for VMR sessions. Other applications may be easier or more difficult for users and others should be cautious about applying these findings to other situations and other conferencing applications.

Potential for researcher bias is always a possibility despite precautions. The researcher was both instructor and researcher for some of the respondents. Despite the anonymity of the survey, there still exists the potential for student responses made to please the researcher. Due to the anonymity of the survey, there was no opportunity for follow-up questions to verify

understanding and interpretation of responses. The potential for bias also exists in interpretation of the data. There exists the risk of researcher bias in the interpretation of responses despite precautions of peer-confirmation (Zhang & Wildemuth, 2009).

**Recommendations and implications for change.** Synchronous sessions using audio and visual components should be considered as a valuable addition to online courses as a method to enhance social presence in online courses. While not all students attended the VMR sessions, those that did found some value added to the course and all respondents described some positive aspects of the VMR. Instructors should note that students appreciate the asynchronous nature of online learning because of competing work and family schedules. The scheduling aspect must be considered when initiating VMR sessions. Scheduling is especially important to consider when deciding to make synchronous meetings a graded activity.

VMR sessions may be added stress for some students. Instructors should be sensitive to the notion of the VMR as a new situation for students and another source of stress, anxiety and potential privacy issues. Web cameras are becoming more prevalent by computer users, yet to require them for students may be problematic. The potential for students feeling awkward or insecure due to new technology situations can be ameliorated by instructors' support. By providing a welcoming and supportive environment in the VMR sessions, such as using students' names, using a conversational tone, and responding clearly to questions, instructors are able to exhibit a caring presence (Garrison, 2011; Sitzman & Leners, 2006).

Possible applications of the VMR include using it for initial program orientation, use in introductory courses, and for explaining complex concepts. Students are able to use the VMR for team project meetings at a distance as well. The VMR can also be used to implement virtual



office hours, where the instructor is available in the room for drop-ins.

More research needs to be done to evaluate the use of VMR sessions in other, more complex courses as well as the potential impact of the students' use of webcams on social presence. In addition, questions remain concerning the effect of VMR session on student satisfaction, student retention and instructor satisfaction. One added outcome of implementing the VMR sessions was that the course faculty felt more satisfied with the course and enjoyed conducting the VMR sessions.

### **Conclusion**

Social presence is a key factor in the development of a sense of community in the online environment (Garrison, 2007). VMR sessions provide an element of connection missing in many online courses through the use of real-time interaction with audio and visual components (Tolu, 2010). Though not all students need this aspect to be engaged in the learning environment, a significant number of students need the added sense of connection to the instructor, to peers and to the course in order to effectively learn online. Synchronous sessions using audio and visual components can enhance social presence in online courses and ameliorate feelings of isolation. Social presence is established as a key ingredient in all learning environments. More research needs to be conducted to explore social presence methodologies to determine those that are most effective online. Nurse educators need to be ready to test new technologies for their potential to enhance course delivery as well as their effect on social presence. As the nursing profession seeks to increase the numbers of baccalaureate prepared nurses, educators must explore innovative methods to help nursing students toward degree completion. Increasing feelings of connectedness engages students and may lead to higher retention rates and ultimately more

nurses prepared as leaders in nursing.

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## Appendix A

### Agency Letter of Support

#### Signed Letter of Intent

To: Catherine Salveson

From: DNP Student: Michelle Hall

Subject: Capstone Project Proposal: **RN-BS Online Students' Perceptions of Instructor Presence using a Virtual Meeting Room**

Date: August 16, 2013

I am writing to obtain permission to conduct a qualitative phenomenological study at OHSU with the purpose of researching RN-BS online students' perceptions of instructor presence using a virtual meeting room (VMR.) This study will be done to complete requirements for completion of the Doctor of Nursing Practice degree at Regis University, Denver, CO. The following information will review the study:

This project will employ a **Population-Intervention-Control Group-Outcome (PICO)** format for development of the research question to be investigated

**Population**= Baccalaureate completion program (RN-BS) online students at a large public university

**Intervention**= Implementation of a virtual meeting room using an audio-visual web conferencing system

**Comparative**= none

**Outcome**= affect student perceptions of faculty presence

**Research Question:** In RN-BS online students how does implementation of a virtual meeting room influence students' perceptions of faculty presence?

#### **Project Significance:**

Presence has been found to be an important factor in preventing feelings of isolation and creating a sense of community online (Garrison, 2011). Without specific measures to promote a sense of presence online, students and instructors may feel disconnected and isolated (Gallagher-Lepak, Reilly, & Killion, 2009; Garrison, 2011). The Community of Inquiry (CoI) theoretical framework depicts the inter-relationships of 3 types of presence, cognitive presence, social

presence and teaching presence, which collectively contribute to a community of inquiry (Garrison, 2011). Social presence is described as the ability to see others online as real and human, with indicators being expression, risk-free climate, collaboration, self-projection, and showing emotions (Akyol & Garrison, 2008). Although social presence is an important factor for psychological comfort, a strong teaching presence is required in order to support cognitive presence (learning, exploring, integrating) (Garrison, 2007). The student requires an initial connection to the instructor, establishing trust, open communication, fostering a teacher-student social presence as well as establishing a teaching presence (Garrison, 2007). The role of the teacher is seen as a guide or facilitator of learning with presence in a supportive manner and sharer of personal meaning while also directing instruction (Garrison, 2007). These strategies are all meant to foster a sense of community where the learner can thrive. Garrison (2011) explains that there is no “learner” presence but both teacher and student are elements of teaching presence where the instructor has a major role early in the course and the student contributes more to teaching presence as the course continues (Garrison, 2011). Availability of the instructor at the beginning of the course/program is essential for establishing presence, an instructor-student connection, and preventing student isolation.

Various strategies have been suggested that promote social presence online including the use of synchronous communication (Joyce, & Brown, 2009) and the use of audio and visual media (Janzen, Perry, & Edwards, 2011; Griffiths & Graham, 2009). Use of virtual office hours (VOH) is also suggested as a strategy that promotes social presence and increases student-instructor connections (Baker & Edwards, 2011). VOH has the potential to include both real-time communication (instructor immediacy) with an audio-visual component.

Face-to-face and online instructors have explored various means of providing VOH where instructors may meet with students virtually using instant chat platforms, social networks, and web conferencing systems to review assignments and discuss course concepts (Baker & Edwards, 2011; Meyers, Bishop, Rajaman, & Kelly, 2004). Edwards and Helvie-Mason (2010) found that VOH provided an increased opportunity for students to meet with their instructor and students rated it favorably. VOH provide immediacy that students desire, instructor guidance they need, and the social contact to decrease feelings of isolation (Edwards & Helvie-Mason, 2010; Li & Pitts, 2009).

Students in the RNBS program at OHSU have mentioned in course evaluations and personal communications feelings of isolation and as if they were learning on their own. These perceptions of students not feeling connected in online courses are not unusual (Gallagher-Lepak, Reilly, & Killion, 2009; Garrison, 2011). In the RNBS program, the instructors currently do not meet regularly with students. Students are provided with instructor contact information and are encouraged to phone or e-mail instructors as needed. Despite this availability, students may be reluctant to reach out to instructors, even when they recognize the advantages of doing so (Li & Pitts, 2009). Initiating consistent use of a virtual meeting room, using an office-hour type

format, will provide an opportunity for student-instructor interaction, create an environment where a sense of presence may develop, and may encourage students to be more willing to seek help as needed. By using a web-conferencing system with a video component, students will be able to see and hear the instructor in real time, providing instructor immediacy and an opportunity for social presence to develop (Griffiths & Graham, 2009).

### **Type of Study [methodology]**

This pilot study uses an interpretive (hermeneutic) phenomenological approach. This design is described as a qualitative method that attempts to find meaning in the written word with the purpose of gaining an understanding of a person's lived experience (Byrne, 2001). The purpose of this study is to describe the lived experiences of students and their perceptions of participation in a virtual meeting room. Interpretive phenomenology is an appropriate method as it is concerned with the understanding of people and their perceptions; while it also accepts that the researcher's own experiences will contribute to the interpretations (Ball, 2009).

The first day of winter term (January 6, 2014) an e-mail will be sent to all students enrolled in the researcher's section of NR 427, explaining the study purpose, study requirements, and soliciting informed consent. Students will be assured that participation or non-participation in the study will have no effect on their grade in the course or in their standing in the RNBS program. The e-mail will also explain the requirements of the study: Attending 3 sessions of a virtual meeting room and completing a web-based survey during week 5 of the course. All students will be invited to attend any or all sessions of VOH regardless of their participation or non-participation in the study. A purposive sample of a minimum of 10 students will be sought for this study. If less than 10 students return signed informed consent forms by week 2 of the course, a second e-mail request will be sent out to other instructors' sections.

The VMR sessions will be offered weekly via the OHSU Sakai course site. The Virtual Meeting Room is a product of the BigBlueButton™, a web-conferencing system with audio-visual capabilities including document sharing, screen sharing, and a white-board. Participants can speak, share web-cams and text-chat in real time through this system.

The protocol for the Virtual Meeting Room sessions will include initial introductions and a meet and greet to welcome participants to the Meeting Room. The first week the instructor will explain the VMR protocol, discuss the week's topics and assignments and then ask if there are questions. The second through fifth week the only difference will be that the instructor will begin with a review of the previous week. Study participants will be required to attend at least 3 of the first 5 sessions. A request for participants will be sent by email at the beginning of the course. Those students that agree to participate will be sent a consent form. At the end of the 5 weeks

they will be sent a survey about their experience. Data will be collected via a web-based, semi-structured survey using SurveyMonkey.

Survey data will be entered into QRS 8 NVivo software, organized, coded, and analyzed for themes. Coding and theme analysis will be done through constant comparative analysis and verified. The survey data will be kept in a locked file and will be destroyed at the conclusion of the study.

### **Participants Requirement:**

The participants for this study must be enrolled in NR427 during the 2014 winter term. A purposive sample of a minimum of 10 students will be sought for this study. The participants will be invited to be a part of the study at the beginning of the class. They will be required to attend 3 virtual meeting sessions and then complete a survey. Students will be assured that participation or non-participation in the study will have no effect on their grade in the course or in their standing in the RNBS program. Participation will involve completion of the survey. Participants are assured of confidentiality and anonymity related to their participation in the study and can withdraw from the study at any time for any reason.

### **Risks, Costs, and Benefits**

There are no identified risks for participation in this study. Students will be assured that their neither their grade nor progress in the program will be affected by participation or non-participation in the study. There is a cost of time to participants for completing the survey. Benefits include improved understanding of the virtual meeting room and contributing to program improvement. Students who participate in the VMR may also gain a better understanding of course materials and assignments.

### **Project Goals and Objective**

The main goal of this project is to conduct a phenomenological qualitative study at OHSU to determine online student perceptions of teacher presence in a virtual meeting room.

Objectives:

Obtain written permission to conduct the study including approval to utilize student e-mail files of students enrolled in NR427 winter term 2014.

1. Submit for IRB approval from OHSU by August 30 to receive approval by end of October 2013.
2. Submit for IRB approval from Regis University by August 30 to receive approval by end of October 2013.

3. Identify a purposive sample of at least 10 with written permission documentation from the prospective participants by January 17, 2014.
4. Send out e-mails to students with links to survey on February 3, 2014
1. Participants will be asked the following main questions with follow-up questions as needed related to responses by April, 2014.
  - a. Describe your experience participating in the virtual meeting room?
  - b. Give your impressions of talking to and seeing the instructor in the virtual meeting room?
  - c. What is the difference in having a virtual meeting room compared to what you have previously experienced in your online classes?
5. Participant responses will be put into NVivo software by March 1, 2014. Code for research themes, complete study by May, 2014

Permission is requested to conduct this research study at OHSU.

**Thank you for your assistance with completing my DNP Capstone Project.**



Catherine Salveson RN. PhD, Director  
 Baccalaureate Completion Program for Registered Nurses  
 Oregon Health Science University School of Nursing  
**Provider Approval**

August 20, 2013

**Date**



**DNP Student**

August 16, 2013

**Date**

## Appendix B

### Budget

Project Resource	Costs	Total
BigBlueButton web conferencing system-hosted	\$25 set-up \$40/month x 3	145
Survey Monkey with security	\$24/month x 3	72
Research assistant	\$40/hr (benefits included) x 2	80
Consultation with capstone chair	\$50/hr x 7	350
Consultation with clinical mentor	\$50/hr x 18	900
RNBS course faculty to implement VMR	\$50/hr x 34	1700
<b>Total (estimated) costs</b>		<b>\$3247</b>

## Appendix C

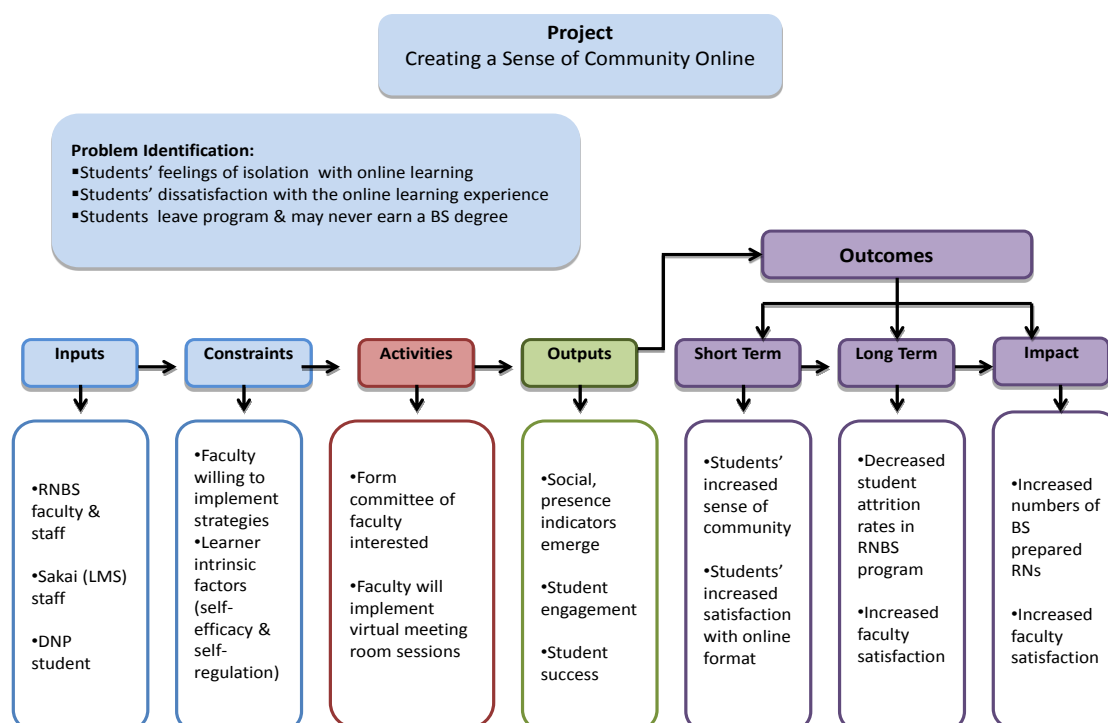
### Timeframe

<b>Date</b>	<b>Activity</b>
Fall 2012	PICO determined NR 701
3/2013	PICO approved NR706A
8/20/2013	Letter of Intent signed by RNBS Director
9/23/2013	Organization IRB approval
11/8/2013	Project Proposal approved
12/15/2013	Regis IRB approval
Jan.-April, 2014	Implement VMR sessions
Feb.-April, 2014	Collect data via survey
Feb.-May, 2014	Result analyzed
<b>August, 2014</b>	<b>Complete write-up &amp; present findings</b>

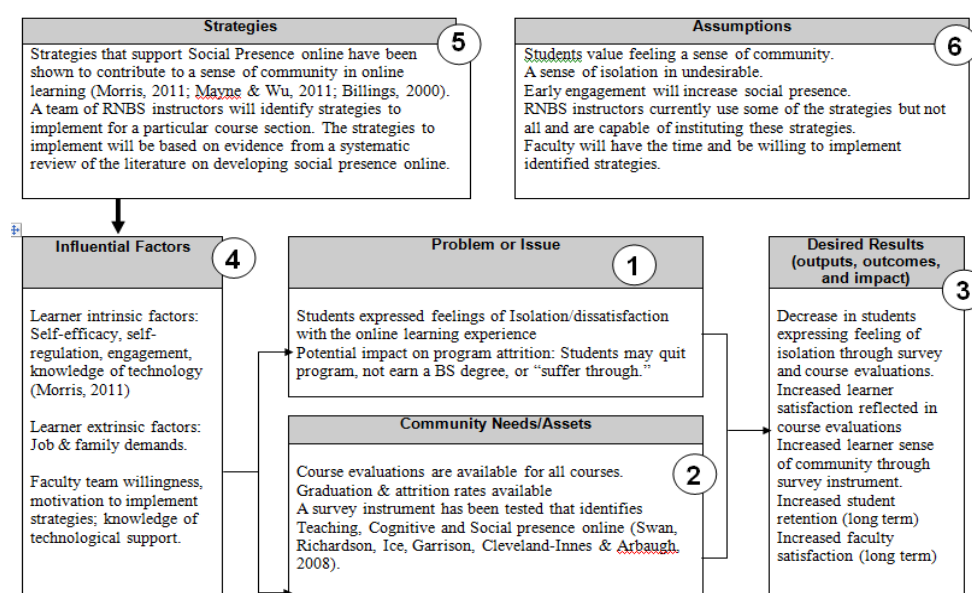


## Appendix D

### Logic Model/Conceptual Diagram



Appendix A. Logic model for creating a sense of community online [Adapted from Zaccagnini, M., & White, K. (2011). *The Doctor of nursing practice essentials: A new model for advanced practice nursing* (p. 481). Sudbury, MA: Jones and Bartlett Publishers].



Logic model: Program planning template (Adapted from W.K. Kellogg Foundation, 2001, p. 57)

## Appendix E

### Institutional Review Board Approval Letters

Page 1 of 1



OREGON  
HEALTH & SCIENCE  
UNIVERSITY

Research Integrity Office, L106-RI

3181 SW Sam Jackson Park Road

Portland, OR 97239-3098

(503) 494-7887

*Memo*

**Date:** September 23, 2013

**To:** Michelle Hall, MSN  
Kathryn Schuff, MD, MCR, Chair, Institutional Review Board  
Elizabeth Haney, MD, Vice-Chair, Institutional Review Board

**From:** Lynn Marshall, ScD, Vice-Chair, Institutional Review Board  
Kara Manning Drolet, PhD, Associate Director, OHSU Research Integrity Office  
Andrea Johnson, JD, CIP, Regulatory Specialist, Institutional Review Board

**Subject:** IRB00009521 , Online Students' Perceptions of Instructor Presence Using a Virtual Meeting Room

#### Special Communication for Exempt Research

This protocol meets the requirements for Exemption from IRB review and approval in accordance with 45CFR46.101 (b)(1), research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior where information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects or any disclosure of the subjects' responses outside the research could not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

You are required to submit any future revisions to this research activity for prospective IRB review via Modification Request. The IRB will determine whether or not the revision affects the study's Exempt status.

A HIPAA waiver of authorization is not needed because the protocol does not involve the collection, use, or disclosure of Protected Health Information (PHI).



Academic Grants

3333 Regis Boulevard, H-4  
Denver, Colorado 80221-1099

303-458-4206  
303-964-5528 FAX  
[www.regis.edu](http://www.regis.edu)

---

IRB – REGIS UNIVERSITY

December 16, 2013

Michelle Hall  
695 SE Summit Drive  
Roseburg, OR 97470

**RE: IRB #: 13-362**

Dear Ms. Hall:

Your application to the Regis IRB for your project, "Online Students' Perceptions of Presence Using a Virtual Meeting Room," was approved as an exempt study on December 12, 2013. This study was approved per exempt study category 45CFR46.101.b(#1).

The designation of "exempt" means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,

Patsy McGuire Cullen, PhD, PNP-BC  
Chair, Institutional Review Board  
Professor & Director  
Doctor of Nursing Practice & Nurse Practitioner Programs  
Loretto Heights School of Nursing  
Regis University

cc: Dr. Pamella Stoeckel

## Appendix F

### Human Subjects Research Training

#### CITI Collaborative Institutional Training Initiative

#### Human Research Curriculum Completion Report

Printed on 11/21/2012

**Learner:** Michelle Hall (username: hall911)

**Institution:** Regis University

**Contact**

**Information**

695 SE Summit Dr.  
Roseburg, OR 97470 USA  
Department: Nursing  
Email: hall911@regis.edu

#### Social Behavioral Research Investigators and Key Personnel:

#### Stage 1. Basic Course Passed on 11/21/12 (Ref # 9200405)

Required Modules	Date Completed	
Introduction	11/19/12	no quiz
History and Ethical Principles - SBR	11/19/12	3/5 (60%)
The Regulations and The Social and Behavioral Sciences - SBR	11/20/12	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	11/20/12	5/5 (100%)
Informed Consent - SBR	11/21/12	5/5 (100%)
Privacy and Confidentiality - SBR	11/21/12	5/5 (100%)
Regis University	11/21/12	no quiz

**For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.**

Paul Braunschweiger Ph.D.  
Professor, University of Miami  
Director Office of Research Education  
CITI Course Coordinator



## Verification of Course Completion

This document certifies that

**Michelle Hall**

successfully completed

**RCR Involving Human Subjects**

on 05/17/2012

Big Brain is administered by the OHSU Integrity Office  
[www.ohsu.edu/integrity](http://www.ohsu.edu/integrity)  
[oioeduc@ohsu.edu](mailto:oioeduc@ohsu.edu)  
503.494.8849

## **Appendix G**

### **Project Protocol**

#### **Protocol for Virtual Meeting Room Sessions: General content outline of Sessions**

All students in the course will be expected to attend the week 1 virtual meeting room session (VMR) as part of the normal course activities. There will be a minimum of four sessions offered at various times each week to allow for students' schedules.

#### **Week 1 ~20-30 min.**

- Virtual Meeting Room orientation ~ 2 min.
  - Audio settings, headphones, mute
  - Phone option
  - Chat
  - Raise hand
  - Accessibility by students
- Introductions ~5 min.
  - Name, city, group
- Sakai navigation tips~5min.
  - How courses are organized
- Discussion Forums in Sakai ~ 5min
  - Navigation, organization, keeping track, cut/paste from word docs
  - Expectations & self-evaluations
  - Week 1: Brief over-view
- RN-BS Resources on Sakai~1min.

- Writing help
  - APA help
  - RNBS virtual guidebook
- Looking forward: Next week ~3 min.
- Questions ~ 3 min.
- **Invitation to participate in study**

## **Week 2-5**

- Virtual Meeting Room orientation
  - Reminder to mute, raise hand
- Identify/acknowledge students present
- Review past week's questions from course Q & A forum
- Sakai navigation-check-in (any problems?)
  - Rubrics: word documents
  - Submitting
  - Grading expectations
- Week 2: Brief over-view
- Week 3: Looking forward
- Questions



## Appendix H

### Recruitment Letter

Dear Online Student,

My name is Michelle Hall. I am a doctoral student at Regis University and an Instructor at Oregon Health & Science University. My contact information is: **E-mail:** [hall911@regis.edu](mailto:hall911@regis.edu) OR [halmiche@ohsu.edu](mailto:halmiche@ohsu.edu) **Phone:** 541-817-6041

I am conducting a research study entitled “Online Students’ Perceptions of Presence Using a Virtual Meeting Room” which seeks to describe the lived experiences of students and their perceptions of participation in virtual meeting room sessions. This study is part of my capstone project in partial fulfillment for the doctor of nursing practice from Regis University.

I am asking you to participate in this study because you are currently enrolled in the NRS427- Practice Integration course. Your participation is voluntary. Choosing not to participate will not affect your grade in this course or your standing in the RNBS program. There are no direct benefits to participating in the study, however your participation as a student will greatly benefit future nursing students and will support efforts to improve teaching effectiveness in the OHSU School of Nursing and other distance education programs.

Because of the qualitative nature of this study, if data are published, anonymous individual responses to questions may or may not be reported.

There are 2 requirements for participation in the study:

1. You must attend at least one of 5 virtual meeting room sessions offered weekly as part of the NRS 427 course. If you choose not to participate in the study, you may still attend as many virtual meeting room sessions as you like.
2. You must complete an online survey

I will be conducting the study by asking you to complete a survey answering questions such as “Describe your experience participating in the virtual meeting room” and other open-ended questions about your experience in the virtual meeting room. The survey should take about 15-20 minutes to complete.

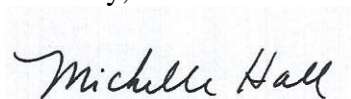
I will not be collecting any data that can link you to the answers you provide. Your anonymity and the confidentiality of your responses will be protected as much as possible. If you are uncomfortable answering any question, you may choose to not answer that question or to stop your participation and have any notes or hard copy answers destroyed. To further protect the confidentiality of your responses, I will not be collecting a signed consent form but will instead consider your participation in the survey as consent permitting me to collect the data you



provide. By completing the online survey, you will be agreeing to participate in the above described research study.

Should you have any questions or concerns about participation in this study, you may contact me using the information in the first paragraph. My faculty advisor is Dr. Pamela Stoeckel; email: pstoecke@regis.edu; phone: 303-458-4975. If you have any questions regarding your rights as a research subject, you may contact the OHSU Research Integrity Office at (503) 494-7887. You may also contact the Chair of the Regis University Institutional Review Board for human subjects participation by telephone at 303-346-4206; by mail at Regis University, Office of Academic Grants, 447 Main, Mail Code H-4, 3333 Regis Blvd., Denver, CO, 80221; or by e-mail at [irb@regis.edu](mailto:irb@regis.edu) with questions or concerns, or if you feel that participation in this study has resulted in some harm.

Sincerely,

A handwritten signature in black ink that reads "Michelle Hall". The signature is written in a cursive, flowing style.

Michelle Hall, MS, RN-BC  
DNP student, Regis University  
Faculty, Oregon Health & Science University, Baccalaureate Completion Program (RN/BS)

## Appendix I

### Survey

You were selected to participate in this survey of presence using a virtual meeting room because you are enrolled in NRS 427-Practice Integration. Thinking of your experiences in this online course and the virtual meeting room, please answer the following questions based on those experiences. There are four demographic-type questions and three open-ended questions in the survey. Your participation in this study involves completion of this survey. Participation in the survey is voluntary and the information is confidential. Participation in the survey will not affect your grade or progression in the program. Because of the qualitative nature of this study, if data are published, anonymous individual responses to questions may or may not be reported. There are no right or wrong answers to the survey, and it should take approximately 15-20 minutes to complete. At any time, you may choose to omit a question for whatever reason or stop the survey. Completing the survey poses few, if any, risks to you. In fact, your participation in this study is a valuable contribution to knowledge in the area of distance education, and is therefore greatly appreciated.

If you have any concerns or questions about your participation in this survey, please contact the principle investigator Michelle Hall at [halmiche@ohsu.edu](mailto:halmiche@ohsu.edu) or hall911@regis.edu. For information concerning your rights as a research participant you may contact the Regis Institutional Review Board (IRB) at 303.458-4206 or [irb@regis.edu](mailto:irb@regis.edu) or the OHSU Research Integrity Office at (503) 494-7887.

Completing and submitting the survey indicates that you have read and understand the information above and implies your informed consent to participate. Thank you.

Demographic questions:

1) How many online courses have you taken before this course (NRS 427)?

- a. None
- b. 1-2
- c. 3-5
- d. more than 5

2) How many virtual meeting room sessions did you attend?

- a. (Enter number in text box)

3) Gender

- a. male
- b. female

4) Age

- a. 20-29
- b. 30-39
- c. 40-49
- d. 50+

Answer the following questions. Include details or examples as much as possible:

5) Describe your experience participating in the virtual meeting room.

6) Give your impressions of talking to and seeing the instructor in the virtual meeting room.

7) What is the difference in having a virtual meeting room compared to what you have experienced previously in your online classes?