

Methical Jane: Perspectives on an Undisclosed Virtual Student

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We examined the ethical implications of a mythical online student with a carefully concealed real identity who took part in an online post-graduate course. The mythical online student took part in all student activities and provided co-students with cognitive and technical support as a covert second facilitator; consequently, students found scaffolding unobtrusive and integrated the unknown virtual student into the learning community. We explored the ethical implication of undisclosed identity and analyzed Students' reaction to the disclosure of the mythical student after the course. The study confirmed our success in creating a convincing virtual student, but this success precipitated some shock, disbelief, and dismay. Most students accepted the presence of a virtual student, but some felt betrayed because her real identity was hidden. Recommendations for implementing such a virtual tool ethically are advanced, along with suggestions for teaching situations that may benefit from its use.

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Introduction

Methical is a combination of *mythical* and *ethical*. This describes Jane, the virtual online student we created to improve students' online learning success. Her challenge was to be both mythical and ethical, to do no harm, and to contravene no rules. One person, the course designer, was the online facilitator, and also Jane. Despite the potential ethical dilemma created by the class thinking she was a real student, we thought the experiment of hiding a facilitator's identity was worthwhile. Ineffective

course facilitation and lack of faculty communication reduce student performance, while students in online courses often feel inadequate, lonely, and unmotivated. However, as excessive instructor control can also weaken online communication, the instructor should not manipulate the course. Success increases when students amalgamate into virtual student communities (Davies & Graff, 2005). As a second facilitator, Jane provided covert student support and helped to promote the emergence of a student community.

Designing an online higher education course in South Africa presents particular challenges, because instructors often dominate traditional classrooms and students expect it (Khalil, 2006). Accordingly, we anticipated that our students would also assume a passive role (Schank, 2001), and that this would place the online instructor in the familiar teaching role. To address this challenge, we emulated King (2002), who increased student participation in online classes by using a virtual student as an additional facilitator. We investigated the success of adding a virtual student to stimulate online participation and interaction and to provide scaffolding for less competent students. Our premise was that the students would rather request assistance from a co-student than from an instructor (King, 2002).

Jane was our virtual student; she was not a real student enrolled for the course, but a name and a login on the class list as a participating student. We modeled Jane on King's Virtual Joe in order to augment online communication. Jane's role was to become the students' friend, confidante, and helper. Extending the presence of the facilitator, she also instigated online communication. In contrast to Virtual Joe, however, we carefully concealed the identity of our virtual student for the duration of the course, planning to keep it hidden unless the students uncovered her. As a covert assistant researcher, she could observe behavior not readily visible to the facilitator, a role with (hitherto) unexplored ethical implications. We carefully considered potential ethical objections to this false identity and revealed her origin after the course to observe the students' reactions.

The research questions addressed in this study are:

RQ1: How does a virtual student enhance online community?

RQ2: How do students feel about the ethical issues of instructors' hiding and then disclosing the identity of a virtual student?

Literature Review

Online learning places complex, even conflicting, demands on the facilitator. On one hand, online students and administrators request maximum affective and cognitive support from a highly visible facilitator. On the other hand, facilitators should fade, compelling students to amalgamate into an independent learning community.

Online Support

First-time online students require support and guidance in the unfamiliar environment of computer-mediated communication (CMC). Such students are often

challenged and frustrated with technology and feel anxious, isolated (King, 2002), and insecure (Wood, Bruner, & Ross, 1976). Thus, these students may feel inadequate, lonely, and unmotivated, especially when faculty facilitate ineffectively (King, 2002). The throughput rate in online distance courses is therefore often disappointingly low (Chyung, 2001; Morris, Wu, & Finnegan, 2005).

Wood et al. (1976) refer to *scaffolding* as the interactions where individuals who are more competent offer guidance and help to less informed or accomplished individuals. Scaffolding originally referred to child development; currently it indicates child-adult and novice-expert interactions that improve learning regardless of Students' knowledge or skills levels. Scaffolding is the provision of extrinsic contextual support, especially when students encounter new challenges, and the subsequent removal of the extrinsic support when it becomes redundant (Boyle, 1997). Slowly removing the support, requiring the students to assume more responsibility, is termed fading (Collins, 1991). Without the appropriate scaffolding, faltering online students may become disinterested, bored, or frustrated with their learning environment (Rieber, 1996). Scaffolding promotes interaction among online distance-learning students and the formation of virtual learning communities (Johnson, 2001). The facilitator should contribute to the scaffolding.

The Role of the Instructor

A facilitator who maintains affective social and teaching presence may foster critical thinking (Garrison, Anderson, & Archer, 2001). However, a dominating traditional instructor seen as exercising overly strict corrective feedback and control subjugates students into a passive role that is poorly suited to online learning (Moore, 1989; Schank, 2001).

King (2002) maintains that a supportive instructor should encourage participation, particularly at the beginning of the course, by posting frequently to the discussion and maintaining a high online visibility. Like the eventual removal of scaffolding, a facilitator can withdraw gradually when learners interact without help and form a virtual learning community. A facilitator should also monitor the quality of student online participation. The facilitator needs to monitor problems such as students who are absent, interact insufficiently or superficially, agree without supporting their stance, post short and superficial messages (creating annoyance), or post lengthy messages (causing problems with processing times)—as none of these behaviors promotes a community of practice (Collison, Elbaum, Haavind, & Tinker, 2000; Johnson, 2001).

At the same time, while facilitators should steer students away from unproductive behaviors, they should not be dominating or authoritarian but rather should provide support when necessary and then fade when discussion progresses well. Mazzolini and Maddison (2003) caution:

The more instructors posted to discussion forums, the shorter were the discussion threads on average. Instructors who were active in initiating

discussion threads did not appear to stimulate more discussion, and may actually have limited the amount of discussion (with the more advanced students) and the length of discussion threads (with all students). ... Students may possibly react more positively to questions posed by fellow students ('cries for help') rather than questions posed by instructors (which may be perceived to be probes to expose gaps in understanding). (p. 252)

Sometimes a facilitator has to sustain conversation, lest a conspicuous silence descend upon the discussion. In such circumstances, a virtual student can intervene without the facilitator visibly taking control.

Researchers use different metaphors to describe the elusive role of a successful online instructor; a number of these are summarized in Table 1. The most popular account suggests that the online instructor should guide from the side in a CMC virtual classroom (Collison et al., 2000; Ip, Linser, & Jasinski, 2002; Moore, 1989). The facilitator as guide promotes learning by guiding students to focus and deepen the dialogue without getting in the way (Collison et al., 2000; Mason, 1991). The ideal online facilitator intervenes selectively and encourages participants to work debates out for themselves, allowing students to fill the (metaphorical) empty spaces (Ip et al., 2002).

Social rather than technical factors often determine the success or failure of an online course (King, 2002; Schank, 2001). Mason (1991) identifies the social role for online facilitators as one that creates a friendly social environment for learning and encourages participation through the use of a congenial, personal tone. These nurturing skills develop, as well as support, community. Pro-social communication patterns in online instruction also help: "The more instructors incorporate relationally supportive language in the online classroom, the more ... students will enjoy and benefit from the online learning experience" (Baker, 2004, p. 12).

The Role of Co-Students

Online students who participate actively are more likely to complete courses successfully (Davies & Graff, 2005). There is a strong association between interaction with fellow students and successful completion of Internet-delivered courses (Mason, 1991; Swan, 2001; Wegerif, 1998). Supportive facilitation can cultivate the establishment of a virtual community of learners. "When you successfully encourage a culture of co-learners, participants will readily comment on one another's postings, relieving you of sole responsibility" (Collison et al., 2000, p. 64). In well-functioning online communities, participants post regularly and express honest opinions about technology, content, and even the facilitator. Participants collaborate, teach each other, and moderate the discussion. In short, students support and care for their community as it meets their needs (Collison et al., 2000).

Providing adequate scaffolding is a challenge in a student-centered approach where the facilitator maintains a low profile. A virtual student functioning as a helper in the class, but who is "one of them," may reconcile these divergent ideals. However, deceiving students requires careful ethical consideration.

Table 1 Roles online instructors play in moderating CMC

Online facilitator roles	Activities, characteristics	Described by
Behaviorist teacher	Offers correction, rewards and punishes, steers behavior	(Gagné & Glaser, 1987)
Guardian angel	Looks over the players' shoulder, helps	(Ip et al., 2002)
Guide on the side	Fosters the creation of community	(Blignaut & Trollip, 2003; Collison et al., 2000; Mason, 1991; Mazzolini & Maddison, 2003)
Ghost in the wings	Absent, unavailable	(Mazzolini & Maddison, 2003)
Improvising story teller	Presents new content	(Ip et al., 2002)
Intellectual	Informs, corrects, directs; Socratic questioning	(Blignaut & Trollip, 2003, 2005; Coppola, Hiltz, & Rotter, 2002; Mason, 1991)
Lead player in a jazz ensemble	Introduces new themes for discussion	(Mason, 1991)
Manipulative devil	Creates problems for players to solve	(Ip et al., 2002)
Mentor in the middle	Offers reciprocal teaching, distributed expertise	(Brown & Campione, 1990)
Organizer	Provides administrative assistance	(Bleed, 2006; Blignaut & Trollip, 2003; Mason, 1991)
Plumber, Gardener, Alchemist	Supports CMC	(Bleed, 2006)
Resident Teaching / Learning Resource	Moderates	(Ip et al., 2002)
Sage on the stage	Presents new content	(Mazzolini & Maddison, 2003)
Shaman, Troubadour	Presents inspiring new content	(Thornburg, 2001)
Social or affective role	Presents friendly, approachable demeanor	(Baker, 2004; Blignaut & Trollip, 2003; Mason, 1991)
Virtual professor	Sifts information, posts questions, and facilitates discussion	(Kettner-Polley, 2005; Pelz, 2004)
Virtual student	Guides, participates	(King, 2002)

Context of Study

The University of Pretoria has been researching techniques for supporting online post-graduate courses for almost a decade (Cronjé, Adendorff, Meyer, & Van Ryneveld, 2006). In this article, we report on the use of an undisclosed virtual (mythical) student in an online course for Masters in Computer-Integrated Education students.

Initially, 23 students enrolled in the course on web-based learning, of which 18 were female and five were male. Nine students were black and 14 white; their ages ranged between 30 and 50. Fourteen of the students were employed at schools either as teachers in ICT or information science, and five worked in the e-learning industry and four in the higher education sector. Three students discontinued the course for personal reasons.

Course Design

We designed the course for the WebCT™ Campus Edition 4.0-platform, because it was the University of Pretoria's Learning Management System (LMS) at the time. Only enrolled students could log in to the course. The course followed a constructivist pedagogy structure based on a participatory metaphor (Cronjé, 2001). Students created practical online artifacts, applying their theoretical understanding. Each week we explored a different online learning topic that students had to research and post as a properly referenced 200-300 word assignment to the discussion in WebCT™. Students also evaluated and critiqued the papers of two peers, as well as participating in numerous other online activities and less structured discussions. They published some web assignments on their LMS student homepages and others on the University experimental Internet server. For non-graded, non-academic, or social posts, students used an open discussion topic, through which they elicited support and aired their discontent.

The students also maintained weblogs hosted on external sites for continuous self-reflection, incorporating their reminiscences in a reflective essay submitted at the end. Immediately after the course, the students gathered socially, and a week later we conducted semi-structured interviews with all students. A couple of weeks after the course, we informed the students of Jane's identity and simultaneously asked them open-ended questions about the deception (Appendix).

Methical Jane's Role

Jane's presence provided the class with two facilitators; each supported collaborative learning and the social construction of learning (King, 2002). Jane represented a typical student in this course, with a profile similar to the others: She was female, thirty something, a part-time schoolteacher, and interested in languages. We supplied her with a vague enough background that her identity could not easily be traced. In a country shaped by cultural stereotypes and prejudices, she conformed to no stereotype. She differed from the rest of the class in one important aspect, however: She entered the class as a total stranger whom nobody had met before. She also disclosed only her most essential background information. Jane regularly contributed to the theoretical and technical assignments, and she freely offered advice and help to any student. Table 2 characterizes Jane's profile.

Facilitation

Online facilitation followed the model of *guide on the side* (Collison et al., 2000; Mazzolini & Maddison, 2003), allowing free-flowing discussion (Ip et al., 2002;

Table 2 Profile of Methical Jane

Characteristic	Methical Jane
Profile	Undisclosed student Female Similar to class average profile Involved with fellow students as equal Plausible
Pre-determined role	Second facilitator Models activities and discussion: research-based conversation Posts hints in her own right Stirs up opinions and controversy Points out mistakes/errors Disagrees when necessary Provides a human touch as a friend
Conversation style	Uses appropriate styles; models communication Answers questions based on experience
Interaction style	Targets comments directly to students
Promotion of learner control	Withdraws from conversation as called for Does not dominate Diminishes the perceived amount of one-way, instructor-dominated communication Helps keep instructor contributions to 15% of message volume
Observer	Observes covertly

Mason, 1991). Following all discussions, the instructor judged the merit of each posting, but deliberately did not respond immediately, practicing online wait time (Collison et al., 2000) to give co-students the first opportunity to respond. The instructor replied to immediate problems and those that remained unresolved after 24 hours. Jane participated actively and assisted students with content and technical problems, like a facilitator would. She modeled collaborative behavior so that students could follow her example and help each other. This approach fostered development of an online learning community where students shared in the course facilitation (Johnson, 2001; Pelz, 2004). If the students had known that Jane was the instructor, it would have defeated the object of the study, since generally speaking, South African students observe the institutional hierarchy and retain a respectful distance from instructors, not questioning teaching practice (Khalil, 2006).

Methodology

Ethical considerations are at the core of this investigation; therefore, we obtained clearance from the Faculty of Education's research ethics committee before

embarking on the research. We used a developmental research design to answer the two research questions (Reeves, Herrington, & Oliver, 2005), using a mixed methodology (Sharp & Fretchling, 1997). Examining the effect of the virtual student on the visibility and dominance of the instructor required a positivist approach (Burrell & Morgan, 1979). We approached the reaction of students to the ethical aspects of a mythical student from an interpretivist stance, as we needed to know how they felt. We also conducted an ethnographical analysis on the diverse documents associated with the course (LeCompte, 2000).

The search function associated with the WebCT™ discussion tool enabled us to differentiate among posts of students, the instructor, and Jane. We calculated the *instructor index* by expressing the number of instructor's posts as a percentage of the total discussion's posts for each course week (King, 2002). This was taken to reflect the students' perception of the instructor's online presence and participation. Jane's posts, added to the instructor's, represent the collective online availability and contribution of the facilitator. Expressed as a percentage of the total posts, this metric, named the *supporting index*, represents the combined facilitator contribution.

We compiled the discussion posts in WebCT™ according to sender and saved them for content analysis. We also analyzed the facilitator's diary documenting all course design decisions and the daily progress of the course. After concluding the coursework, we conducted live focus group interviews, asking students about their collaborative learning experience. Students also initiated a social gathering to meet each other after the course. We captured all these conversations, including those at the social gathering, on videotape and transcribed the relevant sections for inclusion in the content analysis.

Unlike in experimental interventions, it was not possible to recreate any scenarios or repeat any questions once the opportunity had passed. Therefore, immediately after collection, we conducted an exploratory content analysis of the focus group interviews and course communication (Merriam, 1998), searching for any references to Jane. This examination suggested that students did not suspect Jane's real identity. Merriam (1998) urges researchers to "plan data collection sessions according to what you find in previous observations" (p. 163). As these results yielded little concerning Jane, we revised our initial decision not to disclose Jane's identity. While students were still accessible after the course, we sent an email unveiling Jane's identity coupled with some open-ended questions about their experience with her and her contribution to the course (see Appendix). We compiled these replies and included them in the content analysis.

The documents used for content analysis consisted of 1,615 discussion postings, as well as 17 student blogs, end-of-course reflective essays, and 10 post-course feedback reports. We captured the documents in ATLAS.ti™ for qualitative analysis (Dick, 2005; LeCompte, 2000) and identified 257 codes concerning Jane, developing the thematic categories through inductive data analysis. In this article we discuss only those categories that reflected the students' feelings about Jane's identity. We verified

the quantitative observations of numbers of discussion posts against the content of the blogs, essays, and discussion postings before drawing conclusions.

Findings

A facilitator is only “visible” when posting to the CMC medium (Trollip & Blignaut, 2005). Educational decision-makers prefer a high instructor online presence, whereas King (2002) sets the ideal facilitator participation or visibility at *less* than 15% of postings, so as not to dominate the discussion. Table 3 shows the number of communication posts by the instructor and Jane and the quantitative participation indexes per week. The supportive index presents the percentage of the combined official instructor and Jane’s posts.

Students submitted voluntary “social” posts to the open discussion area not dedicated to a course discussion topic. The weekly social participation of the class, as shown in Table 3, remained relatively constant and averaged around 50 posts, except for week seven, which saw a flurry of technical communication. In week eight, students worked more or less independently at finalizing their essays. The instructor deliberately maintained a low profile during the first three weeks, demonstrating online wait time, in order to sustain reflection about postings and foster “opportunities for rich thinking and response” (Collison et al., 2000, p. xvi). This helped students to settle in and seek answers independently. In spite of the instructor only replying on cue, however, the instructor index barely remained below the benchmark of 15% (King, 2002) in the initial five weeks (Figure 1).

Around week six, considerable one-on-one coaching and feedback resulted in a high instructor presence. This involvement should not be confused with excessive dominance. From week six, the focus also shifted from theoretical discussions toward practical applications, causing a sharp decrease in total discussion posts. The urgency and stress levels in the course increased as the deadlines approached, and students helped each other freely in week seven, as indicated by the numerous

Table 3 Perceived instructor presence and the combined facilitator contribution

Week	Total posts	Social posts	Instructor posts	Jane’s posts	Instructor index %	Supportive index %
1	349	51	32	11	9	12
2	168	62	23	8	14	18
3	126	34	9	5	7	11
4	184	52	24	8	13	17
5	302	48	38	9	13	16
6	211	44	57	9	27	31
7	169	81	45	3	27	28
8	53	23	12	0	23	23
Total	1562	395	240	53		
Average					16.4	19.6

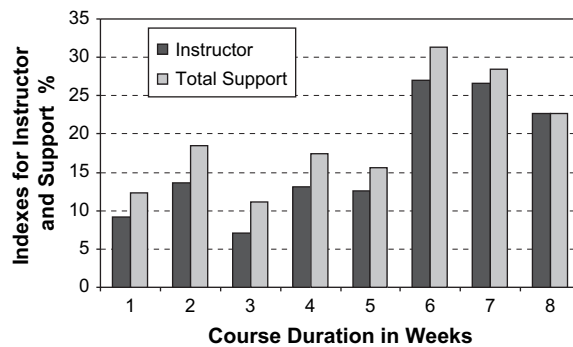


Figure 1 Comparison of the instructor and support indexes

social posts (Table 3). Individual web pages became progressively more diverse, as students personalised their projects. The high instructor index at this stage was the result of fewer posts and plentiful instructor support.

Figure 1 also illustrates Jane’s role in the facilitation and support contributing to the scaffolding. The instructor maintained a low profile, as shown by the facilitator index; students therefore thought they relied upon each other for help. In reality, the instructor helped them much more than they realized, shown by the total support index that included Jane’s contributions added to those of the instructor. Towards the end of the course, students discussed fewer general issues that Jane could explain or support, and thus, like withdrawing scaffolding, she faded.

Discussion

The Ethical Issues

Experimental Studies

Boeree (1998) strongly criticized unethical manipulation in “scientific” experimental studies. Human beings may object to manipulation, as it “may undermine their self-respect, their psychological integrity, their sense of self-determination, or even their physical health” (Boeree, 1998, n.p.). As an alternative, Boeree (1998) describes how the Swiss developmental psychologist Jean Piaget and his followers engaged in *experimental phenomenology*, called *la méthode clinique*, or what can be termed non-manipulative experiments. This involves studying an infrequent phenomenon by setting up a situation in which that phenomenon is likely to occur. One can make a valuable, yet non-manipulative, contribution by watching how students solve specific problems. Ethnomethodologist Harold Garfinkel extended Piaget’s method and made use of *experimental participant observation*. He simply broke the rules, doing what does *not* come naturally in order to see what happens, evolving the *garfinkling* technique (Boeree, 1998). Considering the ethical aspect of the unorthodox methods we used, in this study we did not manipulate students but carefully observed them, albeit in a contrived setting.

Concealment

Concealing oneself or deceiving subjects is an ethical concern in fieldwork. Boeree (1998) discourages taking part in illegal, immoral, or unethical activities, and cautions, "You should not present yourself to the people you are studying as something other than yourself." He poses the following question: "Would you like to be spied on or lied to?" (n.p.). By collecting data on Students' behavior without their knowledge, researchers could be considered to have "spied" on them. Such "spying" is often considered acceptable, however, if a) students are debriefed afterwards, b) no harm comes of it, and c) the research benefits society in some way.

We avoided the instructor eavesdropping and at the same time protected Jane's hidden identity by strictly regulating the channels of communication. That is, we disabled the LMS email tool, and required a written promise from students that they would not contact each other privately. Moreover, no exchange of addresses or phone numbers was allowed in the online discussions, and we only allowed students to communicate online using the LMS tools. Therefore, students had no opportunities to communicate confidential or sensitive information to Jane (or anyone else) without the knowledge of the others.

We addressed the ethical question (Boeree, 1998), *What access do my subjects have to the information about [Jane's] identity?*, by debriefing the students afterwards. The remaining criteria for ethical research are that no harm comes from it and future students would benefit from the research. If students reject the notion of a virtual student, course designers should seek other alternatives for minimizing instructor dominance. Avoiding behaviors that upset students and confidently applying those that make a beneficial contribution, as revealed through research such as this, can help future course designers to design more effective online facilitating presences.

Role Play

Observant participation or *hermeneutic role-playing* techniques can assist in understanding people's underlying social realities. The ethical problem of being someone else can be ameliorated by clarifying to the group that you are an outsider wishing to become an insider (Boeree, 1998). While not overcoming the ethical problem of spying, students at least know there is a stranger in their midst observing them. Jane had outsider status, as she was a new student in the course, wishing to become one of them. In this respect, Jane did not appear to violate any ethical standards, as she was a *declared outsider*, well positioned to observe and interact. As an *observant participant* (Boeree, 1998), Jane also allowed us to analyze unfolding data and incorporate the results into the ongoing course design.

Student Reactions to Methical Jane

Jane's Credibility

After eight weeks of intense online interaction, the students wrapped up the course by arranging a social gathering. This initiative represented the final stage in the role-play

simulation, and it allowed for a purposeful disengagement with the virtual and subsequent re-engagement in the real world (Ip et al., 2002). The students in the class were curious to meet Jane after completion of the course and were disappointed when she did not arrive, as they expected her to be equally interested in meeting them.

These following remarks captured by videotape at the social function illustrate that Jane was a credible student, and everybody thought she was real:

Pity the ones living far away, like Jane, cannot attend.

[student 1]: I could not place some of the people. Like Jane. Where does she come from? [student 2]: Gauteng. [student 1]: So she is here close by? [student 2]: She did say she could not make it. Someone: but if she's that close... [student 1]: I could not quite place her.

When talking about the course, student 3 remarked: I did not see any assessment from Jane. (Many people talking simultaneously). [student 3]: I was fortunate to do the assessment for Jane. (Big chuckle by student 3.) Now I can see why she didn't come!

Someone presumed to pinpoint her address, even though she never disclosed it. When someone asked about her background, the instructor's explanation was plausible albeit unrevealing. Even afterward the comments in emails continued:

I was quite disappointed that not everyone arrived for the social function after the course, particularly those that were not part of the class for previous modules, e.g. [mentions four names, including Jane].

Jane maintained credibility at all times, and no student doubted her identity.

By this time, students had had ample time to gossip about Jane and air their views. In order to comply with the ethical stricture not to deceive subjects (Boeree, 1998), the time had arrived to unveil Jane's identity and to gauge the class's reaction.

Unveiling the Real Jane

We revealed Jane's real identity by email (Appendix) after the course was completed. The email also posed a few open-ended questions probing the students' reactions. Students reacted in one of three ways. Some did not reply; some respondents were indifferent, "minding my own business;" and the third group had strong feelings. Of the 10 students who responded, all had thought she was real and most voiced their strong surprise, confirming that nobody really knew who she was, as we had deduced from the course documents and discussions. Some students expressed shock and disbelief as Jane's credibility was shattered, and even expressed their dismay at her *virtual* or *non-real* identity:

What other sneaky tricks do you still have to admit responsibility for?

What a surprise! No, really! I feel cheated!

I was so shocked I could not answer your questions properly.

I am finished – that is so sneaky ...

Replying to the second question: *How do you feel about her real identity having been hidden from you?*, one student expressed shock at her identity being hidden:

Shocked to say the least. I don't really like talking to machines (or software!). It feels odd. But then thinking about it, what's the difference between a parametric test that responds to your answers and a "person" responding to your activity in a distance learning environment?

This student immediately rationalised his reaction and conceded that it was "one of the most exciting e-mails." This turnabout somehow blunted his discontent. Among the students who expressed dismay, two students felt betrayed and one questioned the necessity of exposing Jane. Both had been highly interactive students in the course:

At first had to think about this "ghost-student" and to be honest I felt somehow betrayed, since I was wondering how many more eyes were actually watching us, battle things through.

I trusted all in the course module and not for one moment thought that someone was not for real. I think if she was never exposed for what she really is, it wouldn't have bothered me. The question is—is it necessary to expose her in the end? Not exposing her wouldn't have done any harm. Her real identity being hidden from me makes me feel betrayed.

It is possible that the students who did not respond or reply to our questions did not harbor strong feelings, were too upset to voice their opinion, or even feared retribution. Participation profiles in the LMS showed that these non-responders participated less often in the online discussions than the responders did. As they also did not attend the social function, they can be seen as less engaged in the online learning community.

The students who replied represented those who interacted frequently with Jane and appeared to have formed a virtual relationship with her. The problem of deception deepens when students in a well-functioning online community "show concern and support for the community" (Collison et al., 2000, p. 77) and form affective relationships based on collaboration (Panitz, 1996). Students who integrate into an online community in this way can become very vulnerable (Barab, Thomas, & Merrill, 2001). The initial shock was intense because the prior deception was so convincing.

Interestingly, after the initial reaction of shock and dismay, the response to the second question was less intense. It seems that many students had mixed feelings. After their initial disbelief, some of the students reconsidered the situation and tried to rationalize the situation. They shared their thoughts on using a virtual identity in online learning:

How virtual can you become in class before it becomes unethical?

Complete anonymity bothers me though. I want to know who's the machine! I must just say that I struggle with seeing the machine as a fellow student and could deal with it as a tutor more easily.

I can relate – when I worked at [*Name of Company*] I often used to send emails from my bosses email address and go into discussions on his behalf (he agreed), to encourage students and get them to participate in the e-learning initiatives... and it worked.

Students' initial shock and disbelief soon mellowed to intrigue and even enthusiasm: "I quite like the idea of a mysterious Jane!!" None of these students expressed discontent about the principle of having a mythical student in the group, but some wanted to identify the virtual student as such.

Jane's Contribution to Learning

Half of the respondents indicated that they could not remember if Jane assisted them or if she contributed to their learning, even though all had been working with her (in a team), and everyone had exchanged peer reviews with her. Therefore, Jane's participation provided scaffolding that was both transparent and unobtrusive:

Jane was not very High Profile though and I can't say that she stood out above other students.

I can't remember who was in the class except perhaps some of those who critted my postings and those I've personally met. But I can't remember someone named Jane. Perhaps that's proof that I didn't even notice a cybergirl in the group.

To be honest – Jane didn't influence me at all. ... I've noticed there are new names and other people in the "game," but the pace and inputs required were hectic and I focused my energy "to stay in the race" and maintain as high as possible quality...

I think e-learning is a very lonely study and you focus mainly on yourself.

Figure 2 shows that Jane (student no. 11) contributed an average number of postings in the course. Her contributions should be sought in the content of her posts rather than in the quantity. In submitting all the class assignments, Jane modeled how to address elusive or tricky aspects and showed others where the pitfalls were. She also helped struggling students, played watchdog, and enlivened debates, yet without standing out.

In her unobtrusive way, Jane contributed to the cognitive aspects of online learning, both in her direct class participation and by being a virtual student. As one student put it,

... then I went back to the postings and looked at Jane's comments and input and I saw the subtle way in which she gave her input and advice, if needed. I think it was a great idea to have a "helper in disguise." This was a super and interesting way of facilitating the team to their end-goal.

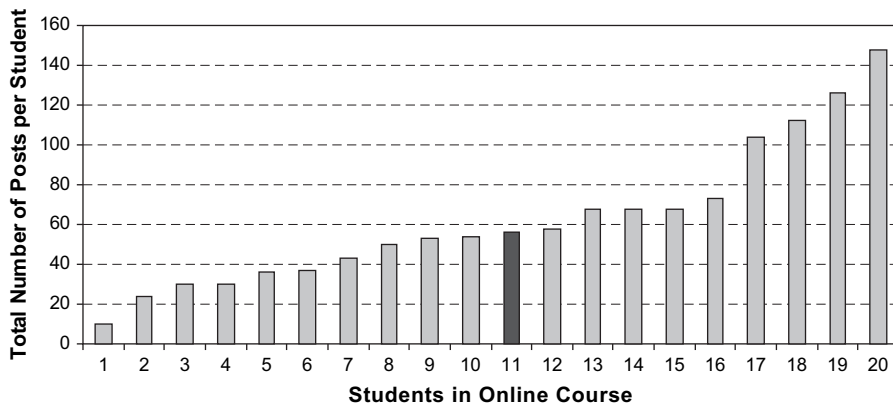


Figure 2 Students ranked according to number of discussions posts, with Jane as Student 11

Jane also made an affective contribution to the class. A few students mentioned Jane’s strong personality in the online discussions and the contribution she made to the learning community wherein “participants express honest opinions” (Collison et al., 2000, p. 77):

I experienced her as being, “strong,” straightforward, and as someone who won’t hesitate to tell what she thinks.

I think she was necessary, since all were so polite all the time, and she offered a bit of “excitement” with her “personality.”

As some of the above comments indicate, after students had come to grips with their initial surprise, reconciled their feelings, and rationalized their reactions, they realized that Jane’s presence had done no harm, and they saw the potential didactic benefits of using a mythical student in online teaching.

I agree that such a person is needed to “direct” a course a little.

Thank you for the deception Jane, it could revolutionize my didactic methodology or at least influence it.

I think that it is ingenious and clever, and it has got me thinking about the plausibility of inventing a “ghost” learner for my normal live classes.

In medical school, faculty frequently use a *standardized patient* (Greenberg, Loyd, & Wesley, 2002) who is not a real patient, but a perfectly healthy person acting as a benchmark patient. In this educational context, one could consider Jane a *standard* student who quietly modelled plausible solutions and played out collaborative behavior.

Research Role

We described Jane’s research role as an *observant participant* taking part in role-playing (Boeree, 1998). The virtual peer intrigued many students who also saw the

possibilities for research. As these students learned of the ongoing research involving their online learning community, their interest in online research allowed them to perceive the benefits of using a virtual helper in an online course (Boeree, 1998).

To me this sounds very interesting and I am going to read more about this.

It must have been really interesting to observe our reactions towards Jane.

Myself in your position I would have also found it interesting.

How students related to Jane was also reflective of how they related to the learning community and how integrated they were with it. With Jane as an observant participant, we gained new insight into the strength of the bonds within the virtual community. Students who had more of a relationship with Jane tended to be more integrated into the community.

Goodwill in the Virtual Community

After their initial astonishment, some students enthusiastically endorsed the concept of a virtual student, as illustrated above. The students did not hesitate to express their opinions online, suggesting that the instructor was not the only authority and did not intimidate the virtual community of learners (Pelz, 2004). They regarded the facilitator-cum-student as part of the learning experience (King, 2002). Respondents resumed the amiable, informal tone characteristic of earlier course communications:

Hi Jane or [facilitator] or whatever your name is.

Hope you are now going to have a good holiday Jane... oops [facilitator].

... I just feel sorry for the online facilitator who actually seemed to have had a split personality after all!

How do you feel about me thanking Jane for all your hard work?

All in all - I have GREAT appreciation for the way in which you handle the facilitation of the online course!!

The instructor modeled pro-social behavior throughout the course (Baker, 2004). Nobody complained that the instructor spent too much effort on the stragglers or neglected them, since Jane performed that function. The friendly parting tone of these representative messages conveys neither anger nor irritation.

The Instructor's Perspective on Jane

Because the planning of the course was a team effort, different faculty contributed ideas and suggestions for technical challenges. It made sense for one person to control the instructions and to keep pace with the students, however. That person, in this case, was the course facilitator, known to the students as the instructor. As Jane, she completed outlines of technical assignments to verify that the goals were indeed achievable within set periods. Jane also presented her assignments under similar conditions as the other students; she logged in from home after office hours,

experiencing the same challenges of off-campus low bandwidth and slow dial-up modems. These provided insight into the students' workload and course experiences.

The facilitator as course designer did not have the benefit of a student preview of the online course, and in this regard, Jane forestalled potential problems in the LMS. Through Jane, we could address problems with server downtimes, JavaScript issues, incompatible browsers, and the constraints of firewalls. Using Jane to detect and report a problem proved a practicable way to make students attentive to unclear instructions quickly and to provide better ones. She reminded others of assignment deadlines, and alerted them to expectations regarding specific learning outcomes. Jane prevented potential problems by being vigilant and, as such, contributed to the scaffolding.

According to Mason (1991), outstanding online moderation consists of understanding and modeling all aspects of the subject matter. The facilitator's diary records Jane's triumphs and struggles:

During the course of the afternoon Jane manages to add free translation (tools) for text to speech and a translator, a hit counter, links to German tourist sites, a map. She downloaded the Trellian to her computer, but did not quite figure out how to get it working on the website.

Facilitator Effort

Administrators often have exaggerated expectations of online facilitators, requiring prompt and extensive participation of them (Blignaut & Trollip, 2005). King (2002) comments on the tedious aspects of animating a virtual fictitious student, as it demands even more time and resources. In this study as well, it was demanding to maintain double online roles. At times, it was necessary to keep Jane's profile low due to the facilitator's limited time and resources. The following excerpts from the facilitator's diary illustrate this dilemma:

Jane has been nominated (by the group) to create the tagboard for wuwu's rubric. I do not know when she is going to have time to do it.

I am drowning in correcting extra stuff, and doing Jane's work.

There is not a chance that I will have a new unit prepared for uploading tomorrow, that I will have the criteria for next weeks evaluation sorted out, or that Jane will even be halfway through her page.

Students afterwards commented on this workload and its sustainability:

I am now wondering how much work and time you put into this module, it seemed you worked 24/7.

In addition to demands on the time of the facilitator, we encountered other challenges. We had to be vigilant for "illegal" private communication that might have threatened Jane's position in the inclusive online community. A breach could jeopardize her continued existence, as that would be the end of the experiment. We also thought it would be unethical if students confided in Jane what they did not wish

the instructor to know. As by design the LMS reveals the identity of the person posting, we contrived to protect Jane's secret virtual identity by creating a separate login for her. It was challenging for the facilitator to remember whom she represented when posting to the students, however. The facilitator's diary records:

As it is confusing to speak as two people, I must remind myself of who I am by sticking a different coloured sticky note with my name on the screen when I work, and logging out completely when one is finished.

I have to be extra careful from now on as we are posting attachments, and they have to be created and posted from Jane's computer, to show the right properties.

Jane's presence in the course mandated that the facilitator read all posts at least twice, each time wearing a different hat in order to reply with the appropriate voice. Separating her activities from those of Jane helped the facilitator prioritize responses. One-on-one online coaching was Jane's responsibility, and other students could ignore those lengthy online sessions. In contrast, the instructor's contributions were more concise and topical, concentrating on issues that mattered to the whole class. Students soon learned whose posts to read and whose to ignore, assigning a higher priority to the instructor's posts.

At peak times, the facilitator invited the colleagues moderating the course to post as Jane, providing feedback, explaining, and easing facilitation. From the students' perspective, they did not feel exposed to an audience, and there was also less confusion than if corrections and tips emanated from unfamiliar voices all over the discussion board. They were more likely to take notice of important information that came from a known and trusted participant.

Maintaining Jane was challenging. However, the demand on time and resources required to research and post as a student proved worth the effort, since "that is what being a member of a learning community is all about" (King, 2002, p. 164). Through Jane's activities, the facilitator kept abreast of the discussions and remained challenged and engaged.

Conclusions

How Do Students Feel about The Ethical Issues of Hiding and Then Disclosing the Identity of a Virtual Student?

The ethical concerns raised by using a mythical student in an online class are genuine. We were constantly aware that we would have to abort the project if students' relationship with Jane compromised their trust or privacy or if her identity became known. The success of creating a highly credible Jane also had its downside. Her very credibility caused students to feel more deceived when they learned the truth.

Many students identified with Jane, recognized her strengths and weaknesses, and related to her as their friend. Her credible identity allowed the community, even those who did not specifically notice her, to accept her, thus illustrating an efficiently functioning online community's ability to integrate a stranger or *outsider* into the

learning environment. Jane also acted as a barometer of the existence of a caring virtual learning community. Observing which facets of Jane's interaction contributed to her acceptance and integration into the community gave us insight into what it means to be a citizen of such a community.

How Does a Virtual Student Enhance Online Learning?

Although a virtual student did not save time or effort (and indeed added considerably to the facilitator's workload), our mythical student-facilitator made unique contributions to the online class. Methical Jane addressed many of the challenges that an online facilitator faces (Blignaut & Nagel, 2007). As part of the scaffolding, Jane coached and redirected students in an unobtrusive way, helping them cope with the demands of online learning. Jane's encouragement allowed them to finish the course. We therefore feel that the ends justified the means.

Specifically, Jane monitored the student workload and emerging problems and contributed timely alternatives. Her activities blended with the online scaffolding of student support provided by the instructor. In these ways, Jane limited the dominance and clutter of online facilitator posts without sacrificing student support.

We could not maintain the facilitator's visibility in the online class below the benchmark of 15%, even with help from methical Jane (Figure 1). Jane's primary contribution to the course was qualitative, despite her being an average student in quantitative terms (Figure 2). The quality and timeliness of student support seems to be more important than the number of posts in ensuring successful online learning. Through her personality, Jane also contributed to the development of a virtual community of learners (Nagel, Blignaut, & Cronjé, 2007).

In short, the virtual student promoted online dialogue, encouraged student participation, provided additional support, modeled student online behavior, and promoted a mutually supportive climate. Concealing the facilitator behind the identity of a peer also encouraged reluctant students to contribute to online discussions. Although we did not explore them in this study, a virtual student can also adapt to a variety of roles demanded by different and evolving teaching scenarios: experts supplying technical expertise, multiple faculty enriching the online coaching, and teaching assistants and tutors participating with smaller groups in large online classes.

In this particular case, the extra effort also provided us with research data. This study provided information that could not be gathered in a regular online class and represented a unique opportunity for "garfinkling" (Boeree, 1998), or setting up circumstances to study the sought-after phenomenon of living with online students.

Recommendations

We have separate recommendations relating to disclosure or non-disclosure of a virtual student's identity. On the one hand, instructors can choose to disclose the identity of the virtual student from the start, like King (2002) in the case of Virtual Joe, if the instructional designer's analysis of the student population shows that

authority does not inhibit student participation. This would ease ethical and technical constraints, and researchers could benefit from observing how students react to such an interactive web-based tool.

If, on the other hand, instructors plan to reproduce this study, we recommend that they:

- obtain permission and ethical clearance from the relevant academic research authorities before inventing a virtual student;
- allow external supervision and monitoring of the activities of any undisclosed virtual student;
- not use a virtual student to spy on students or violate their trust or privacy;
- not manipulate students deliberately, e.g., by eliciting extreme behavior such as flaming.

In either case, due to the increased workload, we do not recommend that a single facilitator be responsible for an online class of more than 20 students in addition to playing the role of a virtual student without external assistance. The virtual student can act as a spokesperson for multiple course tutors, facilitators, or moderators. For example, a technical support specialist could anonymously assist students, and another could help with a specific contextual aspect without contributing unfamiliar voices to the course. Teaching assistants and tutors could become part of the course and participate within smaller learning groups in large online classes, thus easing the facilitation burden on the instructor. Consistent with constructivism, the facilitator can maintain a lower profile, thereby encouraging students to support each other. This helps establish a high functioning virtual learning community.

Effective online communities support students in challenging learning environments and contribute to their success. Methical Jane could evolve into an ethical, versatile, and supportive helper in such virtual communities.

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References

- Baker, J. D. (2004). An investigation of relationships among instructor immediacy and affective and cognitive learning in the online classroom. *Internet and Higher Education*, 7, 1–13.
- Barab, S. A., Thomas, M. K., & Merrill, H. (2001). Online learning: From information dissemination to fostering collaboration. *Journal of Interactive Learning Research*, 12(1), 105–143.
- Bleed, R. (2006). The IT leader as alchemist: Finding the true gold. *Educause*, 33–41.
- Blignaut, A. S., & Nagel, L. (2007). *Cousins Virtual Jane and Virtual Joe exceptional students*. Unpublished manuscript.

- Blignaut, A. S., & Trollip, S. R. (2003). Developing a taxonomy of faculty participation in asynchronous learning environments: An exploratory investigation. *Computers & Education*, 41, 149–172.
- Blignaut, A. S., & Trollip, S. R. (2005). Between a rock and a hard place: Faculty participation in online classrooms. *Education Change*, 9(2), 5–23.
- Boeree, C. G. (1998). The qualitative methods workbook. Retrieved July 10, 2004 from <http://www.ship.edu/~cgboeree/qualmethone.html>
- Boyle, T. (1997). *Design for Multimedia Learning*. Upper Saddle River, NJ: Prentice Hall.
- Brown, A. L., & Campione, J. C. (1990). Communities of learning and thinking, or a context by any other name. In D. Kuhn (Ed.), *Developmental Perspectives on Teaching and Learning Thinking Skills*. (Vol. 21, pp. 108–126). Basel, NY: Karger.
- Burrell, G., & Morgan, G. (1979). *Sociological Paradigms and Organizational Analysis*. London: Heinemann.
- Chyung, Y. (2001). Improve the motivational appeal of online instruction for adult learners: What's in it for me? *American Journal of Distance Education*, 15(3), 36–49.
- Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6–11.
- Collison, G., Elbaum, B., Haavind, S., & Tinker, R. (2000). *Facilitating Online Learning: Effective Strategies for Moderators*. Madison, WI: Atwood Publishing.
- Coppola, N. W., Hiltz, S. R., & Rotter, N. (2002). Becoming a virtual professor: Pedagogical roles and asynchronous learning networks. *Journal of Management Information Systems*, 18(4), 169–189.
- Cronjé, J. C. (2001). Metaphors and models in Internet-based learning. *Computers & Education*, 37, 241–256.
- Cronjé, J. C., Adendorff, D. E., Meyer, S. M., & Van Ryneveld, L. (2006). Surviving the shipwreck: What makes online students stay online and learning? *Educational Technology & Society*, 9(4), 185–193.
- Davies, J., & Graff, M. (2005). Performance in e-learning: Online participation and student grades. *British Journal of Educational Technology*, 36(4), 657–663.
- Dick, B. (2005). Grounded theory: A thumbnail sketch. *Resource Papers in Action Research*. Retrieved March 16, 2006 from <http://www.scu.edu.au/schools/gcm/ar/arp/grounded.html>
- Gagné, R. M., & Glaser, R. (1987). Foundations in learning research. In R. M. Gagné (Ed.), *Instructional Technology: Foundations* (pp. 49–83). Hillsdale, NJ: Lawrence Erlbaum.
- Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *The American Journal of Distance Education*, 15(1), 7–23.
- Greenberg, R., Loyd, G., & Wesley, G. (2002). Integrated simulation experiences to enhance clinical education. *Medical Education*, 36(11), 1109.
- Ip, A., Linser, R., & Jasinski, M. (2002, July). *The Zen of being an effective 'mod' in online role-play simulations*. Paper presented at the Eighth Australian World Wide Web Conference, Queensland, Australia.
- Johnson, C. S. (2001). A survey of current research on online communities of practice. *Internet and Higher Education*, 4, 45–60.
- Kettner-Polley, R. B. (2005). *Virtual professor + virtual student = real education*. Retrieved January 18, 2005 from <http://iiswinprd03.petersons.com/distancelearning/code/articles/distancelearnprof10.asp>

- Khalil, D. D. (2006). Experiences of teaching nursing in four countries. *Nursing Forum*, 41(2), 88–94.
- King, F. B. (2002). A virtual student. Not an ordinary Joe. *Internet and Higher Education*, 5, 157–166.
- LeCompte, M. D. (2000). Analyzing qualitative data. *Theory Into Practice*, 39(3), 146–154.
- Mason, R. (1991). Moderating educational computer conferencing. *The Distance Education Online Symposium*, 1(19). Retrieved June 8, 2006 from <http://www.emoderators.com/papers/mason.html>
- Mazzolini, M., & Maddison, S. (2003). Sage, guide or ghost? The effect of instructor intervention on student participation in online discussion forums. *Computers & Education*, 40(3), 237–253.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*. San Francisco: Jossey-Bass.
- Moore, M. G. (1989). Three types of interaction. *Journal of Distance Education*, 3(2), 1–6.
- Morris, L. V., Wu, S.-S., & Finnegan, C. L. (2005). Predicting retention in online general education courses. *The American Journal of Distance Education*, 19(1), 23–36.
- Nagel, L., Blignaut, A. S., & Cronjé, J. C. (2007). *Facilitating an online distributed course: Virtual Jane, not an ordinary student*. Manuscript submitted for publication.
- Panitz, T. (1996). *A definition of collaborative vs cooperative learning*. Retrieved June 25, 2007 from <http://www.city.londonmet.ac.uk/deliberations/collab.learning/panitz2.html>
- Pelz, B. (2004). (My) three principles of effective online pedagogy. *Journal of Asynchronous Learning Networks*, 8(3), 33–46.
- Reeves, T. C., Herrington, J., & Oliver, R. (2005). Design research: A socially responsible approach to instructional technology research in higher education. *Journal of Computing in Higher Education*, 16(2), 97–116.
- Rieber, L. P. (1996). Animation as feedback in a computer-based simulation: Representation matters. *Educational Technology Research and Development*, 44(1), 5–22.
- Schank, R. C. (2001). *Educational technology: The promise and the myth*. Retrieved June 25, 2005 from http://www1.worldbank.org/education/lifelong_learning/pdf/educational_technology.pdf
- Sharp, L., & Fretchling, J. (1997). *User-friendly handbook for mixed method evaluations*. Retrieved December 22, 2006 from <http://www.ehr.nsf.gov/EHR/REC/pubs/NSF97-153/START.HTM>
- Swan, K. (2001). Virtual interaction: Design factors affecting student satisfaction and perceived learning in asynchronous online courses. *Distance Education*, 22(2), 306–331.
- Thornburg, D. D. (2001). Campfires in cyberspace: Primordial metaphors for learning in the 21st century. *Education at a Distance*, 15(6). Retrieved March 2, 2006 from http://www.usdla.org/html/journal/JUN01_Issue/article01.html
- Trollip, S. R., & Blignaut, A. S. (2005, August). *Measuring faculty participation in ALN as a basis for faculty development*. Paper presented at the 19th Annual Conference on Distance Teaching and Learning, University of Wisconsin-Madison.
- Wegerif, R. (1998). The social dimension of asynchronous learning networks. *Journal of Asynchronous Learning Networks*, 2(1). Retrieved February 4, 2006 from http://www.aln.org/publications/jaln/v2n1/v2n1_wegerif.asp
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17, 89–100.

Appendix

Post-Course Questionnaire

Hello class

Jane here. My apologies for deserting you near the end of the module. But it seemed that my job was done and you did not need me any more. See, I am no ordinary Jane. I am Virtual Jane (King, 2002). I was created by the facilitator to see if I could help you in ways the others could not. According to the literature (Mazzolini & Maddison, 2003), "the ways in which instructors post to forums can influence students' forum discussions and perceptions, but not always in expected ways."

If you are not too mad at me, [facilitator] and the Professors would like to know your opinion on my presence in the class. Will you please answer the following questions by return e-mail:

1. Was Jane credible? Did you believe she was real?
2. Did she make any real contribution to your participation and / or learning? Did she contribute towards any success?
3. How do you feel about her real identity having been hidden from you?
4. Do you have a problem with Jane not being a real student?

Any other opinion / criticism is welcome! Fire away!

Have a wonderful holiday (writing your dissertations!) and a blessed Christmas.

Jane ☺ and [facilitator] ☺

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