UNIVERSITY OF
GLOUCESTERSHIRE

This is a peer-reviewed, post-print (final draft post-refereeing) version of the following published document and is licensed under All Rights Reserved license:

Fullwood, C ORCID logoORCID: https://orcid.org/0000-0002-7714-6783, Derrer, N M, Martino, O I, Davis, S J and Morris, N (2006) The effect of an icebreaker on collaborative performance across a video link. Contemporary Ergonomics 2006. pp. 293-295.

Official URL: https://www.taylorfrancis.com/chapters/edit/10.1201/9781003072072-70/effect-icebreaker-collaborative-performance-chris-fullwood-nicola-derrer-orsolina-martino-sarah-davis-neil-morris

EPrint URI: https://eprints.glos.ac.uk/id/eprint/11801

Disclaimer

The University of Gloucestershire has obtained warranties from all depositors as to their title in the material deposited and as to their right to deposit such material.

The University of Gloucestershire makes no representation or warranties of commercial utility, title, or fitness for a particular purpose or any other warranty, express or implied in respect of any material deposited.

The University of Gloucestershire makes no representation that the use of the materials will not infringe any patent, copyright, trademark or other property or proprietary rights.

The University of Gloucestershire accepts no liability for any infringement of intellectual property rights in any material deposited but will remove such material from public view pending investigation in the event of an allegation of any such infringement.

PLEASE SCROLL DOWN FOR TEXT.

THE EFFECT OF AN ICEBREAKER ON COLLABORATIVE PERFORMANCE ACROSS A VIDEO LINK

Chris Fullwood, Nicola M. Derrer, Orsolina I. Martino, Sarah J. Davis and Neil Morris

University of Wolverhampton, School of Applied Sciences, Psychology, Millennium Building, Wolverhampton, WV1 1SB, UK.

This study investigated the effects of an icebreaker on collaborative task performance across a video link. Half of the participants took part in a 'getting to know you' style task before completing a map reading task, and the other half completed the map task without the icebreaker. Analyses indicate that when the icebreaker took place, participants completed the task significantly faster, in significantly fewer words and negotiated turns during conversation more effectively. One explanation for these findings is that the initial communication task allowed for the development of common ground, which lead to more efficient communication during the collaborative task.

Introduction

There is growing body of evidence suggesting proximity benefits group interaction. It is thus expected that any form of distance collaboration, for example video-mediated communication (VMC), is going to be less successful than face-to-face collaboration (Kiesler and Cummings, 2002). One explanation for this is a loss of social co-presence, a likely consequence of physical remoteness and the attenuation of visual cues. Therefore, although VMC creates the illusion of closeness participants still experience feelings of distance (Abbott *et al*., 1993). There seems to be something tangible about being in the same location as someone that makes collaboration easier. Indeed, Handy (1995) suggests that remote teams are less effective than face-to-face counterparts because 'trust needs touch.' Accordingly, it would be beneficial to create a method of promoting collaboration in geographically distributed teams. One suggestion is to use initial warm-up sessions with an emphasis on informal interaction to create feelings of togetherness, for example an icebreaker. Sciutto (1995) proposes that icebreakers help to reduce anxiety and increase interest levels. The current study investigated the effect of an initial icebreaker on collaborative task performance across V.M.C. It was expected that performance would be enhanced when an icebreaker was used.

Method

Participants

The sample comprised of 48 participants from a large U.K University. All participants were split into pairs. Half the participants were male, and the other half were female. Participants were randomly split into two groups: the icebreaker condition and the control

condition. Twelve pairs were allocated to each condition. All participants were unfamiliar with their partner, and all participants had no prior experience with video-mediated technologies. Written informed consent was gained from each participant. This was so the interactions could be recorded for later analysis.

Materials

In room 1, a colour monitor (JVC TM-14EK(B)) was mounted in a wooden box, with a video camcorder (Sony CCD-TR2200EPAL) placed directly above. A microphone was placed to the right of the monitor, and video and audio quality were as high as achievable in the laboratory. The monitor and camcorder in room 1 were connected to room 2, adjacent to room 1, and with the exact same set-up. Monitors in both rooms were 14 inches in size. Each participant was distanced approximately one metre from the monitor and the scope included the participant's face and upper body.

Participants completed a 'collaborative map-reading task,' which involves both participants having to plan a route together (on a map of a town centre with a number of shops), picking up five items from a shopping list along the way. The participants, however, have two different priorities: participant one must complete as short a route as possible, whereas participant two must complete the route spending as little money as possible. The map was constructed in such a manner that participants would need to collaborate in order to find a route that suits both of their needs as best as possible.

Procedure

Participants in the icebreaker condition were given 10 minutes to complete a 'getting to know you' style task, in which they were asked to find out the name of their partner and find a word for each letter of their partner's name that appropriately described them. After completing this task participants were given as long as they required to complete the map-reading task. Participants in the control condition completed the map-reading task without taking part in an icebreaker.

Results

Dialogues were transcribed and assessments were made on the following: 1) Time taken to complete task (measured in seconds), 2) Total word count and 3) Total number of turns. A turn began at the moment a participant started speaking and was completed at the point at which the next participant began to speak.

Table 1: Mean scores for time to completion, total word count and total turns for icebreaker and control conditions (standard deviations in parentheses).

	Icebreaker condition	**Control condition**
Time to completion	686.4 (266.5)	1099.1 (410.8)
Total word count	1007.8 (430.2)	1344.6 (280.9)
Total turns	117 (46.6)	153.5 (47.2)

Using one-tailed independent measures t-tests, results indicate that participants in the icebreaker condition completed the task in a significantly quicker time ($t(22) = -2.92$; $p < 0.01$), in significantly fewer words ($t(22) = -2.27$; $p < 0.05$) and using significantly fewer turns ($t(22) = -1.91$; $p < 0.05$) compared to the control condition.

Discussion

When an icebreaker took place, the map-reading task was carried out quicker, in fewer words and in fewer turns, and therefore more efficiently. Although this can partly be credited to the increased number of introductions that took place in the control condition, this alone does not explain the effect. Participants in the control condition also spent longer periods of time attempting to establish what the task was about, and what each of their priorities were. In other words, there was a need to establish common ground or mutual understanding. One example of this behaviour from the transcribed dialogues in the control condition is as follows:

Participant 1: "Good. Right so what's your priority for your shopping list, what have you got to do?"
Participant 2: "Right, I'm on my lunch break just now and I have to try and get all these items, the bread, steak, wine, light bulbs and dog food as quickly as possible"
Participant 1: "As quickly as possible?"
Participant 2: "As quickly as possible."

Participants in the control condition spent on average 8.9% of the dialogue engaging in such activities, compared to 5.7% in the icebreaker condition. This result is unusual considering that participants in both conditions were given the same standardised instructions on how to complete the task. Perhaps this finding can be explained in terms of familiarity. According to Clark (1996) familiar people find it easier to establish mutual understanding. Therefore it may be the case that when we get to know someone better we feel more certain of being on the same wavelength, and therefore there is less need to check mutual understanding.

Recommendations

Overall it would seem that knowing someone better helps to reduce psychological distance and promotes more effective collaboration. Therefore, it would be recommended that whenever meetings take place at a distance, an initial warm-up session might go some way to reduce feelings of distance between participants and improve collaboration.

References

Abbott, L., Dallat, J., Livingston, R., & Robinson, A. (1993). The Application of Videoconferencing to the Advancement of Independent Group Learning for Professional Development. *ETTI*, **31**.

Clark, H.H. (1996). *Using Language*. Cambridge: CUP.

Handy, C. (1995). Trust and the Virtual Organisation, *Harvard Business Review*, **73**, 40-50.

Kiesler, S., & Cummings, J.N. (2002). What do we know about proximity and distance in work groups? A legacy of research. In P. Hinds (Ed) *Distributed Work*, 57-80.

Sciutto, M.J. (1995). Student-centred methods for decreasing anxiety and increasing interest level in undergraduate statistics courses, *Journal of Instructional Psychology,* **22**, 277-280.