
Effects of Culture and Medium on Collaborative Work

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Introduction

In their seminal paper on why distance matters, Olson and Olson (2000, p. 169) argued that, “possibly the single biggest factor that global teams need to address is culture differences,” and they go on to describe a number of important ways in which cultural differences can impact the success of a collaboration, including differences in conventions, work processes, power relationships, and conversational styles. To date, however, most research on computer-mediated communication (CMC) has been conducted in Western cultures.

In a series of studies, we have been examining how the effects of communications media on collaborative work are influenced by the culture of the participants. Our general expectations were (a) that leaner media would have more negative impact on conversation and performance in high-context cultures such as China or Japan than they have been shown to have in Western, low-context cultures and (b) that leaner media would be especially problematic for interactions between a member of a low-context culture and a member of a high-context culture.

Research Method

We examine our hypotheses in a series of laboratory studies in which pairs of American participants, pairs of Chinese participants, and mixed American-Chinese

pairs collaborated on a negotiation task in one of four synchronous media—face-to-face communication, video conferencing, audio-conferencing, and Instant Messaging (IM). For all experiments, we used variants of the Arctic and Desert survival tasks.

We chose to contrast American and Chinese cultures in because they represent opposite ends of many key cultural dimensions. American culture is typically characterized as individualistic, task-focused and low-context whereas Chinese culture is typically characterized as collectivistic, relationship-focused, and high context (Hall, 1976; Hofstede, 2001). Participants were paired with someone of either the same or different cultural background, forming three pairings: American/American (AA), American/Chinese (AC) and Chinese/Chinese (CC).

Overview of Results

In Experiment 1, we examined grounding, interpersonal processes, and task outcomes of AA, AC, and CC pairs performing the survival tasks face-to-face and via IM. The results show a strong interaction of culture and medium on conversational grounding, such that CC pairs use many more words to complete the task face-to-face than they do using IM, whereas AA pairs use equally few words in both conditions. In combination with qualitative analysis of the transcripts, the results suggest that the CC pairs strived for a deeper level of agreement on the negotiation task.

In Experiment 2, we address the possibility that the results of Experiment 1 are due to the fact that the Chinese participants had to speak in a second language. We translated all instructions and materials into Chinese and ran the experiment using a native

Chinese speaker. The pattern of results is nearly identical to that of Experiment 1, ruling out the second language explanation of the original results.

In Experiment 3, we examined whether the effects found in Experiment 1 are due to a lack of visual cues in particular by comparing AA, AC, and CC pairs' performance on the same negotiation task either via audio-conferencing or via head-oriented video conferencing. The results show a main effect for culture, such that AC pairs talked longer in both conditions, but no other effects. Finally, in Experiment 4 we replicated Experiment 3 using CC pairs speaking in Chinese either via audio-conferencing or via video conferencing.

Conclusions

Our studies show several ways in which culture and media interact but leave many puzzles to be addressed in workshop discussion. One such puzzle is the meaning of the additional words used by Chinese participants in Study 1. Typically, words are used as a measure of conversational efficiency, and longer dialogues reflect issues in achieving common ground. That would not appear to be the case for Chinese dyads, who instead talked more for social reasons.

References

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