



Study Protocol for a Scoping Review on Social Presence

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Abstract: In the field of e-learning and distance education, there has been a significant amount of research activity surrounding the construct social presence. However, a scoping review on social presence has yet to be conducted. Therefore, the purpose of this brief review is to provide an overview of the research protocol developed for a scoping review of social presence. The methodology developed by Arksey and O'Malley for the conducting of scoping reviews will guide the study. It will include a search of six electronic databases followed by a two-stage screening process. Of those studies identified for inclusion, data will be extracted using a standardized form. For data pertaining to study characteristics a descriptive numerical analysis will occur. A qualitative content analysis will be undertaken for the qualitative data extracted. Results will be charted and mapped enabling the development of a conceptual framework and best practices in the development and application of social presence. Results of the scoping review once completed, will be discussed within the context of current literature along with the identification of research gaps, limitations, and recommendations for future research.

Keywords: evidence synthesis, higher education, literature review, online learning, scoping review, social presence.

Résumé : Le champ du e-learning et de la formation à distance est le lieu de nombreuses activités de recherches portant sur la notion de la présence sociale. Cependant, aucun examen de la portée sur la présence sociale n'a encore été mené. Par conséquent, l'objectif de cette brève revue de littérature est d'offrir une vue d'ensemble du protocole de recherche développé dans le cadre d'un examen de la portée sur la présence sociale. La méthodologie développée par Arksey et O'Malley pour la conduite des examens de la portée guidera cette étude. Elle va comprendre une recherche portant sur six bases de données électroniques suivit par un processus de sélection en deux étapes. Les données des études retenues seront extraites en utilisant un formulaire standardisé. Les données relatives aux caractéristiques de l'étude feront quant à elles l'objet d'une analyse numérique descriptive. Une analyse qualitative de contenu sera mise en œuvre pour analyser les données qualitatives extraites. Les résultats seront cartographiés et présentés sous forme de graphiques favorisant le développement d'un cadre conceptuel et l'identification de bonnes pratiques dans le développement et l'application de la présence sociale. Une fois l'examen de la portée arrivé à terme, ses résultats seront discutés dans le contexte de la littérature actuelle allant de pair avec le pointage des lacunes et limites des recherches menées jusqu'à présent accompagné de recommandations pour celles à venir.

Mots-clés : synthèse des preuves, enseignement supérieur, revue de la littérature, apprentissage en ligne, examen de la portée, présence sociale.

Introduction

Education is a social event and replicating online the social interactions experienced in a face-to-face environment can be a complex undertaking. To help define these interactions, scholars have advanced the concept of social presence. However, social presence was originally conceived for learning environments characterized by email, discussion, and chat when online communication was relatively rudimentary (Rourke, Anderson, Garrison, & Archer, 2001; Yen & Tu, 2004). Consequently, the understanding of what comprises effective affective communication (i.e., social presence) has become a more complex multi-faceted phenomenon. This is in part, because the construct is characterized by



multidisciplinary research in the fields of higher education, social psychology, educational psychology, information technology, and computer science (Chen, Fang, & Lockee, 2015). As a result, the construct of social presence lacks clarity, with definitions tending to fall along a continuum making it difficult to aggregate findings to determine what is working and what is not (Chen et al., 2015; Kreijns, van Acker, Vermeulen, & van Buuren, 2014; Kreijns, Kirschner, & Vermulen, 2013; Lowenthal, 2010).

To address this problem, a scoping review of the social presence research literature will be conducted to help determine how social presence has been defined, described, and developed in online learning environments. Using this rapid review of the literature, the scoping review will attempt i) to develop a better understanding of what constitutes social presence through the mapping of a conceptual framework and ii) to identify some practical guidelines for instructors and course developers in how to create and use social presence to strengthen student's learning in quality online learning environments.

The purpose of this paper, then, is to report the research protocol for the social presence scoping review. Scoping reviews of primary research are increasingly becoming popular as a way to map relevant literature in-depth, clarify conceptual limitations, and articulate working definitions (Colquhoun et al., 2014; Peters et al., 2015). They are particularly useful when there is a large complex body of heterogeneous research that does not lend itself to the rigors of a systematic review (Arksey & O'Malley, 2005; Peters et al., 2015). The reporting of a research protocol is common practice for systematic reviews and is increasingly becoming a preferred practice for scoping reviews (Colquhoun et al., 2017). This is desirable as scoping review protocols inform the research community of research in progress, while providing methodological guidance and the development of a more rigorous approach to knowledge synthesis.

Literature Review

Part of the challenge in maintaining quality learning environments, is keeping pace with the plethora of social communication tools characteristic of the medium available that can facilitate social processes and authentic learning experiences (Dunlap & Lowenthal, 2009). To help understand social and interpersonal communication in an online environment the construct of social presence was developed. Social presence has long attracted attention of those involved in online learning typified by collaborative learning environments. One of the primary objectives for online learning has been the creation of an environment where the learner is at ease and experiences comfort in their communications with others (i.e., social presence). This is viewed as desirable because evidence suggests that when learners experience a high degree of social presence, they are more likely to engage their cognitive presence in higher order thinking (Garrison, Anderson, & Archer, 2000; Garrison, Cleveland-Innes, & Fung, 2010); actively participate in online communications (Cui, Lockee, & Meng, 2013; Danchak, Walther, & Swan, 2001); are less likely to drop out of their classes (Bowers & Kumar, 2015; Robb & Sutton, 2014); and are more satisfied with their learning experience (Gunawardena & Zittle, 1997; Moallem, 2015; So & Brush, 2008). As a result, social presence has come to be considered the critical affective component and is one of the more important constructs in determining the level of interaction and effectiveness of learning in an online environment (Borup, West, & Graham, 2012; Kim, Kwon, & Cho, 2011; McIsaac & Gunawardena, 1996; Lobry de Bruyn, 2004; Richardson & Swan, 2003).

The genesis of social presence theory lies in the conceptualization from social psychology of immediacy (Wiener & Mehrabian, 1968) and intimacy (Argyle & Dean, 1965) surrounding face-to-face

communication. In face-to-face communication, immediacy refers to the psychological distance between two speakers, whereas intimacy is the closeness obtained, verbally and non-verbally, among individuals and maintained by immediacy behaviors (Rettie, 2003). When applied to online environs, which in the past was referred to as computer mediated communication (CMC), Short, Williams, and Christie (1976) defined social presence as the “degree of salience of the other person in the communication and the consequent salience of the interpersonal relationships” (p. 65).

Earlier efforts in conceptualizing social presence theory were specific to business and organizational environments (Lowenthal, 2010). Over time thinking changed on how interpersonal and social communication was perceived, which subsequently influenced social presence research. This reconceptualization of social presence theory from a strictly technologically determined event to one that was co-determined by social and interpersonal interactions was, in part, a result of educational researchers exploring the effects of the construct in online learning environs (Gunawardena & Zittle, 1997; Tu & McIsaac, 2002).

For example, Gunawardena (1995) in her study on social presence theory concluded that immediacy behaviors enhance and maintain social presence and that those who moderate CMC need to promote a sense of online community so that interaction in collaborative learning environments can occur. By so doing, the degree to which an individual in an online learning environment is perceived as a real person is enhanced.

In framing good pedagogical practices for online learning, Garrison et al. (2000) developed the community of inquiry model to recognize the transactional relationship between instructors and learners through the interaction of cognitive presence (i.e., of the learner), teaching presence (i.e., the structure and process), and social presence (i.e., affective interpersonal communication). According to Garrison et al. (2000), these elements, which define the community of inquiry model, are fundamental to a successful higher education learning experience. A key component in the model is the concept of social presence, which refers to the extent we are able to present ourselves emotionally and socially in an online environment as a real person.

In assessing social presence through the coding and analyzing of text-based transcripts, three categories of communicative responses were identified by Rourke et al. (2001) that include affective indicators (i.e., values, beliefs, feelings, and emotions); cohesive indicators (i.e., group presence and commitment); and interactive indicators (i.e., attending in a socially meaningful way). Although Rourke et al. (2001) recognized that the coding and analyzing of text-based transcripts using the aforementioned indicators provided a measure of the density of social presence, they also believed future exploratory studies including factor analysis would aid in further defining the construct.

With increased attention focused on the community of inquiry model, a number of investigations exploring the measurement characteristics of the scales and subscales subsumed within the model began to occur (i.e., Arbaugh, 2007; Garrison & Cleveland-Innes, 2005; Swan & Shih, 2005). Similarly, researchers began to test hypothesis on the effects of social presence in online learning environments outside of the community of inquiry model (i.e., Kim, Kwon, & Cho, 2011; Kreijns, Kirschner, Jochems, & van Buuren, 2011; Sung & Meyer, 2012; Tu & Yen, 2006; Wei, Chen, Kinshuk, 2012). With these developments the interpretation of social presence theory and the differences in how it was being defined, operationalized, and empirically validated became more apparent.

For example, Tu and McIsaac (2002) elaborated on the construct by defining social presence as the “degree of feeling, perception, and reaction of being connected via CMC to another intellectual entity”(p. 140). Tu (2005), incorporating social learning theory, developed and validated (Tu & Yen;

2006; Yen & Tu, 2008) the computer-mediated communication questionnaire (CMCQ). In the initial validation study, a five-factor solution comprised of the social form of communication, privacy, intimacy, social context, and interactivity factors were found to exist (Tu & Yen; 2006; Yen & Tu, 2008).

Meanwhile, Sung and Meyer (2012), building on their previous research, redefined social presence as “the subjective feeling of being connected and together with others during computer-mediated communication” (p. 1740). In their study measuring the construct, a five-factor solution that included social respect, social sharing, open mind, social identity, and intimacy were found to exist. However, a major limitation of the study was that it focused only on university students in Korea, with future research needing to examine if similar findings are replicable in samples with different ages, genders, grades, and cultural backgrounds (Sung & Meyer, 2012).

At the same time, others have furthered research on the social presence construct within the context of the community of inquiry model as developed by Garrison et al. (2000). Kreijns, et al. (2014) argue that in the community of inquiry model only aspects of social space are measured (i.e., salience of the interpersonal social relationships; Short et al. 1976), and not the psychological realness of individuals communicating within an online environment (i.e., salience of the individual in the interaction; Short et al. 1976). Consequently, this has led Kreijns et al. (2014) to extend the community of inquiry model of social presence into a two-dimensional construct.

Although the aforementioned brief review is not exhaustive, it does illustrate the understanding that what comprises effective affective communication has become more complex. As a result, social presence and its theoretical underpinnings have come to be understood as a multi-layered and multifaceted phenomenon with definitions tending to fall along a continuum making it difficult to aggregate findings to determine what is working and what is not (Chen et al., 2015; Kreijns et al., 2014; Lowenthal, 2010). These definitional ambiguities might seem superfluous but the interaction between on-task and off-task social interactions within the cognitive, learning, and social/interpersonal dimensions are important to the understanding of how best to structure, develop, and facilitate online learning environments that engage and retain learners (Kreijns et al., 2013).

Therefore, a scoping review of the construct social presence will be conducted to determine how it has been conceptualized and implemented in higher education. Within this context, the objectives of the scoping review are threefold. The first is to develop a better understanding of social presence by determining what variables are ascribed in the literature to the construct. The second is to map a conceptual framework that synthesizes the research literature on social presence. The third is to identify some practical guidelines for instructors in how to create and use social presence to strengthen students’ learning in online learning environments. As social presence is the critical affective ingredient in online learning, a better understanding of what constitutes the construct and how best to incorporate it in the development, design, and instruction of online learning is important, as it should lead to higher learner satisfaction and a more effective online learning environment. In turn, post-secondary institutions will be better positioned to attract, retain, and graduate students so they can meet the challenges and demands of an evolving society and labor market.

Methodology

The scoping review will follow a five-stage approach, integrating the original scoping study design of Arksey and O'Malley (2005), with enhancements by Levac, Colquhoun, and O'Brien (2010), and guidelines in the conducting of scoping reviews as outlined by Peters et al. (2015). The five stages include identifying the search questions; identifying relevant studies; selecting studies; charting the

data; and collating, summarizing, and reporting the results. The decision to use a scoping study is based on the literature available to review. Rather than a systematic review or meta-analysis, which have well defined research questions and very specific criteria for focusing on randomized trials, scoping studies are considered more rapid reviews of the literature, ask broad questions, can have post hoc inclusion/exclusion criteria, do not assess for bias, and examine a wide range of evidence (Levac et al., 2010). A scoping study is desirable because by synthesizing the research literature on social presence the opportunity to reconstitute the construct into a multidisciplinary conceptual framework, while identifying practical guidelines for the development of social presence and recommendations for future research, is to be facilitated.

Research Questions

The research questions for the scoping study are as follows. What elements, either technological or social, bring about the development of effective affective communication? How are these aforementioned elements, conceptually related to the construct social presence? What outcomes are the results of social presence?

Search Strategy

Using the research questions outlined, a preliminary list of key concepts will be constructed. The initial key concepts will include terms such as post-secondary, online learning environment, student/teacher affect, and finally social presence. Databases selected will yield literature pertinent to a study on social presence and will include ERIC, PsychINFO, ProQuest, ProQuest Dissertation and Thesis, and JSTOR. Using the list of key concepts, each broad term will be mapped to terms in the first database (ERIC/OVID) to discover specific synonyms to search in ERIC and subsequent databases, see Table 1.

The Boolean operator “and” will then be used to build relevant search criteria and “or” will be used to combine the key concepts to extract relevant articles and documents for import into Endnote X8.

Limits will be put on the search to include relevant material from 1996 to present; key terms mapped will then be located anywhere in the reference material including the title, abstract, and full text. Relevant studies will then exported into Endnote X8 and de-duplicated.

Study Selection

Study selection for the social presence scoping review will involve a two-stage screening process to reduce the number of studies that will require a full text read. In the first stage, an initial title, abstract, and keyword screen for inclusion will be conducted by two reviewers with discrepancies resolved either through consensus or, if needed, involvement of a third reviewer. Inclusion criteria will be based on the relevancy of the material to social presence and effective affective communication (i.e., the social and interpersonal component). Studies in which social presence within online or e-learning environs is not the study focus will be excluded or designated as uncertain for inclusion. The second stage of the screening process will involve material previously identified as uncertain. To further ascertain if material identified as uncertain from the initial title and abstract screen are suitable for inclusion will require reading of the full text by the reviewers with consensus reached on relevancy for final inclusion.

Table 1. List of Search Terms Mapped by Key Concept

Key Concept	Search Term
Students' Affect	Affect, student attitudes, student behavior, student motivation, student participation, student interests, student satisfaction, student role, learning motivation, learner engagement, self-motivation, motivation, student presence, perception, involvement, student characteristics, undergraduate students, graduate students, doctoral students, international students.
Teacher Affect	Teacher participation, instructor presence, teacher presence, teacher behavior, teacher engagement, affect teacher, affect, teacher motivation, teacher participation, teacher role, teacher attitudes, teacher effectiveness, teacher response, teacher feedback, teacher styles, teacher communication, teacher characteristics, teacher clarity, teacher quality, teacher student relationships, interpersonal relationships.
Online Learning Environments	Online learning, electronic learning, technology education, blended learning, computer assisted instruction, computer mediated communication, distance education, educational technology, electronic classrooms, online courses, multimedia instruction, virtual classrooms, web based instruction, virtual universities, technology education, technology integration, technology uses in education, curriculum development, technology planning, mlearning, mobile learning, instructional systems, computer uses in education, technology, asynchronous communication, synchronous communication, blended learning, influence of technology, virtual classrooms, web based instruction, MOOCs, blog, blogging, online community, electronic communication, learning, learning environment.
Post-Secondary	Higher education, graduate study, post-doctoral education, undergraduate study, masters programs, doctoral degrees, international education, university, bachelor degrees, masters degrees, global education, open universities, universities without walls, virtual universities, extended universities, college instruction, colleges, non-campus colleges, private colleges, multi-campus college, education, graduate education, post graduate, undergraduate, continuing education, non-traditional education, independent studies, adult students, adult learning
Social Presence	Social infrastructure, social structure, interpersonal relationships, social presence, social presence theory, engagement, community of inquiry, virtual learning communities, immediacy, social context, online communication, interactivity, social process, communities, social capital, learning environment, psychological distance, social interaction, collaborative learning

Charting the Data

Of those studies screened for inclusion, through the above-mentioned two-stage process, a full text read will occur and a data extraction form will be completed. The data extraction form will be modeled after Peters et al.'s (2015) recommendations for the conducting of systematic scoping reviews and creation of data extraction forms. The form developed will summarize the study characteristics, purpose of the study, study design, participants, social presence practices, the type of study, methodology, results and/or outcomes, and along with key findings, implications, and conclusion.

The data extraction form will be piloted on a sample of five articles by the reviewers involved in the scoping study and will be assessed for completeness, ease of use, and percentage agreement between reviewers (i.e., targeted at > 80%). Based on the pilot testing, any modifications to the data extraction form needed will be undertaken to ensure the data necessary to address the research questions are obtained. The extracted information will then be entered into Word and Excel files with information, tabulated, and summarized by content (i.e., variable descriptions, common meanings, social presence practices, and outcomes) and displayed in the form of tables and figures.

Collating, Summarizing, and Reporting Results

The analysis for the scoping review will occur in two phases, a descriptive numerical analysis, and qualitative content analysis (Hsieh & Shannon, 2005). The descriptive numerical analysis will involve frequency counts, yearly percentages, and cumulative percentages for data pertaining to the study characteristics, design, and methodology. For example, to determine the distribution, volume, and type of studies carried out, where the studies were conducted, when the studies were conducted and the type of online learning experience being described, frequency counts will be used, as will yearly and cumulative percentages also be tabulated and reported. A qualitative content analysis will be undertaken for qualitative data gathered as it pertains to study purpose, framework elements, practices, outcomes/results, findings/conclusion, and limitations. The results will then enable the mapping of a conceptual framework and outcomes as it pertains to best practices in the development and creation of social presence. Results will then be discussed within the context of current literature, practice and policy, with conclusions and implications developed, along with identification of current gaps in the research, and recommendations for future research.

Potential audiences that may benefit from the expected outcomes will include those venues in which research, analysis, and development of online education, effective online teaching methods, online course design, and online program development occur. This will include the higher education online community that is composed of individuals interested in the strategic use of educational technology. Knowledge mobilization will include national, international conference presentations, webinars, peer-reviewed scholarly publications, and virtual presentations.

Conclusion

With the completion of the scoping study on social presence, expected contributions to knowledge are found in a deeper understanding of the concept and issues surrounding social presence and its role in online learning through a synthesis of the research literature. In turn, the higher education online community will benefit from a more strategic and informed conceptualization of what constitutes social presence and how best it is incorporated into quality online learning environments. This will enable those involved in online research to develop a shared understanding of the implications and contributions of their respective areas of study to effective social and interpersonal online communication. Additionally, the development, design, and instruction of online learning will be better informed as to those practices which can promote improved social and interpersonal communication necessary for quality online learning environments. Future research will be focused on the multifaceted and multi-layered nature of computer-mediated communication so that the conceptual model of social presence mapped in the present study, can be empirically validated. This will then facilitate the aggregation of research findings thereby ensuring that a repertoire of evidence-based best practices for excellence in higher education can be advanced.

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