

Voice in a virtual world: From resistance to appropriation

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Abstract

Working in groups requires trust, openness, and immediacy. A desire for individual independence, even anonymity, can challenge that trust in virtual teams. The present study examines the predictions of media naturalness theory for the communication of virtual teams. Perceptions of the communication experience (occurring along a channel spectrum from text-only to text communication with degrees of audio) are analyzed. Our analysis reveals five conceptual themes (impressions of voice, identity/trust, embodiment, interaction, and openness) that show shifts over time in participant perceptions of their communicating in the virtual groups. Together, these themes show a pattern of change over time in participant expectations of computer-mediated communication and particularly of their initial resistance to the use of voice and ultimate appropriation of it.

Keywords

virtual teams; media naturalness; voice in virtual worlds

Organizations increasingly rely on virtual teams of workers who use technology to collaborate across geographic and organizational boundaries (DeRosa, Hantula, Kock, & D'Arcy, 2004). Coordinated group work requires an awareness of the activities of others, relational trust, openness, immediacy, and interdependency (Schmidt, 2011). Participants coordinate their activities through flexible action in an immediate situational context (Blomberg & Karasti, 2013). This can be difficult, especially when group members are distributed (Kolfschoten, Hermann, & Lukosch, 2013). A desire for individual independence, even anonymity, can challenge the trust and relationships in virtual teams. Does the introduction of voice, which reduces anonymity, increase group presence, influence participant experience with the medium, and change perceptions of the working relationship?

Much of the research into the communication of these teams relies on media richness theory, despite the fact that media richness does not account for changes over time (Burke, Aytes, Ghidambaram, & Johnson, 1999). Team communication evolves as members become more familiar and comfortable with the medium (DeRosa, Hantula, Kock, & D'Arcy, 2004); Kock (2004, 2005) argues that media naturalness theory does a better job of explaining this transition. According to media naturalness, humans have optimized their synchronous face-to-face communication with auditory and visual cues through repeated use in evolutionary history. Hence, a communication medium that is low in naturalness requires greater cognitive effort, more time to complete a task, and decreases participant physiological arousal and immediacy (DeRosa, Hantula, Kock, & D'Arcy, 2004; Simon, 2006). Individuals, however, can learn new schema through repetition, so with experience, a computer-mediated communication medium becomes more efficient and natural for the user (DeRosa, Hantula, Kock, & D'Arcy, 2004).

Naturalness has implications for the level of trust, expectations of openness, experience of immediacy, desire for anonymity, and the resistance to or appropriation of the use of voice by virtual work teams (Simon, 2006). The present study examines the predictions of media naturalness theory for the communication of virtual teams. Perceptions of the communication experience (occurring along a channel spectrum from text-only to text communication with degrees of audio) are analyzed.

Project Description, Method, and Data

During four 6-12 week project time periods (Fall 2008, Fall 2010, Spring 2011, and Fall 2011), novice participants were trained to use the program *Second Life*[®] to complete individual, dyadic, and group tasks. At the end of each project, a 40 minute focus group text chat was held to facilitate an honest sharing of participant viewpoints on the project offered in relationship to and building on the ideas of others (Keyton, 2006; Reinard, 2008). Focus group texts were analyzed with the constant comparative method of thematic analysis (Frey, Botan, & Kreps, 2000; Strauss, 1987; Strauss & Corbin, 1990). The unit of analysis was a complete thought; a single comment could present several complete thoughts or a participant could complete a thought through several separate comments that might be interrupted by another posted comment (Krippendorff, 2004). Each complete thought was coded into a thematic category either by placing it into a previously created category or by creating a new category (Creswell, 1998). The three authors coded each of the focus group texts individually and then together until consensus was reached for each category and project time period. Next, the themes from the four project time periods were compared to identify patterns in the themes over time.

Discussion, Implications, and Conclusions

Our analysis reveals five conceptual themes (impressions of voice, identity/trust, embodiment, interaction, and openness) that show shifts over time in participant perceptions of their communicating in the virtual groups. Together, these themes show a pattern of change over time in participant expectations of computer-mediated communication and particularly of their initial resistance to the use of voice and ultimate appropriation of it.

Initial impressions of voice move from a position of some resistance (for example, "I think voice chat is creepy") to acceptance ("I think if we all were on MICs it would be more personal") to appropriation ("Voice is needed"). Participants' self presentation of identity and trust in the presentations of others is linked to these perceptions of voice, shifting from perceptions expressed as "I don't really know who I am talking to," to "I think I would always doubt whether or not I 'knew' someone in SL," to "When my avatar represented my RL identity, it was easier to talk to people."

This change corresponded with shifting views toward being identified with and embodied in one's avatar, from "We get to be cartoon characters," to statements about avatar "I" in sentiments like, "I decided to change my race" and "When I looked like the Kool-Aid man my interactions were more superficial" [emphasis of "I" added to text]. Along with this expression of greater identity with one's avatar come assumptions about the group communication through the medium. Changing expectations are expressed in a shift away from simple statements about the amount of information exchanged (for example, "There can be more information and communication presented in little time") to more sophisticated comments made about the group interaction (such as, "It was easy and hard at the same time. It was easy because it easier to be honest about your opinions, but harder because it takes longer for a response").

These changes coincide with shifts in the perception of communication openness from statements such as, "Sometimes it was hard to get your point across and not sound mean at the same time" (which indicates a deficiency in the communication medium or difficulty in using it,) to statements such as, "People were generally open. There was the shield (anonymity)" and "Not having to worry about being face to face made it much easier." These statements suggest an added benefit and functionality of the medium.

Overall, participant responses show a shift in perceptions of the communication medium in general, and the use of voice in particular, in ways that reflect and affect participant identity, feelings of avatar embodiment, and trust in the identity embodied by others through their avatars. These perceptions of identity and feelings of trust influence expectations for the group interaction and openness of expression in the group. Past research shows that text-based communication makes it easier to recognize speaker identity with tags, allows simultaneous multi-threading of topics, and facilitates addressing an individual (Halloran, 2011). In contrast, speaker voice identification can be confusing,

group conversational interruptions more common, and addressing a specific individual more difficult. Voice, however, does facilitate resolving issues of identity, co-presence, shared meaningful text-context references, and coordinating group interactions (Halloran, 2011).

A perceptual shift occurs away from considering Second Life to be a lesser communication medium when compared to face-to-face group work and toward evaluating its communication potential and use on its own merits, articulating both its advantages and difficulties. As the use of voice in the medium becomes more familiar to participants, they become more comfortable with and less resistant to its use. They are less confused by the use of voice and experience more meaningful co-presence and group interaction, similar to the results found by Halloran (2011). As that comfort level increases and resistance decreases, their attention shifts from the medium to expectations of the group members and their interactions together. That is, their concerns shift from sharing information to their group discussions, honestly expressing their ideas, and getting to know each other "differently." The use of voice in a virtual world has been appropriated by the group to achieve their communication objectives for the project.

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