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Communication and Security Issues in Online Education: Student Self-Disclosure in Course Introductions

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Abstract

In designing online and hybrid courses, instructors should consider structure, student motivation, and interaction (per Moore's 1993 Theory of Transactional Distance). To motivate students to interact and to build course community, instructors may assign student introductions. However, after examining students' introductions in a hybrid content-design course and an online design course, we noted that students self-disclosed private information in their introductions, whether to classmates or instructors. To investigate further, we analyzed the content of discussion-board and email-to-instructor introductions in a community college (first data set). Then, we analyzed discussion-board and memo-to-instructor introductions at a four-year university (second data set). We identified categories in the information that students disclosed, noting that they shared demographic, professional, academic, and personal information, some of which were identifiers that could compromise the students' privacy. Our findings are relevant to professional communication, instruction design, pedagogy, and writing research as the study sheds light on issues that we address as investigators, instructors, and student advocates in a variety of contexts, specifically online spaces.

Online education is becoming a larger part of higher education as students, instructors, and universities desire more flexibility with time, media, cost, technology, and space in the education process (Anderson, 2013; Ferenstein, 2013; Friedman, 2016; Kiley, 2011; O'Shaughnessy, 2010; Ruiz, 2011; The Best Schools, 2016; University Business Staff, 2006). According to Moore's (1993) Theory of Transactional Distance, as online education evolves, instructors must maintain three consistent elements—structure, student motivation, and interaction. However, in encouraging student interaction, instructors need to be aware that students may disclose private information that may make them vulnerable or that may be unnecessary or inappropriate. This study addresses the information; future research should explore the effects of students self-disclosing private information.

Background

The Theory of Transactional Distance relates to pedagogy and students' physical separation (geographic) in distance learning. Moore (1993) defines transactional distance as a "psychological and communications space" (p. 22) that varies per the educational context because of variables like the instructor, the student, the purpose of the course, and the course content. Truly, all courses and programs (face-to-face, hybrid, and distance courses) have some element of transactional distance because students must study independently, outside the classroom, to prepare for class. However, distance education students may never meet their instructors or classmates, and thus they perpetually exist in that space.

For students to succeed in an environment of transactional distance, faculty must structure their courses with a usable, student-centric design so students can begin the course and easily understand the course elements such as the tools they are using, the objectives of the course, the requirements to succeed, and the methods for communicating with their classmates and their instructor. The Theory of Transactional Distance (Moore, 1993) was established with "broadcast, recorded or correspondence media" or with teleconferencing (p. 37); the technology that has emerged and that distance education programs use today could not have been anticipated in 1993. Today, instructors can use virtual classrooms, social-media portals, and education tools (like Blackboard and Canvas) that help them to structure classes in consistent, user-friendly, tested, and university-accepted frameworks.

The second element is student motivation. Students cannot succeed in an online or hybrid class if they are not motivated to succeed in that class. They must be motivated to register for an online class, to enter the online "classroom," or to work with excellence through the course content. Therefore, instructors need to build motivators into their design. Motivation can be improved with orientation of the space, rewards, and information about a course's objectives and outcomes.

This study addresses the third element of Moore's (1993) theory: interaction. Students cannot succeed if they do not interact: with the course content, with other students, and with the instructor. In the past, interaction may have been limited to reading the content of the course, completing assignments, and returning materials to the instructor. However, online learning is now structured with tools for asynchronous and synchronous communication, allowing students to learn more. Students also are more motivated when they connect with their course community and can ask questions of their instructor. As students interact with each other and with their instructors, they may self-disclose private information, even before they establish relationships in the course. Therefore, in this study, we ask the following two questions:

- What information do students share in their introductions?
- Will students disclose different information, depending on if they are introducing themselves to their classmates or to their instructors?

In the context of online learning, instructors may ask their students to introduce themselves to each other and to the instructor: to begin to create relationships in the online classroom (Academic Partnerships, 2013; Las Positas College, n.d.). However, with current emphasis on student privacy with legislation like the Family Educational Rights and Privacy Act (FERPA; U. S. Department of Education, n.d.), Title IX (U. S. Department of Education, 2015), and the Health Insurance Portability and Accountability Act (HIPAA; U. S. Department of Health & Human Services, n.d.), instructors must be careful with what they request in course introductions. FERPA, in particular, is emphasized at institutions of higher education; instructors

are reminded to respect students' confidentiality, not exposing students' names, addresses, phone numbers, birthdates, immunization, honors, attendance, or course performance (Association of State and Territorial Health Officials, 2016). Title IX protects from sex discrimination and ensures that individuals reporting any discrimination or crime will be investigated. HIPAA protects health-related information, which includes demographic information (such as name, addresses, birthdates, and Social Security numbers) as well as the individual's physical and mental health (Association of State and Territorial Health Officials). Health information includes the students' accessibility needs.

Students are accustomed to introducing themselves online in virtual worlds, online games and communities, social media, networks, forums and discussion boards, "About Me" pages, and other cyberspaces where they create their identities and introduce themselves in context for the medium. In online spaces, individuals tend to interact and self-disclose (Attrill & Jalil, 2011; Mesch & Beker, 2010). Identity is a part of participation in online spaces (Killion, Gallagher-Lepak, & Reilly, 2015; Smedinghoff, 2008).

We are not the only instructors to note a shift in student self-disclosure. In 2012, an instructor shared his own experience in *Chronicles of Higher Education* (Winzenburg, 2012). He shared that his students, of a generation that publicly shares personal and sometimes intimate information via social media, seem to think nothing of sharing their experiences, discussing their miscarriages, abortions, affairs, alcoholism, gambling activities, illegal drinking, sex with a prostitute, and other private information. He also noted that, as technology becomes a larger part of interaction and of higher education, students are sharing more information online and face-to-face with their instructors and with their classmates.

Defining Online Education

Online education is "not simply a geographic separation of learners and teacher, but, more importantly, is a pedagogical concept…describing the universe of teacher–learner relationships that exists when learners and instructors are separated by space and/or time" (Moore, 1993, p. 22). For this reason, effective online education and learning involves the

- structure of instruction (Bennett, Agostinho, & Lockyer, 2015; Moore, 1993);
- interaction between learner and instructor and between learners (Anderson & Deel, 2013; Angiello, 2010; Dias & Trumpy, n.d.; Moore, 1993; Richardson, Koehler, Besser, Caskurlu, Lim, & Mueller, 2015); and
- motivation or direction of learners (Cho & Heron, 2015; Moore, 1993).

These elements require strategic design and planning by the instructor, as well as effort and motivation by the instructor and the students.

Online education can describe online courses or courses that involve online elements, as do hybrid and some face-to-face courses.

> Online courses … are defined as those in which at least 80 percent of the course content is delivered online. Face-to-face instruction includes courses in which zero to 29 percent of the content is delivered online; this category includes both traditional and web facilitated courses. The remaining alternative, blended (sometimes called "hybrid") instruction is defined as having between 30 percent and 80 percent of the course content delivered online. (Allen & Seaman, 2011, p. 9)

Different institutions for higher education have varying percentages as their standards for online, hybrid, blended, and face-to-face courses.

Online and hybrid courses are a responsibility and an investment. Compared to face-to-face courses, they require more of the instructor (Shaw & Young, 2003) and also more of the students, who must

- manage time (Allen & Seaman, 2013; Fitzgerald, Anderson, & Thompson, 2015; Varvel, 2001);
- direct their own learning (Fitzgerald, Anderson, & Thompson, 2015);
- gain a sense of community (Anderson & Deel, 2013; Bannier, 2014; Booth, 2012; Taradi & Taradi, 2004; Varvel, 2001);
- develop communication skills (Varvel, 2001);
- know computer systems and software as well as access the Internet (Varvel, 2001); and
- self-motivate (Fitzgerald, Anderson, & Thompson, 2015; Varvel, 2001).

Although students may need to face challenges related to online education (Moreillon, 2015; The Best Schools, 2016), they often benefit from those challenges. Online learning allows them ownership so they share in the responsibility to create and share knowledge (Bailey, Hendricks, & Applewhite, 2015; Long, 2013; Moreillon, 2015; Taradi & Taradi, 2004) as they interact (Akyol & Garrison, 2008; Darabi, Liang, Suryavanshi, & Yurekli, 2013; Doring, Hodge, & Heo, 2014) and as they research and generate knowledge (Bryant & Bates, 2015). Students interact and respond in discussion boards, provide peer feedback, interact in collaborative projects, and communicate via what we would call "back-stage"—behind-the-scenes (rather than public for the entire class or instructor) communication. Student involvement allows the instructor to serve more as instructor, mentor, and guide rather than sole source of knowledge (Bailey, Hendricks, & Applewhite, 2015; Beaudoin, 2015; Moreillon, 2015).

Students also benefit through

- spatial (geographic) and temporal (scheduling) flexibility (Berry, 2006; Franklin University, 2015; Long, 2013; Taradi & Taradi, 2004);
- diverse instructor pools and classmates with various backgrounds and broadened perspectives who interact and provide feedback (Crawford-Ferre & Wiest, 2012; Franklin University, 2015; Ozmen & Atici, 2014; Picciano, 2002);
- experience and innovative strategies with latest technology—for virtual learning as well as teamwork (Franklin University, 2015);
- access through technologies that allow flexibility (Franklin University, 2015; Taradi & Taradi, 2004); and
- self-determined pace and style of learning (Franklin University, 2015; Long, 2013; Moreillon, 2015) and agency in communication (Berry, 2006; Liu, Chen, Liu, Lin, & Chan, 2010; Taradi & Taradi, 2004).

These benefits equate to freedom, knowledge of and experience with technology, autonomy, agency, and responsibility as scholars. Students learning online have freedom (to travel, to work, to balance their lives, and to prioritize their schedules) as they learn and pursue their education. They benefit from instructors and classmates who may live in different locations or cultures and provide multiple perspectives on the course content by bringing diverse influences to the coursework. Students in online courses must stay abreast of the latest technology and must be technologically savvy so they can use, maintain, and troubleshoot virtual tools (including videos, collaborative phone calls, instant messaging, discussion boards, linked readings, online research, university resources, email, wikis, blogs, chat rooms, social networks, and online meetings or webinars—tools that are used in industry) to accomplish their coursework. Students have the

autonomy and agency: to identify when and how they best learn, to take ownership, and to customize their learning experience. This ownership also empowers them to determine the direction of their communication in the online space: to have a voice and interact equally, to choose with whom they interact, to communicate with one or more people, to choose when to participate, and to archive the interaction.

Interacting in Online and Hybrid Courses

Students need to interact with their classmates and instructors to succeed; by interacting, students feel connected and motivated. Interaction in learning settings also is fundamental for students to develop cognitively as well as to be satisfied in their learning (Frisby & Sidelinger, 2013; Ozmen & Atici, 2014; Picciano, 2002; Swan & Shih, 2003; Taradi & Taradi, 2004). Without interaction, students can feel disconnected and isolated (Hughes, Ventura, & Dando, 2007). Students also benefit when instructors interact and self-disclose (Imlawi & Gregg, 2014; Imlawi, Gregg, & Karimi, 2015; Mazer, Murphy, & Simonds, 2007), although research shows that students feel "a need to keep their instructors idealized and professional" and do not want instructors to disclose anything that would damage the instructor's credibility but only want to know positive personal information about their instructors (DiVerniero & Hosek, 2011, p. 443).

As community develops in the online classroom, students participate in "meaningful, shared discourse" and thus learn "through productive work with others" (Crawford-Ferre & Wiest, 2012; p. 12). As they seek to learn and they ask questions, online students may have more time and motivation to research information and to develop their own ideas (Weiss & Morrison, 1998) or to consider a topic and respond (DeLoach & Greenlaw, 2007) than do traditional students. When students are unable to gain immediate feedback from instructors, they may research on their own (DeLoach & Greenlaw, 2007) or collaborate with classmates, interacting more (Beck, 2010; Berry, 2006; Xia, Fielder, & Siragusa, 2013) and gaining diverse perspectives (Dennen, 2005; Greenlaw & DeLoach, 2003). When they interact (Xia, Fielder, & Siragusa, 2013) and use technology (Krentler & Willis-Flurry, 2005), students participate more, learn more, and perform better in class (Cheng, Paré, Collimore, & Joordens, 2011; Krentler & Willis-Flurry, 2005).

Self-Disclosing in Online Spaces

Self-disclosure is an element of privacy related to personal information and how it is shared and used with others (Joinson & Paine, 2007; Mesch & Beker, 2010). It is "a process in which one person discloses the information about himself [or herself] to another" (Liu, Chen, Liu, Lin, & Chan, 2010, p. 119). In enrolling, participating, and interacting in online and hybrid courses, students need to feel some sense of trust (Wang, 2014, p. 346) for several reasons (Mesch & Beker, 2010; Wang, 2014) that affect student satisfaction, retention, and interaction (O'Brien & Renner, 2002). They must also trust as they disclose information about themselves; in particular, students are vulnerable when they post questions (e.g., on discussion boards or in chat rooms) about course material or their experience (Hughes, Ventura, & Dando, 2007; Mesch & Beker, 2010)—"the telling of the previously unknown … becomes shared knowledge" (Joinson & Paine, 2007, p. 237). Research by Liu, Chen, Liu, Lin, and Chan (2002) indicate that the link between self-disclosure to trust is insignificant, but they suggest that their research needs to be replicated in a longitudinal study (p. 127).

Trust and privacy are particularly interesting to consider in online courses, where traditional students (18–24 year olds) know and use technology. Students consider their privacy

when establishing their online identities, according to research by the Pew Research Center (Rainie, 2016). Pew reports that adult (≤18 years) Internet users report that the following information (among other data) about themselves exists online:

- 66%—at least one photo;
- 50%—birthdate; and
- 46%—email address (Rainie, 2016).

Of adults polled, one-half said they worry about their information that is online (para. 2). Most Americans polled did consider security and privacy versus the benefits of sharing information online (para. 3). Students are selective about what they self-disclose in online classes and with whom they shared that information (Heo, 2011). They may share information related to class, but they may protect information that they feel is insignificant in online coursework.

Most relevant to this study of self-disclosure in online courses was that adults 18 to 29 years were more likely to have personal information online (90% of respondents), to know what that information was, and to experience problems with their privacy (Rainie, Kiesler, Kang, & Madden, 2013). They were also more likely to pay attention to their privacy, limiting information, changing privacy settings, deleting comments, and removing photo tags (Rainie, 2016, para. 9).

In examining students' introductions in a hybrid course and an online course, we noted that students self-disclosed private information in their introductions. Therefore, we analyzed the content of discussion-board and email-to-instructor introductions in the online course at a community college (our first data set) and discussion-board and memo-to-instructor introductions for a hybrid course at a four-year university (our second data set). We identified categories of information that the students disclosed: demographic, professional, academic, and personal information. Some of the information they disclosed were identifiers that could compromise the students' privacy.

Methods

After our courses were over (and we had noted with concern the amount of private information students had self-disclosed) we conducted this study. Before collecting student data and analyzing content, we requested and received Institutional Review Board (IRB) approval from both the community college and the four-year university.

Gathering Data

We analyzed student introductions from two sections of an online course. We then replicated our method to analyze introductions from students in three sections of a hybrid course.

For the first set of data, we gathered data in a local community-college course from two fully online sections of a computer-graphics (art and design) class. In the first section, the instructor requested that students post their introductions on the discussion board (with no other specifications), and 17 students posted introductions. The discussion board was the tool embedded in the college's learning site and thus was available only to the instructor of record and the students enrolled in that section of the course. In the second section, the instructor asked students to email her an introduction, and 20 students responded by emailing her at her college email address. Her prompts for both classes were simply to ask students to introduce themselves; she did not dictate any content. After the course ended and IRB approval was obtained for the study, the instructor of record passed the introductions to a research assistant who blinded the

content. Both investigators analyzed the content separately, creating lists of codes and nodes that we used for both sets of data. We calculated inter-rater reliability at 84.0%.

We then replicated this method with three sections of a hybrid content-design course at a local four-year university. The instructor assigned introductions; she asked students to post an introduction on the discussion board, which was embedded in the university's learning site so only students and the instructor could access those introductions. She also assigned an introductory memo for the students to submit to her, prompting them to share their background and goals and asking them to upload the memos to a learning site so only the instructor could access the memos. Of the 73 total students in three sections, 66 posted introductions on the discussion board and 58 submitted memos to her. With IRB approval, the instructor downloaded the content and blinded it. (The content was not analyzed until after course grades were posted).

We did not collect demographic information from the students other than that which the students shared in their introductions. We blinded all information and did not pair student records with introductions.

Analyzing Content

We conducted content analysis to categorize the information that students included in their introductions—demographic, professional, academic, and personal information—and thus to identify disclosure. We chose content analysis to consider the content of the students' introductions rather than the language construction, textual analysis, or the interaction mapping between students: "to understand, explain, explore, discover and clarify situations, feelings, perceptions, attitudes, values, beliefs and experiences of a group of people" (Kumar, 2014, pp. 132–133). We obtained the physical form of the data and proceeded through three phases of qualitative analysis: coding, categorizing, and modeling (Hughes & Hayhoe, 2008, p. 86).

For content analysis, we began by scanning the data and making notes (Hughes & Hayhoe, 2008, p. 87) and then open coding (Creswell, 2007 p. 64), similar to that method used in grounded theory (Glaswer & Strauss, 1967). Each code—"a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (Seldaña, 2009, p. 3)—allowed us to categorize the information that students were sharing and then cluster the information (Geisler, 2004) into larger categories or themes across multiple texts (Meyer, 2010). After one researcher coded the content, the second researcher coded a section (about 10.0%) of the content to ensure inter-rater reliability; we accomplished 84.0% with minor differences. We used Microsoft Excel for the coding process and analyzed data as a whole. We maintained one spreadsheet for content and created another spreadsheet to note the presence of information in that code (1) or the absence (blank).

Results and Discussion

For both instructor's data sets, the media, the course formats and content, the audiences, the instructors, the students, the schools, and the prompts for introductions differed; however, in all sections, interaction was an active part of the instructor's course design, and, for both classes, students were not asked to submit personal or private information. Also, together, we followed the same research protocol in our analysis of data. Students may respond differently, particularly per different media or with different prompts; however, our concern is not how they respond but the private information they included in their introductions.

We analyzed the content of the discussion-board introductions (DBIs) and email introductions to the instructor (EIIs) in our first set of data (d1) and the DBIs and memo introductions to the instructor (MIIs) in the study of the second data set (d2). Our results and discussion are clustered in this section by demographic, professional, academic, and personal information. Considering our review of the literature, we address the information that we consider particularly surprising and relevant; follow-up research may illuminate additional disclosures or concerns.

Demographic Information

We coded traditional demographic information (names and ages or birthdates) that students shared as demographic information. We also categorized photographs as demographic information, as those would give some idea of age, gender, ethnicity, and other physical traits that might identify a student.

In the first data set, 13 students (65.0%) shared their names in their emailed introductions (not considering the return-email-address identifier), and 14 students (82.4%) shared their names in the discussion board introductions (in addition to identifiers that the learning site automatically posts). In the second data set, all 58 students (100%) included their names in the memo introduction, and 65 students (98.5%) shared their names in the discussion-board introductions (in addition to identifiers that the learning site automatically posts). Regarding ages, birthdates, and photographs, in the first data set, two students (10.0%) shared their ages in their emailed introductions, and two students (11.8%) shared their ages in the discussion-board introduction; no students shared their birthdates. In the second data set, 18 students (31.0%) shared their ages or birthdates with year (so their ages could be calculated), but in the discussion-board introductions, only one student (1.5%) shared age. Regarding photographs, five students (25.0%) in the first data set emailed photographs to the instructor; students (0.0%) in the first data set did not post photographs in their discussion-board introductions, and students (0.0%) in the second data did not share photographs. Data about demographic information reported in student introductions for both data sets is presented in Table 1.

Table 1
Demographic Information that Students Shared in Introductions

Introduction Type and Data Set	Total Students (n)	Name (Percent)	Age (Percent)	Picture (Percent)
EII d1	20	13 (65.0%)	2 (10.0%)	5 (25.0%)
DBI d1	17	14 (82.4%)	2 (11.8%)	0 (0.0%)
MII d2	58	58 (100%)	18 (31.0%)	0 (0.0%)
DBI d2	66	65 (98.5%)	1 (1.5%)	0 (0.0%)

Note. Name, age, and picture columns depict number of students (percentage of total).
DBI—discussion-board introduction to instructor; EII—email introduction to instructors; MII—memo introduction to instructor; d1—first data set; d2—second data set

We were surprised that five students included their photographs in their email introductions in the first data set. Although pictures can be a part of identity (Noland, 2006) and students currently build their self-esteem and identity through photographs (Mendelson & Papacharissi, 2010), neither instructor had experienced students who submitted photographs as part of any introduction in past courses. Sharing photographs can create privacy issues because facial recognition software is available and now is a default on social-media platforms like Facebook. The act of students sharing photographs with their instructors did not create a privacy issue, as the students' introductions were sent in emails via the college's secure email system. However, with adults reporting that 66% have at least one photo online (Rainie, 2016) and expressing concerns about privacy, instructors should encourage students to be cautious about sharing photographs. We did not conduct visual analysis on the photographs and we did not ask questions of these students about their reasons for including photographs. We wondered if students included photographs because of cultural norms, as (per one instructor's international experiences) the U. S. and Western cultures do not include photographs with resumes, but some Eastern nations require photographs with job applications and resumes. We suggest future research to investigate if students frequently post photographs in online learning environments and inquire as to why. We could also investigate if students include visuals as part of their identities and thus their introductions, much like they use avatars or profile pictures.

We were not concerned about students sharing their names in these studies because they posted in our school learning sites (secured) that automatically identifies them, or they emailed or shared memos when they introduced themselves to their instructors, and names would be conventional elements of those media. However, we were surprised with the number of students who shared their birthdates, which are FERPA protected (Association of State and Territorial Health Officials, 2016). In their memo introductions in the second data set, 12.0% of students shared their birthdates. This is not a FERPA issue because the memo introductions were submitted via password-protected files to the instructor. However, we wonder if students realize the importance of their birthdates as identifying information. Future research might ask students about their approximation of the importance of identifiers like their birth dates (with year).

Professional Interests and Employment

We coded professional information as professional interests and current employment information as it related to the students' expressed professional goals, their current employment, or interests related to the art course that the students were taking toward their major field of study. Similarly, the second data set includes information that the students shared that related to their current employment or their professional goals, including interests related to the course they were taking, which was a required course for their majors.

Regarding professional interests and goals, in the first data set, in their emailed introductions, five students (25.0%) expressed professional interests, many related to the art course they were taking; these interests included photography, drawing and art, and graphic design. In the discussion-board introductions, only one student (5.9%) shared professional interests: "graphic design, photography, writing, and drawing," which also related to the course content and the student's major. In the second data set, 34 students (58.6%) expressed professional interests in their memo introductions, and in discussion-board introductions, 55 students (83.3%) shared their professional interests. Interests that students referenced in the second data set overlapped in the two types of introductions (memos and discussion boards) and included

- game design (table-top and video with skills including level-design theory, character design, and 3D art);
- sound and environmental design;
- user experience;
- animation (including rigging, texturing, light composition, character design, concept art, and story development); and
- coding.

(These students were pursing degrees in art-related technology fields; therefore, most of their professional interests related to games, design, art, and programming.)

Regarding current employment, in the first data set, in their email introductions, eight students (40.0%) shared information about current employment, such as

- "I am a self-employed artist,"
- "I work at [CITY] Vintage Shop in [CITY]," and
- "I am a PreK teacher…."

One student wrote, "Visas don't allow you to work in the US [so I am not working while I go to school]." In the discussion-board introductions, five students (29.4%) shared about current employment, stating

- "[I] own Farmers Insurance,"
- "I am a certified pharmacy technician," and
- "I am a freelance video editor."

The jobs differed in the two types of introductions; however, the comments were consistent with job titles and tasks. In the second data set, students also shared employment information: in their memo introductions, 17 students (29.3%) shared information about current employment, and in their discussion-board introductions, 12 students (18.2%) shared about current employment. Whereas one student noted, "I work part-time" and another stated, "I work full time," the other students noted more specific jobs, such as

- quality-assurance representative for [corporation],
- respite-care provider for special-needs children and adults,
- artist at a koozie factory,
- employee at Amazon,
- Website developer, and
- US Marine.

Data about profession interests and employment reported in student introductions for both data sets is presented in Table 2.

Table 2
Professional Information that Students Shared in Introductions

Introduction Type and Data Set	Total Students (n)	Professional Interests (Percent)	Current Employment (Percent)
EII d1	20	5 (25.0%)	8 (40.0%)
DBI d1	17	2 (11.8%)	5 (29.4%)
MIIs d2	58	34 (58.6%)	17 (29.3%)
DBIs d2	66	55 (83.3%)	12 (18.2%)

Note. Professional interest and current employment columns depict number of students (percentage of total). DBI—discussion-board introduction to instructor; EII—email introduction to instructors; MII—memo introduction to instructor; d1—first data set; d2—second data set

Students whose introductions were in the first data set (community college) shared more information about their current jobs, whereas students in the second data set (four-year university) shared more information about professional interests. We are unsure of the reason; we wonder if the populations account for those differences. For example, community-college students may be working and going to school, while university students (and particularly those in our study) may be going to school full-time and may not work or may work part-time jobs that are outside their field of interest and thus not an emphasis in their identities. Community-college students are typically in the first two years of school, whereas students in the university class that we studied were typically in their third and fourth years.

Students sharing this information did not create security issues. However, the information and the emphases surprised us. Future research should investigate if the student population (community college versus four-year university), the online or hybrid status of the course, or the students' major fields of study make a difference in the type of information that the students disclose.

Academic Information

As we coded, we identified information that involved the students' class goals, concerns about the class, experiences in hybrid/online courses, advice about hybrid/online classes, majors, previous education, and academic plans.

In the first data sent, in their emailed introductions, seven students (35.0%) shared what they wanted to accomplish in the class: they wanted to improve their knowledge and skills in video, to be inspired, and to build credentials for business. In discussion-board introductions, 16 students (94.1%) shared their goals for the class, including
- to make an A;
- to design a well-developed album artwork;
- to learn and/or improve skills (editing, designing, and manipulating images) in Adobe; and
- to decide if this is a career path the student wants.

In the second data set, in their introduction memos, 10 students (17.2%) shared their class goals regarding what they wanted to learn, and in their discussion-board introductions, 16 students (24.2%) shared similar goals.

Regarding concerns about the course in which they were registered, in the first data set, zero students (0.0%) shared concerns in emailed introductions, but in discussion-board introductions, four students (23.6%) shared several concerns related to taking an online class. Their concerns included

- remembering assignments,
- managing time,
- working at their pace and not succeeding, and
- handling technical issues.

In the second data set, none of the students (0.0%) expressed concerns in their memo introductions, but in discussion-board introductions, four students (6.1%) shared concerns.

Regarding experience in hybrid/online courses, in the first data set, two students (10.0%) shared information in their email introductions about their experience in online classes (one "experienced" and one "inexperienced"). In contrast, in discussion-board introductions, 13 students (76.5%) shared experience (seven) or inexperience (six) with online classes. In the second data set, in their memo introductions, no students (0.0%) shared previous experience (or lack of experience) with hybrid/online courses, but in their discussion-board introductions, three students (4.5%) shared their previous experience.

In the first data set, no students (in either email or discussion-board introductions) shared advice on taking online/hybrid courses. Similarly, in the second data set, zero students (0.0%) shared advice related to hybrid or online courses in their memo introductions. However, in their discussion-board memos, 13 students (19.7%) shared advice.

Regarding majors and previous education, in the first data set, five students (25.0%) shared their majors in their email introductions. In the discussion-board introductions, three students (17.6%) shared their majors. In the second data set, in their memo introductions and also in their discussion-board introductions, zero students (0.0%) shared their majors, perhaps because the course was required for their majors and thus the students were all a part of one of four majors in the school.

Regarding previous education (including degrees or coursework elsewhere), in the first data set, five students (25.0%) shared in their email introductions. In discussion-board introductions, five students (29.4%) shared about their previous education. In the second data set, 21 students (36.2%) shared their previous educational experience in their memo introduction. In their discussion-board introductions, five students (7.6%) shared information about their previous education.

Regarding their academic plans, in the first data set, three students (15.0%) shared information about their plans after community college in their email introductions. In the discussion-board introductions, two students (11.8%) shared information about their academic plans. In the second data set, in their memo introductions, two students (3.4%) shared academic plans, and in their discussion-board introductions, two students (3.0%) shared their future academic plans. Data and percentages related to academic information in the two data sets is provided in Table 3.

We were not surprised by the academic information that students shared; what surprised us was how that information differed. Students in the first data set (in the course at the community college) shared their class goals (94.1%) in discussion-board introductions, whereas

students in the second data set (in the course at the four-year university) shared less information (24.2%) in discussion-board introductions. Similarly, numbers differed per data set in regard to students who shared their experience with and concerns about hybrid/online classes. In the first data set, students (76.5%) shared in their discussion-board introductions their experience or lack of experience, whereas only 23.6% of students in the second data set shared concerns in their discussion-board introductions.

We can apply this information by recognizing that students have concerns about their privacy, but we also want to educate our students about their online presence and their options for security. We also want to discuss security with our students and instruct them, much like Baker & Hastings (2013) do when they discuss self-disclosure with their students as they explore sites where individuals openly share information they would otherwise protect. Future research can apply this information to advocate for our students and empower them to make educated choices about what they disclose in online spaces, including hybrid and online classes.

Table 3

Academic Information that Students Shared in Introductions

Introduction Type and Data Set	Students (n)	Class Goals (Percent)	Concerns (Percent)	Experience (Percent)	Advice (Percent)	Major (Percent)	Previous Education (Percent)	Academic Plans (Percent)
EII d1	20	7 (35.0%)	0 (0.0%)	2 (10.0%)	0 (0.0%)	5 (25.0%)	5 (25.0%)	3 (15.0%)
DBI d1	17	16 (94.1%)	4 (23.6%)	13 (76.5%)	0 (0.0%)	3 (17.6%)	5 (29.4%)	2 (11.8%)
MIIs d2	58	10 (17.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	21 (36.2%)	2 (3.4%)
DBIs d2	66	16 (24.2%)	4 (6.1%)	3 (4.5%)	13 (19.7%)	0 (0.0%)	5 (7.6%)	2 (3.0%)

Note. Class goals, concerns, experience, advice, major, previous education, and academic plans columns depict number of students (percentage of total). DBI—discussion-board introduction to instructor; EII—email introduction to instructors; MII—memo introduction to instructor; d1—first data set; d2—second data set

Personal Information

As we coded for personal information, we identified information that did not influence the students' performance in the class and did not directly relate to their professional goals or current employment but would not be considered demographic information. We coded these categories as travel information, personal interests, marital status, children, faith, health, and pets.

In the first data set, in their email introductions, four students (20.0%) shared where they had traveled or lived (and named the cities and countries). In contrast, in the discussion-board introductions, zero students (0.0%) shared that information. In the second data set, 13 students (22.4%) in their memo introductions shared travel information, such as where they had lived and traveled with the names of cities and countries, and in their discussion-board introductions, 12 students (18.2%) shared travel experiences.

Regarding personal interests, in the first data set, in their emailed introductions, eight students (40.0%) identified their personal interests that included pottery, endangered species, cosplay, and music, whereas in discussion-board introductions, only one student (5.9%) shared interests (a comic book charter). In the second data set, in their memo introductions, 31 students (53.4%) shared information about personal interests (outside their majors); interests included

- friendship and socializing;
- studying science, like environmental sciences and chemistry;
- writing;
- music—jazz, pop, and choral;
- motorcycles;
- athletic activities such as archery, swimming, shooting, and bowling; and
- hobbies like leatherworking and knitting.

In their discussion-board introductions, 31 students (47.0%) shared personal interests, including

- creative writing;
- sculpture;
- music, dancing, playing instruments, and singing;
- shooting;
- studying anatomy;
- acting;
- friendship and socializing;
- exercising, meditation, soccer, dressage, and fencing;
- cosplay; and
- working on old cars.

Regarding marital status (or information about spouses), in the first data set, four students (20.0%) referenced spouses or significant others ("I am married" or "[She is] my wife of 13 years") in their memo introductions, but in their discussion-board introductions, zero students (0.0%) mentioned spouses. In the second data set, none of the students (0.0%) referenced their marital status or significant others.

Regarding children, in the first data set, four students (20.0%) shared information in their email introductions about their children with comments like "I have two sons," "I have a son [name]," and "I have a 16-year-old son." In discussion-board introductions, only two students (11.8%) shared information about children. (Both stated, "I have 3 kids."). In contrast, in the second data set, none of the students (0.0%) referenced children.

Regarding pets, in the first data set, two students (10.0%) referenced their pets in their email introductions, but zero students (0.0%) shared information about pets in their discussion-board introductions. In the second data set, none of the students (0.0%) referenced pets in their memo introductions, but in their discussion board posts, one student (1.5%) shared about a pet ("I play with my pet rabbit.").

Regarding faith, no students (0.0%) in the first data set mentioned religions faith, whereas in the second data set, in their memo introductions, four students (6.9%) referenced their religious faith and in their discussion-board introductions, two students (3.0%) referenced their religious faith.

In the first data set, none of the students (0.0%) mentioned any information about their health or accessibility issues or needs. However, in the second data set, four students (6.9%) shared information about health and accessibility needs in their memo introductions, and in their discussion-board introductions, two students (3.0%) shared similar information.

Students in the first data set may have shared different personal information in their introductions than did students in the second data set because of differences in the student populations as well as differences with the course instructors. Both data sets included information about travel, personal interests, and pets. However, in the first data set, students shared about their marital status and children, whereas the students in the second data set religious faith and health. (Data about personal information—specifically travel, interests, marital status, children, pets, religious faith, and health—is available for both data sets in Table 4.)

Table 4

Personal Information that Students Shared in Introductions

Introduction Type and Data Set	Students (n)	Travel (Percent)	Interests (Percent)	Marital Status (Percent)	Children (Percent)	Pets (Percent)	Faith (Percent)	Health (Percent)
EII d1	20	4 (20.0%)	8 (40.0%)	4 (20.0%)	4 (20.0%)	2 (10.0%)	0 (0.0%)	0 (0.0%)
DBI d1	17	0 (0.0%)	1 (5.9%)	0 (0.0%)	2 (11.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
MIIs d2	58	13 (22.4%)	31 (53.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (6.9%)	4 (6.9%)
DBIs d2	66	12 (18.2%)	31 (47.0%)	0 (0.0%)	0 (0.0%)	1 (1.5%)	2 (3.0%)	2 (3.0%)

Note. Travel, interests, marital status, children, pets, faith, and health columns depict number of students (percentage of total).

DBI—discussion-board introduction to instructor; EII—email introduction to instructors; MII—memo introduction to instructor; d1—first data set; d2—second data set

Regarding faith, we anticipate that instructor self-disclosure influenced students in this incidence, as the instructor of courses in the replication study is known to be part of student activities related to religious faith. Instructor self-disclosure can influence student engagement (DiVerniero & Hosek, 2011; Imlawi & Gregg, 2014; Imlawi, Gregg, & Karimi, 2015; Mazer, Murphy, & Simonds, 2007). Therefore, this instructor's reputation and self-disclosure may have affected students' comfort in sharing content specific to this category of self-disclosed personal information.

Perhaps the biggest surprise was that students in the second data set shared health and accessibility information. Specifically, in the second data set, four students shared information that would allow them to register for accessibility services at the university, one student referenced struggling with depression, and one student shared, "I have a speech impediment." The latter might be obvious to the other students because the class was hybrid and thus had weekly face-to-face meetings; however, that information could create a pre-established expectation about that student. Sharing personal information is not negative; however, some of the personal information students shared leads us to ask if they share that information elsewhere. Some of that information is FERPA and HIPAA protected to allow students to seek equal playing fields in school and in the workplace and to eliminate potential bias from society and potential employers. Particularly when students share information about needed accommodations, they are "outing themselves" (Kranke, Jackson, Taylor, Anderson-Fye, & Floersch, 2013, p. 38). For students who need accessibility services—note taking, additional time for test taking, etc.—our institutions provide specialized services. Students with accessibility issues register with the accessibility office, and they bring documentation to their instructors. However, instructors are to keep students' needs confidential. Therefore, having students "out themselves" encourages them to disclose information that is typically considered private. We also need to address risks when students share information that makes them susceptible to harassment or crime (Mesch & Beker, 2010). However, we also want to encourage our students to be transparent and human and to share information so they feel like they belong and are part of the community.

Future research related to students sharing personal information might investigate student disclosure and knowledge of privacy and theorize the point at which instructors should encourage students to protect information that might be detrimental to learning, place in the community, future employment, or even insurability (pre-existing health issues). Future research might investigate if information about marital status, parental status, health and accessibility issues, faith, and other personal information is information that students freely share or if the tone of an online or hybrid class and the sense of anonymity helps to free them to share more information than they would in an elevator speech, interview, or face-to-face introduction. Perhaps future research should also include investigating if students understand the risks related to sharing personal information.

Disclosing Information

The rates of items of information differed noticeably between the first and second data sets (see Table 5).

Table 5

Number of Coded Items that Students Shared in Introductions

Introduction Type and Data Set	Total Students (n)	Mean	Median	Range	Mode
EII d1	20	3.6	4.0	1–7	3, 4
DBI d1	17	3.9	4.5	2–8	3
MII d2	58	5.1	5.5	0–10	5
DBI d2	66	5.8	6.0	2–10	6

DBI—discussion-board introduction to instructor; EII—email introduction to instructors; MII—memo introduction to instructor; d1—first data set; d2—second data set

We are unsure why students in the hybrid class (four-year university students, data set one) would share more information than would students in the online course (community-college students, data set two). We wonder if the face-to-face element of the hybrid course influenced students to encourage them to feel connection with each other and the instructor. We also wonder if students whose introductions were in the second data set (at the four-year university, taking a course required for their majors) were influenced to share more than students in the first data set (at the community college) because they were pursuing similar majors or because they were juniors and seniors (rather than first- for second-year students at the community college). We will consider future research to investigate this, perhaps by surveying students and asking why they share what they share.

Study Limitations

This study has numerous limitations, particularly that our student populations and assignments differed. First, we analyzed introductions from different sections in the first data set but introductions from the same students in the second data set. Second, we considered different populations: community-college students in online courses versus four-year college students in a hybrid course. Third, our prompts for introductions differed; we used the introductions that we gathered in our classes rather than designing parallel assignments to compare. We recognize that the prompts, the different instructors, and the media through which students introduced themselves influenced what they included in their introductions. (For example, students did not share advice about hybrid/online courses in introductions to their instructors, as logic would justify.) We also recognize that students in hybrid courses had the added element of face-to-face contact in class. This contact occurred before they wrote their introductions. However, in the online class, students did not have face-to-face contact with each other or with the instructor.

What we do believe is that, per Moore's (1993) Theory of Transactional Distance, all courses differ because students must complete coursework with some geographic separation from their instructors and classmates. While this separation, this distance, is greater in hybrid classes than face-to-face classes and is greatest in online courses, all courses will have some differences. What we wanted to investigate was what information students disclosed in their introductions. We were surprised particularly that students submitted photographs with some of

their introductions and also that they included their birthdates (frequently with years) and most of all the information that they shared about their health and accessibility needs.

In addition, we note that different student populations may emphasize and share different information. This too needs further investigation.

Conclusion

This study began a new phase of the conversation about what students self-disclose in online and hybrid courses. In particular, what do they share with their classmates and does that differ from what they share with instructors. Our study also exposed a variety of questions for future research and application. For example, how can we strategically use an assignment as natural and seemingly insignificant—for students to introduce themselves in the context of an online course discussion board—to better understand them and their values? How can we then share that information as we instruct our students, who are "professionals in training,"

- to consider their online presence, relationships, and issues with self-disclosure;
- to develop their voices and express agency; and
- to enact effective communication practices?

Our findings are relevant to online communication within the classroom setting but also reverberate findings from research that others have conducted on discussion board texts in other contexts and communities. Therefore, the study may shed light on issues that we as instructors, researchers, designers, and communicators will see and address in online communication within a variety of contexts—specifically those online spaces where individuals formally introduce themselves.

This new phase of discourse carries implications for students, instructors, and schools. For students, this study indicates that students may not understand the importance of protecting their personal information and establishing relationships before trusting the members of their online-class community. For instructors, this study hints that instructors need to know what information is FERPA protected; as they seek to interact with students (a vital part of student success in distance learning), they may need to provide prompts for introductions that help students focus on less personal information. Instructors may even wish to address the topic of self-disclosure and anonymity in the online classroom to help students think about the information they share and the implications of sharing private information. For schools— colleges and universities that integrate hybrid and online courses into their curriculum offerings—they should continue to protect students' information by providing security sites, such as online learning sites and secure university email (which most colleges already provide), and by requiring that students and instructors use those technologies for all online education.

The study also shows how much more we need to investigate in future research. We need to learn why students share what they share. We may need to educate them on how to protect themselves, and we need to continue to research practices of self-disclosure as well as the value of interaction (Moore, 1993) in hybrid and online education.

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